COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES	)))	CASE NO. 2018-00358

NOTICE OF FILING

Notice is given to all parties that the following materials have been filed into the record of this proceeding:

- The digital video recording of the evidentiary hearing conducted on May 13, 2019 in this proceeding;

- Certification of the accuracy and correctness of the digital video recording;

- All exhibits introduced at the evidentiary hearing conducted on May 13, 2019 in this proceeding;

- A written log listing, *inter alia*, the date and time of where each witness' testimony begins and ends on the digital video recording of the evidentiary hearing conducted on May 13, 2019.

A copy of this Notice, the certification of the digital video record, hearing log, and exhibits have been electronically served upon all persons listed at the end of this Notice. Parties desiring to view the digital video recording of the hearing may do so at:

http://psc.ky.gov/av_broadcast/2018-00358/2018-00358_13May19_Inter.asx.

Parties wishing an annotated digital video recording may submit a written request by electronic mail to pscfilings@ky.gov. A minimal fee will be assessed for a copy of this recording.

Done at Frankfort, Kentucky, this 4th day of June 2019.

Gwen R. Pinson

Gwen R. Pinson
Executive Director
Public Service Commission of Kentucky

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COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES	)))	CASE NO. 2018-00385

CERTIFICATION

I, KaBrenda L. Warfield, hereby certify that:

1. The attached DVD contains a digital recording of the Hearing conducted in the above-styled proceeding on May 13, 2019. Hearing Log, Exhibit List, and Witness List are included with the recording on May 13, 2019.

2. I am responsible for the preparation of the digital recording;

3. The digital recording accurately and correctly depicts the Hearing of May 13, 2019.

4. The Hearing Log attached to this Certificate accurately and correctly states the events that occurred at the Hearing of May 13, 2019 and the time at which each occurred.

Signed this 4th day of June, 2019.

KaBrenda L. Warfield

KaBrenda L. Warfield, CKP
Paralegal Consultant

Kathy Gillum

Kathy Gillum, Notary Public
State at Large
Commission Expires: September 3, 2021
ID#: 584704

Date:	Type:	Location:	Department:
5/13/2019	Other	Hearing Room 2	Hearing Room 1 (HR 1)

Judge: Bob Cicero; Talina Mathews; Michael Schmitt
Witness: Patrick Bareynbrunch; Ann E Buckley ; Constance Heppenstall; Kurt Kogler ; Susan Lancho; Rob Mustich; Brent O'Neil; James Pellock; Gregory Roach; Nick Rowe; Scott Rungren; Justin Sensabaugh; John R Wilde; Timothy Willig
Clerk: KaBrenda Warfield

Event Time	Log Event	
8:39:27 AM	Session Started	
8:39:29 AM	Session Paused	
8:56:37 AM	Session Resumed	
8:56:38 AM	Chairman Schmitt	
	Note: Fields, Angela	Chairman stating preliminary remarks and introduction of Vice Chairman Cicero and Commissioner Mathews.
8:57:35 AM	Chairman Schmitt	
	Note: Fields, Angela	At this time would Counsel for the parties beginning with Counsel for Kentucky American please identify themselves their party and the witnesses.
8:57:52 AM	Lindsey Ingram & Monica Braun Stoll Keenon Ogden PLLC	
	Note: Fields, Angela	Representing Kentucky-American Water Company (Kentucky-American)
8:58:12 AM	Chairman Schmitt - Atty Ingram Kentucky American	
	Note: Fields, Angela	Will they be in this order?
8:58:42 AM	Chairman Schmitt - Atty Ingram Kentucky-American	
	Note: Fields, Angela	I wanted to thank you for that [click on link for Chairman Schmitt's remarks.]
8:59:31 AM	Chairman Schmitt	
	Note: Fields, Angela	Alright Office of the Attorney General?
8:59:32 AM	Justin McNeil and Kent Chandler	
	Note: Fields, Angela	On behalf of the Kentucky Attorney General's Office.
8:59:37 AM	Chairman Schmitt	
	Note: Fields, Angela	You're working in conjuction with Lexington Fayette Urban County Government in the sense that you're both sponsoring the same two witnesses? Is that corect?
8:59:52 AM	Chairman Schmitt	
	Note: Fields, Angela	Alright Mr.
8:59:54 AM	Jim Gardner and Todd Osterloh Sturgill, Turner, Barker & Moloney	
	Note: Fields, Angela	David Barberie, Lexington Fayette Urban County Government Department of Law
	Note: Fields, Angela	On behalf of Lexington Fayette Urban County Government
9:00:14 AM	Chairman Schmitt	
	Note: Fields, Angela	And for Staff?
9:00:15 AM	Nancy Vinsel and Jeb Pinney	
	Note: Fields, Angela	For Commission Staff.
9:00:22 AM	Chairman Schmitt	
	Note: Fields, Angela	Checking the record the notice of this hearing was given and has been filied in the record. There are some pending confidentiality motions, is that corect, or incorrect?

9:00:46 AM	Chairman Schmitt	
	Note: Fields, Angela	Are there any other pending motions at this time before we ask for public comment?
9:00:52 AM	Chairman Schmitt	
	Note: Fields, Angela	Alright at this time if there is any member of the public present who would like to make either an oral statement or provide a written statement to the Commission concerning his or her opinion about the subject matter of this case please step forward at this time and identify yourself and place of residents.
9:01:16 AM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	Before Mr. Marshall goes I would just ask given the change in the hearing that the Commission also provide the opportunity for public comments tomorrow morning before the hearing as well.
9:01:25 AM	Chairman Schmitt	
	Note: Fields, Angela	That will be granted.
9:01:29 AM	Chairman Schmitt	
	Note: Fields, Angela	Yes Mr. Marshall.
9:01:32 AM	PUBLIC COMMENT	
	Note: Fields, Angela	Tom Marshall.
9:08:12 AM	Chairman Schmitt	
	Note: Fields, Angela	Is there anyone else who would care to provide a public comment?
9:08:18 AM	Chairman Schmitt	
	Note: Fields, Angela	If not let's move forward. Before we call the first witness we probably ought to talk about scheduling [click on the link for Chairman Schmitt's remarks.]
9:09:30 AM	Chairman Schmitt	
	Note: Fields, Angela	Okay Mr. Ingram you may call your first witness.
9:09:37 AM	Chairman Schmitt - witness Rowe	
	Note: Fields, Angela	Swearing the witness in.
9:09:45 AM	Chairman Schmitt - witness Rowe	
	Note: Fields, Angela	Please be seated. Mr. Ingram.
9:09:46 AM	Atty Ingram Kentucky-American - witness Rowe	
	Note: Fields, Angela	Direct Examination.
9:10:45 AM	Atty Ingram Kentucky-American - witness Rowe	
	Note: Fields, Angela	Mr. Rowe is available for cross examination your honour.
9:10:48 AM	Chairman Schmitt	
	Note: Fields, Angela	Mr. McNeil Mr. Chandler?
9:10:51 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Cross Examination.
9:14:56 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	May I approach Chairman?
9:15:23 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Chairman I'll represent to the Commission. These are just selected Data Request Responses throughout the record none of these are going to be exhibits.
9:15:47 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Cross Continued.
9:20:44 AM	Vice Chairman Cicero - witness Rowe	
	Note: Fields, Angela	Can you describe what you mean by running behind?
9:21:38 AM	Vice Chairman Cicero - witness Rowe	
	Note: Fields, Angela	Just so I understand the question that you are answering [click on the link for Vice Chairman Cicero's remarks.]
9:22:05 AM	Vice Chairman Cicero - witness Rowe	
	Note: Fields, Angela	Over the long run its the same amount of money or is there money that is available that's just not designated?

9:22:47 AM	Vice Chairman Cicero - witness Rowe	
	Note: Fields, Angela	Sorry Kent thank you.
9:22:52 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Cross Continued.
9:29:44 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Chairman may I approach?
9:29:57 AM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	Chairman we're going to do it a little differently today. Instead of having the binders pre-tabbed we're going to pass out the individual exhibits and then anybody that wants one Mr. McNeil will be passing out binders so people can place them in it.
9:30:18 AM	AG EXHIBIT 01	
	Note: Fields, Angela	ASST. ATTY GEN. CHANDLER - WITNESS ROWE
	Note: Fields, Angela	DIRECT TESTIMONY OF ELLEN C. WOLF CASE NO. 2006-00197
9:32:15 AM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	Chairman I would like to mark this as Attorney General Exhibit number one.
9:32:18 AM	Chairman Schmitt	
	Note: Fields, Angela	Just one page 13?
9:32:24 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	So Chairman I have provided an excerpt to the Commission and to certain parties but the entirety of Ms. Wolf's testimony will be number one.
9:32:40 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Cross Continued.
9:34:46 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	May I approach Chairman?
9:34:49 AM	AG EXHIBIT 02	
	Note: Fields, Angela	ASST. ATTY GEN. CHANDLER - WITNESS ROWE
	Note: Fields, Angela	DIRECT TESTIMONY OF MICHAEL A. MILER CASE NO. 2006-00197
9:36:06 AM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	Chairman I would like to go ahead and mark this if I can as AG Exhibit number two.
9:36:17 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Cross Continued.
9:41:04 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	May I approach Chairman?
9:42:40 AM	Chairman Schmitt	
	Note: Fields, Angela	Want this testimony marked as exhibit three?
9:42:48 AM	AG EXHIBIT 03	
	Note: Fields, Angela	ASST. ATTY GEN. CHANDLER - WITNESS ROWE
	Note: Fields, Angela	JOINT PETITIONERS' POST-HEARING BRIEF CASE NO. 2006-00197
9:45:26 AM	OBJECTION	
	Note: Fields, Angela	That's been asked and answered at the beginning of the hearing. Mr. Rowe has answered the question of whether that's a need repeatedly.
	Note: Fields, Angela	ATTY INGRAM KENTUCKY-AMERICAN
9:45:33 AM	Chairman Schmitt	
	Note: Fields, Angela	Sustain.
9:45:36 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Cross Continued.
9:46:56 AM	Vice Chairman Cicero - witness Rowe	
	Note: Fields, Angela	So let me ask a question Mr. Chandler.

9:47:00 AM	Vice Chairman Cicero - witness Rowe	
	Note: Fields, Angela	So from a priority standpoint system wide [click on link for Vice Chairman Cicero's remarks.]
9:48:25 AM	Vice Chairman Cicero - witness Rowe	
	Note: Fields, Angela	So there is a priority list for Kentucky-American Water for the quote discretionary dolars?
9:48:39 AM	Vice Chairman Cicero - witness Rowe	
	Note: Fields, Angela	Is that priority based on a program similar to a QIP or is it a priority based on the actual system wide priority of Kentucky-American Water regardless of whether there is a QIP or not?
9:49:47 AM	Vice Chairman Cicero - witness Rowe	
	Note: Fields, Angela	Thank you.
9:49:50 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Cross Continued.
9:56:04 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	May I approach Chairman?
9:56:55 AM	Chairman Schmitt	
	Note: Fields, Angela	This exhibit may be marked as exhibit four. AG four.
9:57:19 AM	AG EXHIBIT 04	
	Note: Fields, Angela	ASST. ATTY GEN. CHANDLER - WITNESS ROWE
	Note: Fields, Angela	ORDER FROM CASE NO. 2006-00197
10:02:45 AM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	And that has been marked Chairman is that correct?
10:02:52 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Cross Continued.
10:06:51 AM	OBJECTION	
	Note: Fields, Angela	Click on the link for remarks.
	Note: Fields, Angela	Atty Ingram Kentucky-American
10:07:15 AM	Chairman Schmitt	
	Note: Fields, Angela	I understand your objection. But I think the witness is capable of responding to a question about this exhibit [click on the link for Chairman Schmitt's remarks.]
10:08:00 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	May I approach Chairman?
10:08:02 AM	AG EXHIBIT 05	
	Note: Fields, Angela	ASST ATTY GEN CHANDLER - WITNESS ROWE
	Note: Fields, Angela	CASE NO. 2015-00418 RATE BASE SUMMARY
10:08:34 AM	Chairman Schmitt	
	Note: Fields, Angela	Let this exhibit be marked as AG exhibit five.
10:08:49 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Cross Continued.
10:14:05 AM	OBJECTION	
	Note: Fields, Angela	To the vagueness of the question.
	Note: Fields, Angela	Atty Ingram Kentucky-American
10:14:13 AM	Chairman Schmitt	
	Note: Fields, Angela	Sustain.
10:14:14 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Cross Continued.
10:16:38 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	May I approach your honour?
10:17:10 AM	Chairman Schmitt	
	Note: Fields, Angela	Exhibit six.
10:17:38 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Has this been marked as exhibit six?

10:17:41 AM	AG EXHIBIT 06	
	Note: Fields, Angela	ASST. ATTY GEN. CHANDLER - WITNESS ROWE
	Note: Fields, Angela	ORDER FROM CASE NO. 2012-00520
10:19:15 AM	Chairman Schmitt	
	Note: Fields, Angela	I don't know if they are in the record but they were done so I mean what is the point?
10:19:23 AM	Chairman Schmitt	
	Note: Fields, Angela	In this record?
10:19:25 AM	Chairman Schmitt	
	Note: Fields, Angela	I don't know if they are in the record or not. Are they Mr. Ingram?
10:19:28 AM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	Well we are talking about two different things here your honour [click on the link for remarks.]
10:20:49 AM	Chairman Schmitt	
	Note: Fields, Angela	Did the Attorney General intervene in the Rockcastle case?
10:20:54 AM	Chairman Schmitt	
	Note: Fields, Angela	Why not if you had an interest in this single unified tariff? Really I don't understand the point of this tesstimony anyway [click on the link for Chairman Schmitt's remarks.]
10:21:41 AM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	With all due respect we're not making any argument on this point [click on the link for remarks.]
10:22:42 AM	Chairman Schmitt	
	Note: Fields, Angela	Anything further?
10:22:44 AM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	I would just respond [click on link for remarks.]
10:23:22 AM	Chairman Schmitt	
	Note: Fields, Angela	So what are you asking? I have no idea why the record in the Rockcastle case ought to be apart of the record in this case.
10:23:32 AM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	I'm not asking for that record to be apart of this case. I'm asking [click on link for remarks.]
10:24:20 AM	Chairman Schmitt	
	Note: Fields, Angela	And you're objecting to this line of testimony?
10:24:25 AM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	I would just like to move on to the next topic. I do object to all of this [click on link for remarks.]
10:24:39 AM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	So I guess I would object on the basis of relevance.
10:24:55 AM	Chairman Schmitt	
	Note: Fields, Angela	Are you going to have testimony to the contrary?
10:25:03 AM	Chairman Schmitt	
	Note: Fields, Angela	So what you are trying to do is [click on the link for Chairman Schmitt's remarks.]
10:25:33 AM	Chairman Schmitt	
	Note: Fields, Angela	Well isn't that an argument for your brief?
10:25:46 AM	Chairman Schmitt	
	Note: Fields, Angela	Let's take a break until a quarter til eleven.
10:26:03 AM	Session Paused	
10:40:01 AM	Session Resumed	
10:40:02 AM	Chairman Schmitt	
	Note: Fields, Angela	We are now back on the record Mr. Chandler you may proceed with your cross examination [click on the link for Chairman Schmitt's remarks.]

10:41:03 AM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	Chairman I did a lot of soul searching the last fifteen minutes [click on link for remarks.]
10:41:40 AM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	Which exhibit is it?
10:41:48 AM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	I take the position that those [click on link for remarks.]
10:41:59 AM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Osterloh?
10:42:00 AM	Atty Osterloh LFUCG	
	Note: Fields, Angela	I just wanted to put the Commission on notice [click on link for remarks.]
10:42:25 AM	Chairman Schmitt	
	Note: Fields, Angela	Well I hope they are pointed [click on link for Chairman Schmitt's remarks.]
10:42:46 AM	Chairman Schmitt	
	Note: Fields, Angela	Are there any issues that your adverse?
10:43:02 AM	Chairman Schmitt	
	Note: Fields, Angela	Mrs. Vinsel what's your position?
10:43:19 AM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Ingram is correct [click on link for Chairman Schmitt's remarks.]
10:43:46 AM	Chairman Schmitt	
	Note: Fields, Angela	Do you have any other exhibits?
10:43:51 AM	Chairman Schmitt	
	Note: Fields, Angela	Then I assume your going to move these exhibits be placed into evidence?
10:43:56 AM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	I would like to move for exhibits AG one thru six to be moved into evidence.
10:44:01 AM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	No Objection.
10:44:03 AM	Chairman	
	Note: Fields, Angela	Sustain.
10:44:04 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Cross Continued.
10:47:21 AM	Asst. Atty Gen. Chandler - witness Rowe	
	Note: Fields, Angela	Thank you Chairman that's all the questions I have for Mr. Rowe.
10:47:24 AM	Chairman Schmitt	
	Note: Fields, Angela	Okay. Mr. Osterloh or Mr. Gardner?
10:47:28 AM	Atty Gardner LFUCG - witness Rowe	
	Note: Fields, Angela	Cross Examination.
10:57:58 AM	Atty Gardner LFUCG - witness Rowe	
	Note: Fields, Angela	That's all thank you all. Thank you Mr. Rowe.
10:58:01 AM	Chairman Schmitt	
	Note: Fields, Angela	Mrs. Vinsel?
10:58:02 AM	Asst GC Vinsel PSC - witness Rowe	
	Note: Fields, Angela	Cross Examination.
11:11:20 AM	Asst. GC Vinsel PSC - witness Rowe	
	Note: Fields, Angela	Staff has no further questions at this time.
11:11:24 AM	Vice Chairman Cicero - witness Rowe	
	Note: Fields, Angela	Cross Examination.

11:15:10 AM	POST HEARING DATA REQUEST		
		Note: Fields, Angela	For 2016, 2017, and 2018 I would like to know what the discretionary pool was for all of American Water and what portion Kentucky American Water Company received of those '16, '17, and '18 discretionary funds that were available on a corporate wide basis.
		Note: Fields, Angela	Vice Chairman Cicero - witness Rowe
11:15:38 AM	Vice Chairman Cicero - witness Rowe		
		Note: Fields, Angela	Thank you. I don't have anything else Chairman.
11:15:40 AM	Chairman Schmitt		
		Note: Fields, Angela	Commissioner Mathews?
11:15:44 AM	Chairman Schmitt		
		Note: Fields, Angela	I have no questions. Mr. Ingram?
11:15:48 AM	Atty Ingram Kentucky-American - witness Rowe		
		Note: Fields, Angela	Redirect.
11:18:57 AM	Atty Ingram Kentucky-American - witness Rowe		
		Note: Fields, Angela	No more questions.
11:18:58 AM	Chairman Schmitt - witness Rowe		
		Note: Fields, Angela	May this witness be excused?
11:19:04 AM	Chairman Schmitt - witness Rowe		
		Note: Fields, Angela	You may step down. Thank you.
11:19:08 AM	Atty Ingram Kentucky-American		
		Note: Fields, Angela	Ms. Braun is going to call our next witness please.
11:19:16 AM	Chairman Schmitt - witness O'Neil		
		Note: Fields, Angela	Swearing the witness in.
11:19:55 AM	Chairman Schmitt		
		Note: Fields, Angela	Ms. Braun?
11:19:57 AM	Atty Braun Kentucky-American - witness O'Neil		
		Note: Fields, Angela	Direct Examination.
11:20:37 AM	Atty Braun Kentucky-American - witness O'Neil		
		Note: Fields, Angela	The witness is available for cross examination.
11:20:39 AM	Chairman Schmitt		
		Note: Fields, Angela	Mr. Chandler?
11:20:43 AM	Asst. Atty Gen. Chandler - witness O' Neil		
		Note: Fields, Angela	May I approach?
11:21:31 AM	Asst. Atty Gen. Chandler - witness O' Neil		
		Note: Fields, Angela	Cross Examination.
11:45:41 AM	OBJECTION		
		Note: Fields, Angela	That's been answered.
		Note: Fields, Angela	Atty Ingram Kentucky-American
11:45:45 AM	Chairman Schmitt		
		Note: Fields, Angela	Sustain. I think he did answer it.
11:45:52 AM	Asst. Atty Gen. Chandler - witness O' Neil		
		Note: Fields, Angela	Cross Continued.
11:47:51 AM	Atty Braun Kentucky-American		
		Note: Fields, Angela	Mr. Chandler did you say a hundred and twenty million and two hundred and fourty?
11:47:56 AM	Asst. Atty Gen. Chandler - witness O' Neil		
		Note: Fields, Angela	Cross Continued.
11:52:49 AM	Chairman Schmitt		
		Note: Fields, Angela	How much time do you need?
11:53:01 AM	Chairman Schmitt		
		Note: Fields, Angela	Why don't we just come back at one o'clock and let you finish. The Commission will be in recess until one p.m..

11:53:10 AM	Session Paused	
12:54:25 PM	Session Resumed	
12:54:25 PM	Chairman Schmitt	
	Note: Fields, Angela	We are now back on the record. Mr. Chandler do you have additional cross examination?
12:54:43 PM	Asst. Atty Gen. Chandler - witness O' Neil	
	Note: Fields, Angela	Cross Continued.
1:02:10 PM	Asst. Atty Gen. Chandler - witness O' Neil	
	Note: Fields, Angela	May I approach Chairman?
1:02:22 PM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	I would like to have this exhibit that I am about to pass out Chairman marked as AG Exhibit Number Seven.
1:03:07 PM	AG EXHIBIT 07	
	Note: Fields, Angela	ASST. ATTY GEN. CHANDLER - WITNESS O'NEIL
	Note: Fields, Angela	ORDERING PARAGRAPH 9 REPORT CASE NO. 2007-00134
1:08:22 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	Mr. Chandler may I interrupt you for a second. Just so we have clarity for the record. Are you referring to what is exhibit two to Mr. O'Neil's direct testimony?
1:08:33 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	I'm just trying to make sure. Thank you.
1:08:35 PM	Asst. Atty Gen. Chandler - witness O' Neil	
	Note: Fields, Angela	Cross Continued.
1:17:40 PM	Atty Braun Kentucky-American	
	Note: Fields, Angela	May I interject for just a moment. It may be helpful we have copies we can hand out of the rebuttal exhibit one that he mentioned to the room. If I may pass these out so we can be on the same page?
1:18:48 PM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	Sorry do you mind if I continue Chairman?
1:18:53 PM	Asst. Atty Gen. Chandler - witness O' Neil	
	Note: Fields, Angela	Cross Continued.
1:27:43 PM	Asst. Atty Gen. Chandler - witness O' Neil	
	Note: Fields, Angela	That's all the questions I have Chairman. Thank you.
1:27:46 PM	Chairman Schmitt	
	Note: Fields, Angela	Okay. Mr. Osterloh Mr. Gardner?
1:27:49 PM	Atty Gardner LFUCG	
	Note: Fields, Angela	Mr. Osterloh is going to pass out a packet of Data Request for everybody. None of these will be exhibits so they are just for reference ease only. [Click on link for remarks.]
1:28:35 PM	Chairman Schmitt	
	Note: Fields, Angela	What is Mr. Ingram's position on that?
1:28:51 PM	Chairman Schmitt	
	Note: Fields, Angela	Ms. Braun did you want to mark this at all or leave it?
1:29:00 PM	Atty Gardner LFUCG - witness O'Neil	
	Note: Fields, Angela	Cross Examination.
1:31:44 PM	Atty Braun Kentucky-American	
	Note: Fields, Angela	Are you referring Mr. Gardner to AG First Request Seventy Seven?
1:31:48 PM	Atty Gardner LFUCG - witness O'Neil	
	Note: Fields, Angela	Thank you.
1:31:51 PM	Atty Gardner LFUCG - witness O'Neil	
	Note: Fields, Angela	Cross Continued.
1:47:50 PM	Atty Gardner LFUCG	
	Note: Fields, Angela	Here is another packet of documents that Mr. Osterloh is going to pass out. And a couple of these will be exhibits. And I'll make sure I tell you all which ones are going to be exhibits.

1:48:21 PM	LFUCG EXHIBIT 01	
	Note: Fields, Angela	Atty Gardner LFUCG - witness O'Neil
	Note: Fields, Angela	MOTION TO DISMISS IN CASE NO. 2019-00041
1:49:58 PM	Atty Gardner LFUCG - witness O'Neil	
	Note: Fields, Angela	I'd like this maked as LFUCG Exhibit 01 please.
1:50:06 PM	Chairman Schmitt	
	Note: Fields, Angela	Any objection?
1:50:08 PM	Chairman Schmitt	
	Note: Fields, Angela	Let it be so marked.
1:50:10 PM	Atty Gardner LFUCG - witness O'Neil	
	Note: Fields, Angela	Cross Continued.
1:56:33 PM	Atty Gardner LFUCG - witness O'Neil	
	Note: Fields, Angela	Of what document Mr. Gardner?
1:56:43 PM	Atty Gardner LFUCG - witness O'Neil	
	Note: Fields, Angela	Cross Continued.
2:02:26 PM	Atty Gardner LFUCG - witness O'Neil	
	Note: Fields, Angela	That's all I have for this witness
2:02:31 PM	Atty Osterloh LFUCG - witness O'Neil	
	Note: Fields, Angela	If I may? I appreciate everyone's cooperation with this.
2:02:36 PM	Atty Osterloh LFUCG - witness O'Neil	
	Note: Fields, Angela	Cross Examination.
2:04:08 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	DO YOU KNOW IF YOU WOULD HAVE ANY OF THAT DATA AVAILABLE IN TERMS OF UNACCOUNTED FOR WATER LOSS FROM THE NORTH MIDDLETOWN SYSTEM. CAN YOU PROVIDE THAT INFORMATION IF YOU HAVE IT?
	Note: Fields, Angela	Atty Osterloh LFUCG - witness O'Neil
2:05:21 PM	Atty Osterloh LFUCG - witness O'Neil	
	Note: Fields, Angela	Cross Continued.
2:10:12 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	DO YOU KNOW IF THE MONTHLY WATER LOSS REPORT IS CONTAINED IN THE RECORD OF THIS RATE CASE? AS A PHDR I WOULD ASK THAT THEY BE PROVIDED OR IDENTIFIED WHERE THEY ARE CONTAINED IN THIS RATE CASE.
	Note: Fields, Angela	Atty Osterloh LFUCG - witness O'Neil
2:10:48 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	Mr. Osterloh I do not think they are in the rate case, but if you want copies of those as a PHDR we would be happy to provide them.
2:11:00 PM	Atty Osterloh LFUCG - witness O'Neil	
	Note: Fields, Angela	Cross Continued.
2:15:51 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	Atty Osterloh LFUCG - witness O'Neil
	Note: Fields, Angela	UNACCOUNTED FOR WATER LOSS FOR THE MILLERSBURGH SYSTEM.
2:16:08 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	For what period Mr. Osterloh?
2:16:26 PM	Atty Osterloh LFUCG - witness O'Neil	
	Note: Fields, Angela	Cross Continued.
2:20:12 PM	Atty Osterloh LFUCG - witness O'Neil	
	Note: Fields, Angela	That's all the questions I have. Chairman If we could move for the introduction of LFUCG Exhibit 01.
2:20:19 PM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	And I would also like to move for AG 07 I neglected to do so.

2:20:24 PM	Chairman Schmitt	
	Note: Fields, Angela	Any objections?
2:20:26 PM	Chairman Schmitt	
	Note: Fields, Angela	Let both be filed.
2:20:32 PM	Chairman Schmitt	
	Note: Fields, Angela	Mrs. Vinsel Mr. Pinney any questions?
2:20:37 PM	Asst. GC Vinsel PSC - witness O'Neil	
	Note: Fields, Angela	Cross Examination.
2:25:30 PM	Asst. GC Vinsel PSC - witness O'Neil	
	Note: Fields, Angela	Staff has nothing further for this witness.
2:25:35 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero?
2:25:36 PM	Vice Chairman Cicero - witness O'Neil	
	Note: Fields, Angela	Cross Examination.
2:27:58 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	WHAT DOES THE REST OF AMERICAN WATER HAVE FOR A WATER LOSS PERCENTAGE? PROVIDE THE SYSTEMWIDE NUMBER.
	Note: Fields, Angela	Vice Chairman Cicero - witness O'Neil
2:28:32 PM	Vice Chairman Cicero - witness O'Neil	
	Note: Fields, Angela	STATE AND AVERAGE.
2:28:37 PM	Vice Chairman Cicero - witness O'Neil	
	Note: Fields, Angela	Cross Continued.
2:30:58 PM	Vice Chairman Cicero - witness O'Neil	
	Note: Fields, Angela	I don't have any other questions.
2:30:59 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Mathews?
2:31:01 PM	Chairman Schmitt	
	Note: Fields, Angela	I have none.
2:31:03 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Ingram? Oh Ms. Braun I'm sorry.
2:31:07 PM	Atty Braun Kentucky-American - witness O'Neil	
	Note: Fields, Angela	Redirect.
2:34:58 PM	Atty Braun Kentucky-American - witness O'Neil	
	Note: Fields, Angela	That's all I have.
2:34:59 PM	Chairman Schmitt - witness O'Neil	
	Note: Fields, Angela	May this witness be excused?
2:35:04 PM	Chairman Schmitt - witness O'Neil	
	Note: Fields, Angela	You may step down sir. Thank you.
2:35:06 PM	Chairman Schmitt	
	Note: Fields, Angela	Call your next witness.
2:35:30 PM	Chairman Schmitt - witness Bulkley	
	Note: Fields, Angela	Swearing the witness in.
2:35:41 PM	Chairman Schmitt	
	Note: Fields, Angela	Counsel you may ask.
2:35:42 PM	Atty Braun Kentucky-American - witness Bulkley	
	Note: Fields, Angela	Direct Examination.
2:36:17 PM	Atty Braun Kentucky-American - witness Bulkley	
	Note: Fields, Angela	The witness is available for cross examination.
2:36:19 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. McNeil Mr. Chandler?
2:36:27 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Cross Examination.
2:38:35 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	May I approach Chairman.

2:39:27 PM	Chairman Schmitt	
	Note: Fields, Angela	You want to mark them anyway?
2:39:31 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Cross Continued.
2:49:03 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	May I approach Chairman?
2:49:04 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	I would like to mark this as AG Exhibit 08.
2:49:05 PM	AG EXHIBIT 08	
	Note: Fields, Angela	Asst. Atty Gen. Chandler - witness Bulkley
	Note: Fields, Angela	U.S. DEPARTMENT OF THE TREASURY DAILY TREASURY YIELD CURVE RATES
2:50:24 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Do you know what the spot yield was last week?
2:50:30 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	May I approach again Chairman?
2:50:33 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Mark this on AG nine.
2:50:44 PM	AG EXHIBIT 09	
	Note: Fields, Angela	Asst. Atty Gen. Chandler - witness Bulkley
	Note: Fields, Angela	U.S. DEPARTMENT OF THE TREASURY DAILY TREASURY YIELD CURVE RATES
2:51:11 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Do you know what the spot yield on the thirty year treasury was on May the 8th?
2:51:22 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Do you know what American Water's stock price was when you filed your testimony?
2:51:41 PM	AG EXHIBIT 10	
	Note: Fields, Angela	Asst. Atty Gen. Chandler - witness Bulkley
	Note: Fields, Angela	American Water Works Company, Inc. Nasdaq Real Time Price Currency in USD November 2018 - May 2019.
2:52:47 PM	AG EXHIBIT 11	
	Note: Fields, Angela	American Water Works Company, Inc. Nasdaq Real Time Price Currency in USD 2008 - 2018.
	Note: Fields, Angela	Asst. Atty Gen. Chandler - witness Bulkley
2:54:54 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Cross Continued.
2:56:30 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	UPDATE OF FIGURE FIVE OF HER DIRECT.
	Note: Fields, Angela	Asst. Atty Gen. Chandler - witness Bulkley
2:56:42 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Cross Continued.
2:58:14 PM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	I would like to mark this next exhibit as AG Exhibit 12 Chairman.
2:58:17 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	May I approach?
2:59:08 PM	AG EXHIBIT 12	
	Note: Fields, Angela	Asst. Atty Gen. Chandler - witness Bulkley
	Note: Fields, Angela	DOCKET NO. E-04204A-12 IN THE UNS ELECTRIC, INC. CASE IN FRONT OF THE ARIZONA CORPORATION COMMISSION.
3:02:16 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	May I approach Chairman?

3:02:19 PM	Asst. Atty Gen. Chandler	
	Note: Fields, Angela	I want to mark this as AG 13.
3:03:11 PM	AG EXHIBIT 13	
	Note: Fields, Angela	Asst. Atty Gen. Chandler - witness Bulkley
	Note: Fields, Angela	U.S. DEPARTMENT OF THE TREASURY 2012 DAILY TREASURY YIELD CURVE RATE
3:04:30 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Cross Continued.
3:11:45 PM	Chairman Schmitt	
	Note: Fields, Angela	Now don't tempt me Mr. Chandler.
3:11:51 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Cross Continued.
3:12:54 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	May I approach Chairman?
3:12:59 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	This will be fourteen.
3:14:12 PM	AG EXHIBIT 14	
	Note: Fields, Angela	MINUTES OF THE FEDERAL OPEN MARKET COMMITTEE MARCH 19-20, 2019
	Note: Fields, Angela	Asst. Atty Gen. Chandler - witness Bulkley
3:19:19 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Cross Continued.
3:22:12 PM	Chairman Schmitt	
	Note: Fields, Angela	This is a good time to take a fifteen minute break anyway. So we'll take our afternoon break until a quarter til four.
3:22:22 PM	Session Paused	
3:44:10 PM	Session Resumed	
3:44:11 PM	Chairman Schmitt	
	Note: Fields, Angela	Okay we are now back on the record before Mr. Chandler restarts his cross examination [click on the link for Chairman Schmitt's remarks.]
3:44:43 PM	Chairman Schmitt	
	Note: Fields, Angela	Okay Mr. Chandler proceed.
3:44:48 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Cross Continued.
4:01:13 PM	Asst. Atty Gen. Chandler - witness Bulkley	
	Note: Fields, Angela	Thank you Ms. Bulkley that's all the questions I have Chairman. I would like to move at this time to introduce all of AG's Exhibits up to AG Exhibit 14.
4:01:22 PM	Chairman Schmitt	
	Note: Fields, Angela	Any objection Mr. Ingram?
4:01:24 PM	Chairman Schmitt	
	Note: Fields, Angela	Let them be filed into the record as marked.
4:01:29 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Gardner?
4:01:31 PM	Atty Gardner LFUCG - witness Bulkley	
	Note: Fields, Angela	Cross Examination.
4:02:46 PM	Atty Gardner LFUCG - witness Bulkley	
	Note: Fields, Angela	That's all I had. Thank you.
4:02:49 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Pinney?
4:02:59 PM	GC Pinney PSC - witness Bulkley	
	Note: Fields, Angela	Cross Examination.

4:12:08 PM	GC Pinney PSC - witness Bulkley	
	Note: Fields, Angela	No further questions your honour.
4:12:11 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero?
4:12:14 PM	Vice Chairman Cicero - witness Bulkley	
	Note: Fields, Angela	Cross Examination.
4:14:45 PM	Vice Chairman Cicero - Asst. Atty Gen. Chandler	
	Note: Fields, Angela	What did you identify this as?
4:14:55 PM	Vice Chairman Cicero - witness Bulkley	
	Note: Fields, Angela	Cross Continued.
4:26:13 PM	Vice Chairman Cicero - witness Bulkley	
	Note: Fields, Angela	Thank you. I have no more questions.
4:26:16 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Mathews?
4:26:19 PM	Chairman Schmitt	
	Note: Fields, Angela	I have none.
4:26:20 PM	Chairman Schmitt	
	Note: Fields, Angela	Ms. Braun?
4:26:22 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	And our next witness is John Wilde
4:26:26 PM	Chairman Schmitt - witness Bulkley	
	Note: Fields, Angela	You may step down, thank you, and you are excused.
4:26:58 PM	Chairman Schmitt - witness Wilde	
	Note: Fields, Angela	Swearing the witness in.
4:27:09 PM	Atty Ingram Kentucky-American - witness Wilde	
	Note: Fields, Angela	Direct Exdamination.
4:27:56 PM	Atty Ingram Kentucky-American - witness Wilde	
	Note: Fields, Angela	Mr. Wilde is available for cross your honour.
4:27:58 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. McNeil Mr. Chandler?
4:28:03 PM	Chairman Schmitt	
	Note: Fields, Angela	I keep trying to give Justin a chance here.
4:28:12 PM	Asst. Atty Gen. Chandler - witness Wilde	
	Note: Fields, Angela	Cross Examination.
4:43:28 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	May I interrupt for just a second Mr. Chandler?
4:43:30 PM	Atty Ingram Kentucky-American - Asst. Atty Gen. Chandler	
	Note: Fields, Angela	We anticipated that you would be asking some questions about Mr. Wilde's rebuttal exhibits. So what we did just for the convenience of the Commission was print out those exhibits. Do you mind if I pass those out?
4:44:15 PM	Asst. Atty Gen. Chandler - witness Wilde	
	Note: Fields, Angela	Cross Continued.
4:47:41 PM	Asst. Atty Gen. Chandler - witness Wilde	
	Note: Fields, Angela	That's all the questions I have Mr. Wilde thank you. Thank you Chairman.
4:47:44 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Pinney questions?
4:47:50 PM	GC Pinney PSC - witness Wilde	
	Note: Fields, Angela	Cross Examination.
4:49:02 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	GC Pinney PSC - witness Wilde
	Note: Fields, Angela	AN EXCEL SPREADSHEET SHOWING HOW THOSE ENTRIES ARE MADE AT BOTH FEDERAL AND STATE.

4:49:14 PM	GC Pinney PSC - witness Wilde	
	Note: Fields, Angela	Cross Continued.
4:49:58 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	THE COMMISSION STAFF WOULD LIKE IN EXCEL SPREADSHEET FORM THAT WOULD SHOW THE CALCULATIONS OF THE REVENUE REQUIREMENT IMPACTS FOR THE FOLLOWING: 1) [CLICK ON THE LINK FOR REMARKS.]
	Note: Fields, Angela	GC Pinney PSC - witness Wilde
4:51:59 PM	GC Pinney PSC - witness Wilde	
	Note: Fields, Angela	Cross Continued.
4:56:00 PM	GC Pinney PSC - witness Wilde	
	Note: Fields, Angela	No further questions your honour.
4:56:03 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero?
4:56:07 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Mathews?
4:56:09 PM	Chairman Schmitt	
	Note: Fields, Angela	I have none.
4:56:10 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	No redirect your honour.
4:56:12 PM	Chairman Schmitt	
	Note: Fields, Angela	May this witness be excused?
4:56:15 PM	Chairman Schmitt - witness Wilde	
	Note: Fields, Angela	Sir you may stand down and you're excused.
4:56:18 PM	Chairman Schmitt	
	Note: Fields, Angela	Call your next witness.
4:56:22 PM	Chairman Schmitt - witness Mustich	
	Note: Fields, Angela	Swearing the witness in.
4:56:40 PM	Atty Ingram Kentucky-American - witness Mustich	
	Note: Fields, Angela	Direct Examination.
4:57:50 PM	Atty Ingram Kentucky-American - witness Mustich	
	Note: Fields, Angela	Mr. Mustich is available for cross your honour.
4:57:51 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. McNeil it is your turn.
4:57:57 PM	Chairman Schmitt	
	Note: Fields, Angela	None from Lexington Fayette County?
4:58:03 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Pinney questions?
4:58:05 PM	GC Pinney PSC - witness Mustich	
	Note: Fields, Angela	Cross Examination.
5:01:16 PM	GC Pinney PSC - witness Mustich	
	Note: Fields, Angela	No further questions your honour.
5:01:17 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero?
5:01:24 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Mathews?
5:01:29 PM	Chairman Schmitt	
	Note: Fields, Angela	I have nothing. Mr. Ingram?
5:01:34 PM	Chairman Schmitt - witness Mustich	
	Note: Fields, Angela	May this witness be excused?
5:01:37 PM	Chairman Schmitt - witness Mustich	
	Note: Fields, Angela	You may stand down sir and you are excused.
5:01:39 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	Our next witness your honour is Mr. Kurt Kogler.

5:01:48 PM	Chairman Schmtt - witness Kogler	
	Note: Fields, Angela	Swearing the witness in.
5:02:00 PM	Atty Ingram Kentucky-American - witness Kogler	
	Note: Fields, Angela	Direct Examination.
5:03:12 PM	Atty Ingram Kentucky-American - witness Kogler	
	Note: Fields, Angela	Mr. Kogler is available for cross your honour.
5:03:14 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. McNeil questions?
5:03:16 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Osterloh?
5:03:19 PM	Atty Osterloh LFUCG - witness Kogler	
	Note: Fields, Angela	Cross Examination.
5:04:56 PM	Atty Osterloh LFUCG - witness Kogler	
	Note: Fields, Angela	Okay thank you. That's all the questions I have.
5:05:00 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Pinney, questions?
5:05:02 PM	GC Pinney PSC - witness Kogler	
	Note: Fields, Angela	Cross Examination.
5:07:22 PM	GC Pinney PSC - witness Kogler	
	Note: Fields, Angela	No further questions.
5:07:24 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero questions?
5:07:26 PM	Vice Chairman Cicero - witness Kogler	
	Note: Fields, Angela	Cross Examination.
5:09:41 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	Vice Chairman Cicero - witness Kogler
	Note: Fields, Angela	THAT GIVES THE MANAGEMENT PHILOSOPHY OF WHY THAT IS.
5:10:07 PM	Vice Chairman Cicero - witness Kogler	
	Note: Fields, Angela	I don't have any other questions.
5:10:09 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Mathews?
5:10:11 PM	Chairman Schmitt	
	Note: Fields, Angela	I have none.
5:10:12 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Ingram?
5:10:15 PM	Chairman Schmitt - witness Kogler	
	Note: Fields, Angela	May this witness be excused?
5:10:17 PM	Chairman Schmitt - witness Kogler	
	Note: Fields, Angela	Okay. You may step down sir you are excused.
5:10:20 PM	Chairman Schmitt	
	Note: Fields, Angela	We may get one more.
5:10:26 PM	Chairman Schmitt - witness Willig	
	Note: Fields, Angela	Swearing the witness in.
5:10:40 PM	Atty Ingram Kentucky-American - witness Willig	
	Note: Fields, Angela	Direct Examination.
5:11:26 PM	Atty Ingram Kentucky-American - witness Willig	
	Note: Fields, Angela	Mr. Willig is available for cross your honour.
5:11:29 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. McNeil?
5:11:32 PM	Chairman Schmitt	
	Note: Fields, Angela	You know your leaving didn't help much. He hasn't taken the bait here.
5:11:39 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Osterloh Mr. Gardner questions?

5:11:42 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Pinney?
5:11:45 PM	GC Pinney PSC - witness Willig	
	Note: Fields, Angela	Cross Examination
5:14:55 PM	Atty Ingram Kentucky-American - witness Willig	
	Note: Fields, Angela	No further questions your honour.
5:14:57 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero?
5:14:58 PM	Vice Chairman Cicero - witness Willig	
	Note: Fields, Angela	Cross Examination.
5:17:14 PM	Atty Ingram Kentucky-American - witness Willig	
	Note: Fields, Angela	I don't have any other questions.
5:17:16 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Mathews?
5:17:17 PM	Chairman Schmitt	
	Note: Fields, Angela	I have none.
5:17:19 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	No redirect your honour.
5:17:21 PM	Chairman Schmitt - witness Wilig	
	Note: Fields, Angela	May this witness be excused?
5:17:23 PM	Chairman Schmitt - witness Willig	
	Note: Fields, Angela	You may step down and you may be excused
5:17:26 PM	Atty Ingram Kentucky-American - witness Willig	
	Note: Fields, Angela	This is a good time to take a break we will be in recess until 6:15.
5:17:39 PM	Session Paused	
6:08:58 PM	Session Resumed	
6:08:59 PM	Chairman Schmitt	
	Note: Fields, Angela	We are back on the record and our next witness is Susan Lancho correct?
6:09:03 PM	Chairman Schmitt - witness Lancho	
	Note: Fields, Angela	Swearing in of witness.
6:09:17 PM	Atty Ingram Kentucky-American - witness Lancho	
	Note: Fields, Angela	Direct Examination.
6:10:13 PM	Atty Ingram Kentucky-American - witness Lancho	
	Note: Fields, Angela	Ms. Lancho is available for the Commission's questions your honour.
6:10:15 PM	Chairman Schmitt - witness Lancho	
	Note: Fields, Angela	Low Income Assistance Questioning. H20 (Help 2 Others)
6:13:49 PM	Chairman Schmitt - witness Lancho	
	Note: Fields, Angela	Do you know if your program initially was a result of any activity or settlement in a rate case?
6:14:05 PM	Atty Ingram Kentucky American	
	Note: Fields, Angela	I know I'm not a (inaudible) here, but I can answer your question a little bit if you don't mind {click on the link for remarks.]
6:15:16 PM	Chairman Schmitt	
	Note: Fields, Angela	Alright thank you.
6:15:17 PM	Chairman Schmitt - witness Lancho	
	Note: Fields, Angela	Low Income Assistance Questioning Continued.
6:23:40 PM	Chairman Schmitt - witness Lancho	
	Note: Fields, Angela	I don't think I have any other questions. Anyone else?
6:23:48 PM	Vice Chairman Cicero - witness Lancho	
	Note: Fields, Angela	Low Income Assistance Questioning.
6:25:33 PM	Vice Chairman Cicero - witness Lancho	
	Note: Fields, Angela	I don't have anything else.

6:25:35 PM	Chirman Schmitt	
	Note: Fields, Angela	Anyone else?
6:25:38 PM	Asst. Atty Gen. Chandler - witness Lancho	
	Note: Fields, Angela	Vice Chairman Cicero - witness Lancho
6:27:24 PM	Vice Chairman Cicero - witness Lancho	
	Note: Fields, Angela	Let me ask a question while he is thinking. Have you ever turned anyone away?
6:27:32 PM	Vice Chairman Cicero - witness Lancho	
	Note: Fields, Angela	I mean somebody that qualifies but there is no money left.
6:28:19 PM	Vice Chairman Cicero - witness Lancho	
	Note: Fields, Angela	That was I think a very much a humanitarian effort on Kentucky-American Water Corp to take that approach. I congratulate them on that.
6:28:32 PM	Asst. Atty Gen. Chandler - witness Lancho	
	Note: Fields, Angela	Low Income Assistance Questioning Continued.
6:31:05 PM	Low Income Assistance Questioning Continued.	
	Note: Fields, Angela	That's all the questions I have Chairman.
6:31:06 PM	Chairman Schmitt	
	Note: Fields, Angela	Mrs. Vinsel any questions?
6:31:09 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Ingram anything?
6:31:12 PM	Chairman Schmitt	
	Note: Fields, Angela	Anyone else?
6:31:13 PM	Chairman Schmitt - witness Lancho	
	Note: Fields, Angela	Thank you very much. We really appreciate it. And I'm sorry you had to wait here all day.
6:31:30 PM	Chairman Schmitt	
	Note: Fields, Angela	(Inaudible) call your next witness.
6:31:34 PM	Chairman Schmitt - witness Baryenbruch	
	Note: Fields, Angela	Swearing the witness in.
6:31:45 PM	Atty Ingram Kentucky-American - witness Baryenbruch	
	Note: Fields, Angela	Direct Examination.
6:32:37 PM	Atty Ingram Kentucky-American - witness Baryenbruch	
	Note: Fields, Angela	Mr. Baryenbruch is available for cross.
6:32:39 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. McNeil Mr. Chandler?
6:32:46 PM	Asst. Atty Gen. McNeil - witness Baryenbruch	
	Note: Fields, Angela	Cross Examination
6:43:36 PM	Asst. Atty Gen. McNeil - witness Baryenbruch	
	Note: Fields, Angela	That's all we have Chairman for now.
6:43:37 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Gardner?
6:43:41 PM	Atty Gardner LFUCG - witness Baryenbruch	
	Note: Fields, Angela	Cross Examination.
6:45:10 PM	Atty Osterloh LFUCG - witness Baryenbruch	
	Note: Fields, Angela	I'm sorry may I approach?
6:45:24 PM	Atty Gardner LFUCG - witness Baryenbruch	
	Note: Fields, Angela	Cross Continued.
6:55:00 PM	Atty Gardner LFUCG - witness Baryenbruch	
	Note: Fields, Angela	That's all I have.
6:55:01 PM	Chairman Schmitt	
	Note: Fields, Angela	Mrs. Vinsel Mr. Pinney?
6:55:11 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero?

6:55:15 PM	Vice Chairman Cicero - witness Baryenbruch	
	Note: Fields, Angela	Cross Examination.
7:07:24 PM	Vice Chairman Cicero - witness Baryenbruch	
	Note: Fields, Angela	I don't have anything else Chairman.
7:07:26 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Mathews?
7:07:28 PM	Chairman Schmitt	
	Note: Fields, Angela	I have nothing.
7:07:29 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Ingram?
7:07:31 PM	Chairman Schmitt - witness Baryenbruch	
	Note: Fields, Angela	May this witness be excused?
7:07:34 PM	Chairman Schmitt - witness Baryenbruch	
	Note: Fields, Angela	Thank you. You may step down.
7:07:39 PM	Chairman Schmitt	
	Note: Fields, Angela	Ms. Braun?
7:07:53 PM	Chairman Schmitt - witness Rungren	
	Note: Fields, Angela	Swearing the witnes in.
7:08:01 PM	Chairman Schmitt - witness Rungren	
	Note: Fields, Angela	Please be seated.
7:08:06 PM	Atty Braun Kentucky-American - witness Rungren	
	Note: Fields, Angela	Direct Examination.
7:08:45 PM	Atty Braun Kentucky-American - witness Rungren	
	Note: Fields, Angela	The witness is available for cross examination
7:08:47 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. McNeil?
7:08:49 PM	Asst. Atty Gen. McNeil - witness Runger	
	Note: Fields, Angela	Cross Examination.
7:08:58 PM	Asst. Atty Gen. McNeil - witness Runger	
	Note: Fields, Angela	Chairman may I approach?
7:09:37 PM	Asst. Atty Gen. McNeil - witness Runger	
	Note: Fields, Angela	Cross Continued.
7:15:00 PM	Asst. Atty Gen. McNeil - witness Runger	
	Note: Fields, Angela	That's all I have Chairman.
7:15:03 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Gardner Mr. Osterloh questions?
7:15:05 PM	Chairman Schmitt	
	Note: Fields, Angela	Staff?
7:15:08 PM	Asst. GC Vinsel PSC - witness Rungren	
	Note: Fields, Angela	Cross Examination.
7:16:38 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	STAFF WOULD LIKE TO SEE AN ADDITIONAL UPDATED PROJECTION FOR THE SHORT TERM INTEREST RATE USING THE LIABLE RATE FOR MAY 15, 2019.
	Note: Fields, Angela	Asst. GC Vinsel - witness Rungren
7:17:22 PM	Asst. GC Vinsel PSC - witness Rungren	
	Note: Fields, Angela	Cross Continued.
7:18:04 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	THE ACTUAL INTEREST RATE WHEN THE DEBT TRANSACTION CLOSED.
	Note: Fields, Angela	Asst. GC Vinsel - witness Rungren
7:18:16 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	Asst. GC Vinsel - witness Rungren

	Note: Fields, Angela	REVISED EXHIBIT 37 SCHEDULE J 1, 2, 3, 4, AND MAYBE 5. REVISED TO REFLECT A SHORT TERM INTEREST RATE AND THE ACTUAL INTEREST RATE FOR THE SIXTEEN MILLION DOLLAR DEBT ISSUANCE.
7:19:11 PM	Asst. GC Vinsel PSC - witness Rungren	
	Note: Fields, Angela	And that's it.
7:19:12 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero?
7:19:15 PM	Chairman Schmiitt	
	Note: Fields, Angela	Commissioner Mathews?
7:19:17 PM	Chairman Schmitt	
	Note: Fields, Angela	I have no questions.
7:19:19 PM	Chairman Schmitt - witness Rungren	
	Note: Fields, Angela	May this witness be excused?
7:19:21 PM	Chairman Schmitt - witness Rungren	
	Note: Fields, Angela	You may step down sir and you may be excused.
7:19:24 PM	Chairman Schmitt	
	Note: Fields, Angela	Call your next witness.
7:19:40 PM	Chairman Schmitt - witness Heppenstall	
	Note: Fields, Angela	Swearing the witness in.
7:19:58 PM	Atty Braun Kentucky-American - witness Heppenstall	
	Note: Fields, Angela	Direct Examination.
7:20:48 PM	Atty Braun Kentucky-American - witness Heppenstall	
	Note: Fields, Angela	The witness is available for cross examination.
7:20:50 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. McNeil Mr. Chandler?
7:21:24 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Gardner Mr. Osterloh questions?
7:21:26 PM	Chairman Schmitt	
	Note: Fields, Angela	Staff?
7:21:29 PM	Asst. GC Vinsel PSC - witness Heppenstall	
	Note: Fields, Angela	Cross Examination.
7:22:50 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	Asst. GC Vinsel PSC - witness Heppenstall
	Note: Fields, Angela	A COPY OF THE PROPOSED RATES IN WORD FORMAT.
7:23:36 PM	Asst. GC Vinsel PSC - witness Heppenstall	
	Note: Fields, Angela	Staff has no further questions.
7:23:40 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero?
7:23:42 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Mathews?
7:23:44 PM	Chairman Schmitt	
	Note: Fields, Angela	I have nothing. Ms. Braun?
7:23:46 PM	Chairman Schmitt - witness Heppenstall	
	Note: Fields, Angela	May this witness be excused?
7:23:48 PM	Chairman Schmitt - witness Heppenstall	
	Note: Fields, Angela	You may step down ma'am and be excused.
7:24:00 PM	Chairman Schmitt - witness Pellock	
	Note: Fields, Angela	Swearing in of witness.
7:24:16 PM	Atty Braun Kentucky-American - witness Pellock	
	Note: Fields, Angela	Direct Examination.
7:24:54 PM	Atty Braun Kentucky-American - witness Pellock	
	Note: Fields, Angela	The witness is available for cross examination.

7:24:57 PM	Chairman Schmitt	
	Note: Fields, Angela	Cross examination?
7:25:00 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	Cross Examination.
7:25:05 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	Chairman may I approach?
7:25:58 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	Cross Continued.
7:30:20 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	CLARIFY ON ALL OF THOSE?
	Note: Fields, Angela	Asst. Atty Gen. McNeil - witness Pellock
7:30:48 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	Cross Continued.
7:30:55 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	Chairman may I approach again?
7:31:18 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	Cross Continued.
7:31:33 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	Mr. McNeil may I interrupt?
7:31:34 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	This is Exhibit 37 to Kentucky American's application Schedule G?
7:31:46 PM	Atty Ingram Kentucky-American	
	Note: Fields, Angela	Thank you.
7:31:52 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	Cross Continued.
7:33:40 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	Chairman may I approach again?
7:33:58 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	Cross Continued.
7:34:10 PM	AG'S EXHIBIT 15	
	Note: Fields, Angela	Asst. Atty Gen. McNeil - witness Pellock
	Note: Fields, Angela	CASE NO, 2015-00418 EXHIBIT 37 SCHEDULE G PAGE 3 OF 10.
7:34:19 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	Chairnan I would like to mark this as AG 15.
7:34:26 PM	Chairman Schmitt	
	Note: Fields, Angela	Let it be so marked.
7:34:32 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	Cross Continued.
7:36:50 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	Asst. Atty Gen. McNeil - witness Pellock
	Note: Fields, Angela	CLARIFY THE MOST RECENT NUMBER FOR FULL TIME EMPLOYEE'S.
7:37:01 PM	Asst. Atty Gen. McNeil - witness Pellock	
	Note: Fields, Angela	No further questions Chairman.
7:37:03 PM	Chairman Schmitt	
	Note: Fields, Angela	Questions?
7:37:06 PM	Atty Osterloh LFUCG - witness Pellock	
	Note: Fields, Angela	Cross Examination.
7:40:48 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	PROVIDE A DETAILED SCHEDULE OF RATE CASE EXPENSES AND SUPPORTING DOCUMENTS THROUGH THE DATE OF THAT FILING?
	Note: Fields, Angela	Atty Osterloh LFUCG - witness Pellock
7:41:01 PM	Atty Osterloh LFUCG - witness Pellock	
	Note: Fields, Angela	Thank you Mr. Chairman those are all the questions I have.

7:41:05 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Pinney questions?
7:41:13 PM	GC Pinney PSC - witness Pellock	
	Note: Fields, Angela	Cross Examination.
7:42:50 PM	Vice Chairman Cicero - witness Pellock	
	Note: Fields, Angela	Have you included numbers in your forecast period?
7:43:06 PM	GC Pinney PSC - witness Pellock	
	Note: Fields, Angela	Cross Continued.
7:43:32 PM	GC Pinney PSC - witness Pellock	
	Note: Fields, Angela	No further questions from Staff.
7:43:35 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero?
7:43:36 PM	Vice Chairman Cicero - witness Pellock	
	Note: Fields, Angela	Cross Examination.
7:45:36 PM	Vice Chairman Cicero - witness Pellock	
	Note: Fields, Angela	I don't have anything else.
7:45:40 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Mathews?
7:45:42 PM	Chairman Schmitt	
	Note: Fields, Angela	I have nothing.
7:45:43 PM	Chairman Schmitt	
	Note: Fields, Angela	Counsel?
7:45:44 PM	Chairman Schmitt - witness Pellock	
	Note: Fields, Angela	May this witness be excused?
7:45:52 PM	Chairman Schmitt - witness Pellock	
	Note: Fields, Angela	You may step down sir, and you are excused.
7:46:01 PM	Chairman Schmitt	
	Note: Fields, Angela	Call your next witness.
7:46:06 PM	POST HEARING DATA REQUEST	
	Note: Fields, Angela	THE DIFFERENCES RELATED TO THE CHANGE IN HOURS BETWEEN THE FORECASTED YEAR AND THE BASE PERIOD.
	Note: Fields, Angela	Vice Chairman Cicero - witness Pellock
7:46:58 PM	Chairman Schmitt - witness Sensabaugh	
	Note: Fields, Angela	Swearing the witness in.
7:47:06 PM	Chairman Schmitt	
	Note: Fields, Angela	Counsel?
7:47:09 PM	Atty Ingram Kentucky-American - witness Sensabaugh	
	Note: Fields, Angela	Direct Examination.
7:48:12 PM	Atty Ingram Kentucky-American - witness Sensabaugh	
	Note: Fields, Angela	He's available for cross your honour.
7:48:13 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. McNeil?
7:48:19 PM	Chairman Schmitt	
	Note: Fields, Angela	Staff?
7:48:21 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero?
7:48:24 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Mathews?
7:48:28 PM	Chairman Schmitt	
	Note: Fields, Angela	I assume you may be excused.
7:48:37 PM	Chairman Schmitt	
	Note: Fields, Angela	Next witness.
7:49:16 PM	Chairman Schmitt - witness Roach	
	Note: Fields, Angela	Swearing the witness in.

7:49:25 PM	Chairman Schmitt - witness Roach	
	Note: Fields, Angela	Please be seated.
7:49:26 PM	Atty Braun Kentucky-American - witness Roach	
	Note: Fields, Angela	Direct Examination.
7:50:21 PM	Atty Braun Kentucky-American - witness Roach	
	Note: Fields, Angela	This witness is available for cross examination.
7:50:23 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. McNeil?
7:50:26 PM	Asst. Atty Gen. McNeil - witness Roach	
	Note: Fields, Angela	Cross Examination.
7:50:35 PM	Asst. Atty Gen. McNeil - witness Roach	
	Note: Fields, Angela	May I approach Chairman?
7:50:48 PM	Asst. Atty Gen. McNeil - witness Roach	
	Note: Fields, Angela	Cross Continued.
7:56:48 PM	Asst. Atty Gen. McNeil - witness Roach	
	Note: Fields, Angela	Thank you. That's all I have Chairman.
7:56:49 PM	Chairman Schmitt	
	Note: Fields, Angela	Mr. Gardner Mr. Osterloh?
7:56:52 PM	Chairman Schmitt	
	Note: Fields, Angela	Staff?
7:56:55 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Cicero any questions?
7:56:56 PM	Chairman Schmitt	
	Note: Fields, Angela	Commissioner Mathews?
7:56:58 PM	Commissioner Mathews - witness Roach	
	Note: Fields, Angela	Cross Examination.
7:57:30 PM	Commissioner Mathews - witness Roach	
	Note: Fields, Angela	That's all I had.
7:57:31 PM	Chairman Schmitt	
	Note: Fields, Angela	I have nothing Counsel?
7:57:34 PM	Chairman Schmitt - witness Roach	
	Note: Fields, Angela	May this witness be excused?
7:57:37 PM	Chairman Schmitt - witness Roach	
	Note: Fields, Angela	You may step down and be excused.
7:57:39 PM	Chairman Schmitt	
	Note: Fields, Angela	Let's take a ten minute break before we start and I want to see Counsel at the bench. And ask about the remainder of this evening and tomorrow.
7:57:54 PM	Session Paused	
8:04:43 PM	Session Resumed	
8:04:44 PM	Chairman Schmitt	
	Note: Fields, Angela	We are now back on the record and it is twelve minutes after eight pm Kentucky-American has one more witness. And at the break Counsel advised that [click on the link for Chairman Schmitt's remarks.]
8:05:42 PM	Chairman Schmitt	
	Note: Fields, Angela	Is there anything else that Counsel would like to bring to the attention of the Commission before we adjourn for the evening?
8:06:14 PM	Chairman Schmitt	
	Note: Fields, Angela	Does Counsel have any objection to those witnesses being excused?
8:06:18 PM	Chairman Schmitt	
	Note: Fields, Angela	Alright those identified witnesses are hereby permanently excused from this proceeding

8:06:42 PM	Chairman Schmitt	
	Note: Fields, Angela	Does anybody have any objection to Mr. Rowe being excused now?
8:06:49 PM	Chairman Schmitt	
	Note: Fields, Angela	Well in that case Mr. Rowe is now excused as of this moment.
8:07:09 PM	Chairman Schmitt	
	Note: Fields, Angela	That's right they'll come in writing, and we will have a deadline. If you don't get them in writing by the deadline, you are not required to respond.
8:07:19 PM	Chairman Schmitt	
	Note: Fields, Angela	Is there anything else. If not then this hearing is adjourned until nine o'clock in the morning.
8:07:29 PM	Session Paused	
8:07:38 PM	Session Ended	

Exhibit List Report

2018-00358 13May2019

Kentucky-American Water Company (Kentucky-American)

Name:	Description:
AG Exhibit 01	Direct testimony of Ellen C. Wolf Case No. 2006-00197
AG Exhibit 02	Direct testimony of Michael A. Miller Case No. 2006-00197
AG Exhibit 03	Post-Hearing Brief Case No. 2006-00197
AG Exhibit 04	Order from Case No. 2006-00197
AG Exhibit 05	Case No. 2015-00418 Rate Base Summary
AG Exhibit 06	Order from Case No. 2012-00520
AG Exhibit 07	Ordering Paragraph 9 Report Case No. 2007-00134
AG Exhibit 08	U.S. Department of the Treasury Daily Treasury Yield Curve Rates
AG Exhibit 09	U.S. Department of the Treasury Daily Treasury Yield Curve Rates
AG Exhibit 10	American Water Works Company, Inc. Nasdaq Real Time Price Currency In USD
AG Exhibit 11	American Water Works Company, Inc. Nasdaq Real Time Price Currency in USD
AG Exhibit 12	Direct Testimony of Ann E. Bulkley on Behalf of UNS Electric, Inc. December 31, 2012 Docket No. E-04204A-12
AG Exhibit 13	U.S. Department of the Treasury Daily Treasury Yield Curve Rates
AG Exhibit 14	Minutes of the Federal Open Market Committee March 19-20, 2019
AG Exhibit 15	Exhibit 37 Schedule G in Case No. 2015-00418; Kentucky American Water Company Payroll Analysis By Employee Classification
LFUCG Exhibit 01	Motion to dismiss Case No. 2019-00041

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE JOINT PETITION OF KENTUCKY-AMERICAN WATER COMPANY, THAMES WATER AQUA HOLDINGS GMBH, RWE AKTIENGESELLSCHAFT, THAMES WATER AQUA US HOLDINGS, INC., AND AMERICAN WATER WORKS COMPANY, INC. FOR APPROVAL OF A CHANGE IN CONTROL OF KENTUCKY-AMERICAN WATER COMPANY	)	CASE NO. 2006-00197

DIRECT TESTIMONY OF ELLEN C. WOLF

June 5 2006

AG EXH. NO 1

I. INTRODUCTION

Q1. Please state your name and business address.

A1. My name is Ellen C. Wolf. My business address is American Water Works Company, Inc., 1025 Laurel Oak Road, Voorhees, New Jersey 08054.

Q2. By whom are you employed and in what capacity?

A2. I am employed by American Water Works Company, Inc. ("American Water") as Senior Vice President and Chief Financial Officer ("CFO"). As CFO, I have primary responsibility for directing and coordinating all company financial objectives and obligations.

Q3. Please describe your educational background.

A3. I received a B.A. from Duke University and an MBA from the Wharton School of the University of Pennsylvania.

Q4. Please briefly describe your professional background.

A4. I began my career with the accounting firm of Deloitte Haskins & Sells. From 1987-1999, I held various positions with increasing responsibility in corporate accounting, finance, and business development for Bell Atlantic and several of its subsidiaries including Bell Atlantic Enterprises International, Bell Atlantic Mobile, and Bell Atlantic Corporation. From 1999-2003, I was employed by American Water as

Vice President and CFO. Just prior to rejoining American Water, I served as Senior Vice President and CFO of USEC, Inc., a global energy company.

Q5. What is the purpose of your testimony?

A5. The purpose of my testimony is to describe the parties to the merger of Thames Water Aqua U.S. Holdings, Inc. ("TWAUSHI") with and into American Water and the sale by Thames Water Aqua Holdings GmbH ("Thames GmbH")(a 100% owned subsidiary of RWE Aktiengesellschaft ("RWE")) of up to 100% of the shares of common stock of American Water in one or more public offerings ("the Proposed Transaction"), and to describe the initial public offering process. I will further demonstrate that after the Proposed Transaction American Water, and its affiliate American Water Capital Corp. ("AWCC"), will continue to be in a position to provide the necessary capital for Kentucky American and the other operating subsidiaries comprising the American Water system to meet their commitment to provide high-quality service to customers.

II. THE PROPOSED TRANSACTION

Q6. Please describe the Proposed Transaction.

A6. The Proposed Transaction involves two steps. In a first step we will merge TWAUSHI with and into American Water, so that American Water is the surviving corporation. The merger will result in the consolidation of RWE's American Water related U.S. water assets (including U.S. water assets acquired by RWE through its acquisition of Thames Water plc) into American Water. Thereafter, Thames GmbH will sell up to 100% of the common stock of American Water. The shares will be sold through one or more public offerings to a broad group of investors, including institutional and retail investors. It is the desire of Thames GmbH to sell 100% of the shares in the initial public offering ("IPO"). However, depending upon market conditions, Thames GmbH may initially sell less than 100% of the shares in the IPO. In such case, the remainder of the shares will be sold in one or more subsequent offering(s) as soon as reasonably practicable following the IPO. The IPO and any subsequent public offerings will be conducted according to the rules for public offerings mandated by the United States Securities and Exchange Commission ("SEC"). The process for the IPO and any subsequent public offering is substantially the same, although the timeframe for subsequent public offerings is generally shorter.

As a matter of background, the key participants in an underwritten public offering are the company in which the shares are being sold, referred to as the issuer (in this case, American Water); the seller of the shares (in this case, Thames GmbH); and the underwriters (the investment banks that purchase the shares from the seller and resell them to the public). A more detailed description of the SEC and underwriting process that will need to be followed in conducting the IPO and any subsequent offerings of the shares is found in Section IV below.

III. THE PARTIES

Q7. Please describe the background and business of RWE.

A7. RWE is a stock corporation incorporated and existing under the laws of Germany. RWE's headquarters is in Essen, Germany. RWE is the parent company of a group of companies principally engaged in the business of electric power generation, trading, transmission and distribution of electric power; natural gas and crude oil exploration and production as well as natural gas transmission and distribution; and water related services. RWE ranks among Europe's leading integrated electricity and gas companies. RWE's regional focus stretches mainly from the U.K. to Eastern Europe.

Q8. Please describe generally the business and background of Thames GmbH.

A8. Thames GmbH is a corporation incorporated and existing under the laws of Germany, with its headquarters in Essen, Germany. Thames GmbH is a wholly-owned subsidiary of RWE. Thames GmbH is the intermediate holding company for most of RWE's water and wastewater operations. Thames GmbH owns 100% of the shares of TWAUSHI. Thames GmbH does not have any employees of its own.

Q9. Please describe the business and purpose of TWAUSHI.

A9. TWAUSHI is a corporation organized and existing under the laws of Delaware and headquartered in Voorhees, New Jersey. It is the intermediate holding company for all of RWE's water businesses in the U.S. and a wholly-owned subsidiary of Thames GmbH and, in turn, the direct parent of American Water.

Q10. Could you please describe for us generally the business and background of American Water?

A10. American Water is a Delaware corporation headquartered in Voorhees, New Jersey. The principal business of American Water is the investment in and ownership of the common stock of operating water and wastewater utility companies like Kentucky-American Water Company ("Kentucky American") that provide quality water and wastewater services to millions of customers in the United States and three Canadian Provinces. American Water, which is more than 100 years old, and its subsidiaries today have approximately 6,000 employees and provide water, wastewater and other water resource management services to a population of approximately 18 million people in 29 states and in Canada. For nearly 60 years, from 1947 until January 2003, American Water was one of the largest publicly-traded water companies in the United States, with its shares listed on the New York Stock Exchange.

Q11. What is the function of AWCC?

A11. AWCC is a direct subsidiary of American Water. The primary function of AWCC is to provide efficient cash management and debt funding for the operating subsidiaries of American Water.

Q12. Will AWCC continue to be a subsidiary of American Water after the conclusion of the Proposed Transaction?

A12. Yes. Since its inception in 2000, AWCC has been a subsidiary of American Water. No change will take place in the corporate relationship between American Water and AWCC or between AWCC and Kentucky American as a result of the Proposed Transaction.

IV. THE INITIAL PUBLIC OFFERING ("IPO") PROCESS

Q13. Please describe the IPO process.

A13. The first step in a public offering is the preparation and filing with the SEC of a registration statement. The registration statement for this type of offering (called an "initial public offering" or "IPO," because no shares of American Water are currently publicly traded) is a lengthy document containing extensive information about the issuer and the offering. This information includes, among other things, the issuer's audited financial statements, descriptions of its business, financial performance, management and risk factors that investors may consider in deciding to buy the shares. The primary portion of an SEC registration statement is the prospectus, which is the document used to market the offering. The registration statement by law must not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading. The registration statement must also lay out the principal risks involved in investing in the issuer. American Water, Thames GmbH and the underwriters will all have liability under the federal securities laws with respect to the contents of the prospectus.

Once an initial registration statement has been prepared, it will be filed with the SEC, at which point it will become publicly available on the SEC's web site. We do not anticipate that this initial filing with the SEC will occur before late in 2006, when the state regulatory approval process is well underway. The SEC will then review the initial registration statement. The SEC will provide American Water with initial comments on the filing within four to six weeks, at which point American Water will file an amended registration statement addressing the SEC's comments. (The amended registration statement will also become immediately available on the SEC's web site.) The SEC may have further comments, in which case additional amendments must be filed until all comments are resolved. This review and comment process typically takes between two and three months from the time the initial registration statement is first filed with the SEC.

After the principal SEC comments have been resolved and the state regulatory approval process has been completed, the marketing process may begin. During the marketing process, the underwriters will distribute a preliminary prospectus to potential investors and schedule a "roadshow," which is a series of group and one-on-one meetings with prospective investors generally spanning approximately two to three weeks. At these meetings, management of American Water will make presentations about the company and answer questions. During the marketing process, the underwriters solicit indications of interest from potential investors in purchasing shares in the offering. Once the marketing process has been completed, American Water will ask the SEC to declare the registration statement effective, and the underwriters and Thames GmbH will agree on the price per share at which the shares will be sold to the public.

As a technical matter, in an underwritten offering, the underwriters agree to buy the shares from the seller (pursuant to the underwriting agreement) and then in turn agree, usually within a matter of minutes, to resell them to the prearranged purchasers. Both the purchases by the underwriters and the subsequent sales are usually completed on the same day, at the closing of the offering. The closing of the offering, at which the purchases are settled, usually takes place three or four business days after the pricing. At settlement, shares are transferred directly into the names of the investors. On the date of closing, the stock begins regular trading in the public market. In this case, the shares are intended to be listed on the New York Stock Exchange.

Q14. Does RWE intend to sell a controlling interest in American Water to any single entity?

A14. RWE has no intention of permitting any person or entity to acquire a controlling interest in American Water through the Proposed Transaction. Consequently, American Water is not requesting approval in any state for any individual or group to acquire a controlling interest in American Water in either the IPO or subsequent public offerings. The prospectus pursuant to which the shares will be sold in the IPO will include disclosure about the relevant statutory restrictions and the consequences of a violation.

V. PURPOSE AND BENEFITS OF THE PROPOSED TRANSACTION

Q15. Why is RWE seeking to divest itself of American Water and Kentucky American?

A15. RWE has revised its core business focus to be on the European power and energy markets, where historically its roots lie. In the last two years, in order to become a more market-oriented and focused company, RWE had already divested non-core activities such as its environmental business. In order to maintain its position among Europe's leading integrated electricity and gas companies, in response to fierce competition, growing customer needs, and rising costs both for energy production facilities and many other energy production inputs, RWE is forced to concentrate on its power and energy markets. As a result of these developments, RWE's ability to maintain its competitiveness in its core European businesses is proving far more capital intensive than RWE could have predicted when it acquired American Water. Consequently, RWE decided that it intends to sell the water operations of Thames Water in the U.K. and to return American Water to its status as a U.S. publicly-traded company. The Proposed Transaction will allow RWE to focus on its core businesses in its home region, and more importantly for Kentucky American, will allow American Water to focus on its U.S. water and wastewater systems and customers.

Q16. Can you describe a benefit of the Proposed Transaction to American Water, its utility subsidiaries and customers?

A16. Yes. The primary benefit of the Proposed Transaction will be to return American Water to its status as a United States publicly-traded company, with all the transparency and ready access to the U.S. public equity and debt capital markets that such a status entails.

Q17. Please elaborate further on the benefits that Kentucky American will derive from American Water's status as a publicly-traded company.

A17. As a publicly-traded company, American Water will become subject to the federal securities laws and regulations as well as the requirements of the stock exchange where American Water's common shares will be listed. Specifically, such laws and regulations will impose obligations on American Water related to financial reporting, accounting, internal controls, general business disclosure, corporate governance, executive compensation reporting, issuance of securities and related financial and business matters. American Water will be required to file annual, quarterly and current reports (relating to certain business events) with the SEC, and certain American Water investors will be required to make filings disclosing their American Water shareholdings (including, under certain circumstances, the purpose of acquiring such shareholdings). All financial information of American Water and its subsidiaries will have to be reported in accordance with U.S. generally accepted accounting principles ("GAAP") and SEC regulations. The annual consolidated financial statements of American Water will be required to be audited. In addition, all filings with the SEC will be made immediately available on the SEC's web site, not only to investors, but to the public at large. American Water will also be required to comply with the extensive requirements imposed as a result of the federal Sarbanes-Oxley legislation. These requirements relate to, among other things, internal controls over financial reporting and an external audit of management assessment of such controls, corporate officer certification of financial and other information, corporate governance requirements, and enhanced and expedited disclosure (particularly with respect to certain financial information).

Q18. Will American Water's status as a publicly-traded company benefit customers?

A18. Yes. American Water's status as a publicly-traded company will increase the accessibility and level of information available to customers with regard to American Water and its subsidiaries. Customers will further benefit from the confidence that American Water is subject to the rules and restrictions governing public companies. Customers will also have the opportunity to invest in American Water through the purchase of its common stock.

Q19. Is Sarbanes-Oxley compliance a result of the Proposed Transaction?

A19. It is not a direct result of the Proposed Transaction. However, our implementation of it will be accelerated as a result of the Proposed Transaction. Sarbanes-Oxley compliance is mandated for United States publicly traded companies. Also it becomes a key area of interest for a number of state regulators, banks, financial institutions and other sources of debt which also require Sarbanes-Oxley like controls on privately held companies. However, there are legal, accounting and other costs inherent in compliance. These costs are required to be incurred by American Water pursuant to federal law. Accordingly, American Water, like other utilities, will need to recover these costs in the future.

Q20. Are there other benefits related to being a public company that will be derived from the Proposed Transaction?

A20. Yes. As a publicly-traded company, American Water will be able to raise capital through its access to public equity and debt capital markets in the U.S. Raising capital to replace aging infrastructure and to comply with ever more stringent water quality standards is a primary challenge facing the water and wastewater industry in the U.S. The U.S. Environmental Protection Agency ("EPA") estimates that up to $1 trillion may be necessary for the industry to meet these challenges over the next 20 years. American Water's status as a publicly-traded company will help ensure that American Water and its utility subsidiaries have ready, cost-effective capital available to meet such needs.

Q21. Can you describe some of the other positive features associated with the Proposed Transaction?

A21. American Water will control its own destiny and no longer have to compete for management attention and financial support with the other divisions within a large international corporate structure that is focused on energy.

Q22. Are there intangible benefits of American Water no longer being owned by a foreign company?

A22. Yes. American Water will be focused on the water and wastewater markets in the U.S. and dedicated to maintaining a high level of service at just and reasonable rates. Although American Water always considered its association with RWE to be positive, some parties, including some of our customers, have had concerns about foreign ownership of their water company by a large foreign energy conglomerate. Returning American Water to U.S. publicly-traded status with a U.S. focus will alleviate any lingering concerns about foreign ownership

Q23. Do you expect a material change in American Water's financial characteristics after the Proposed Transaction?

A23. No. There should not be a material change to American Water's financial characteristics as a result of the Proposed Transaction. The proposed transaction will change our ownership structure from a single shareholder to multiple shareholders, and American Water will raise its financing capital in the public markets. Aside from the merger of Elizabethtown Water Company and The Mount Holly Water Company with and into New Jersey-American Water Company, Inc., we expect that there will be no material changes in revenues or expenses, the balance sheet will remain solid, there will be an ongoing emphasis on service and water quality, the role of Kentucky American as a valued corporate citizen will continue, and the strong commitment to investing the capital required to appropriately maintain operations consistent with a fair regulatory treatment will be continued. Additionally, dividend payments to American Water will continue only when such dividends do not impair Kentucky American's ability to provide high quality service to its customers.

Q24. How will AWCC be impacted by the Proposed Transaction?

A24. The impact on AWCC is two-fold: Currently, AWCC receives its debt from RWE. RWE receives its capital from the European capital markets. In the future, the source of any new capital for AWCC will be directly from the debt capital markets as opposed to from RWE. AWCC will also need to refinance any debt with RWE that matures after the Proposed Transaction. As of December 31, 2005, the total amount of AWCC borrowings from RWE is $2,438,586,000 of which $2,030,286,000 will become due under ordinary course of business terms and conditions between June 2006 and June 2007. In addition, as of December 31, 2005 $408,300,000 of long-term debt will be called by RWE, as allowed by the terms of the loans, prior to its maturity. Thirty-Eight Million Dollars ($38,000,000) of those long-term borrowings provide funding to Kentucky American as of December 31, 2005. To the extent required, a separate financing petition will be submitted to the Commission for approval for any replacement financing.

Q25. Are there any other financing activities contemplated at AWCC?

A25. Yes. Other then the refinancing which occurs in the ordinary course of business, AWCC is in the process of refinancing its short-term credit facilities with RWE, which are in the process of being replaced with stand-alone AWCC short-term credit facilities.

Q26. How will AWCC refinance its debt?

A26. AWCC will again access the U.S. public and private debt capital markets to meet the financing needs of the regulated utility subsidiaries of American Water. While refinancing costs post transaction will vary according to market conditions, we are seeing evidence that the capital debt market is very receptive to a publicly-traded, post RWE ownership American Water. Of note, for the current replacement of the $550MM RWE revolving credit facility to AWCC, we have requested expressions of interest for a new $800MM facility for AWCC. We received offers totaling more than $2 billion at a cost roughly in line with the current RWE facility.

Q27. How will American Water be capitalized following the IPO?

A27. American Water's goal is to have a debt to equity ratio in the range of 45% to 55% debt and to 55% to 45% equity like components in its total capitalization structure. Thus, American Water's Balance Sheet will include debt instruments, common equity, and may include convertible debt, preferred stock and other instruments that may be considered equity equivalents (none of which will result in a controlling interest in the company). As is common practice in transactions such as this, the exact composition of the balance sheet will depend on market conditions.

Q28. What will be the credit rating of AWCC after the Transaction, and what is the impact of the transaction on the cost of capital to Kentucky American?

A28. A credit rating is the opinion of the credit rating entity of the overall general creditworthiness of a company based on an analysis of relevant risks considering both qualitative and quantitative factors. Among the qualitative factors that are considered are a company's competitiveness and growth prospects, the caliber of its management, the industry's regulatory framework and how it applies to the company. Quantitative analysis metrics frequently utilized include ratios such as Funds from Operations to Total Debt, Pretax Coverage Ratios and Total Debt to Total Capital.

American Water's strategy post transaction is to retain its senior management, which have experience in the industry and with the various ratings agencies. Also, post transaction, American Water's Debt to Equity structure will be similar to water utilities which have Investment Grade ratings (Debt = 45-55%, Equity = 55-45%).

As I previously noted, a credit rating (and ultimately the costs of debt and capital), are dependent on a multitude of factors, including Funds from Operations (FFO) metrics, which themselves are a direct product of timely and fair treatment in the regulatory process.

Given American Water's plan for Debt to Equity levels at par with water utilities, and assuming a rate of return similar to the average in the industry, we would not expect to see a change in American Water's Cost of Capital.

Q29. Please explain the Proposed Transaction's impact on management of American Water.

A29. The senior management of American Water and of Kentucky American consists of high-caliber executives with the experience and ability to operate water and wastewater services. American Water's board of directors and management team will take the Company through the IPO process, and assure continued provision of safe and reliable utility service during and after the IPO process. The highly qualified local management team will continue ~~to~~ operate the local business. At the time of the IPO, and thereafter, the board of directors of American Water will meet the requirements for boards of public companies. The board will consist of experienced individuals who, in the aggregate, possess the capabilities and experience appropriate for the board of a large, publicly-owned multi-state water utility. Federal securities laws and stock exchange rules also require, following completion of the Proposed Transaction, that the board have a majority of independent directors and that the audit, compensation and nominating committees consist entirely of independent directors.

Q30. Will the Proposed Transaction affect the financial capabilities of Kentucky American in any negative manner?

A30. No. As a result of the Proposed Transaction, Kentucky American will continue to be a wholly-owned subsidiary of American Water and will continue to have a financial profile similar to that which currently exists. The activities of Kentucky American will remain the same, and the cash generated from operating activities will not be impacted by the Proposed Transaction.

Q31. After the Proposed Transaction, will AWCC continue to access the debt capital markets to loan funds to Kentucky American to finance its investments in its water distribution network, and fund its working capital needs?

A31. Yes. After the Proposed Transaction, AWCC will continue to support Kentucky American under the provisions of the Agreement for Services approved by this Commission by an Order dated July 21, 2000, in Case 2000-189. There will be no changes made to this agreement as a result of the Proposed Transaction. Through the aggregation of borrowing requirements on both short-term and long-term debt, Kentucky American and its affiliates can borrow amounts that will enable them to obtain more advantageous terms than had they borrowed from the market individually. Combined borrowing power increases the efficiencies of borrowing operations and lowers the cost thereof (i.e., bank fees, legal fees, rating costs, SEC registration costs, and others).

Q32. Will American Water and AWCC be capable of supporting the financing needs of Kentucky American after the Proposed Transaction?

A32. Yes. American Water will retain its solid balance sheet. American Water and AWCC will have access to the Investment Grade Debt Markets and American Water will have access to the Capital Markets as well. These markets provide sufficient depth to cover the financing needs of Kentucky American but its enormous capital needs in the next five years can best be satisfied if it becomes a more attractive financial investment. An average return of 4.0% for the last 3 years is not consistent with a financial healthy company. Such a return makes it difficult and costly to raise the capital necessary to serve the interests of the ratepayers and investors.

Q33. Are there anticipated changes in Kentucky American's rate structure attributable to the reorganization?

A33. No. This transaction will have a minimal impact on Kentucky American. Kentucky American will continue to operate under its current existing tariffs and rate structure until such time as these tariffs and rate structure are modified in accordance with established law and regulation.

Q34. Are there any anticipated changes in Kentucky American's capital structure?

A34. No, other than such changes that might occur in the ordinary course of business.

Q35. Are there anticipated changes in Kentucky-American's cost of service attributable to the Proposed Transaction?

A35. No. The transaction is anticipated to have minimal impact on the cost of service of Kentucky American. Changes in the cost of service after the Proposed Transaction will be the result of changes in the general business and economic conditions in Kentucky.

Q36. Does this conclude your direct testimony?

A36. Yes.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE JOINT PETITION OF KENTUCKY- AMERICAN WATER COMPANY, THAMES WATER AQUA HOLDINGS GMBH, RWE AKTIENGESELLSCHAFT, THAMES WATER AQUA US HOLDINGS, INC., AND AMERICAN WATER WORKS COMPANY, INC. FOR APPROVAL OF A CHANGE IN CONTROL OF KENTUCKY-AMERICAN WATER COMPANY	))))))))	CASE NO. 2006-00197

DIRECT TESTIMONY OF MICHAEL A. MILLER

June 5, 2006

AG EXH. NO 2

Q1. Please state your name and business address.

A1. Michael A. Miller, 1600 Pennsylvania Avenue, Charleston, WV, 25302.

Q2. What is your position with American Water Works Service Co.?

A2. I am the Manager of Rates and Revenue for the Southeast Region of American Water Works Service Company, Inc. In that capacity I also serve as the Treasurer/Comptroller for Kentucky-American Water Company ("Kentucky American), Tennessee-American Water Co., Virginia-American Water Co., Maryland-American Water Co.,and V.P & Treasurer/Comptroller of West Virginia-American Water Co. and Bluefield Valley Water Works Co.

Q3. What are your responsibilities as manager rates and regulation for American Water Works Service Co.?

A3. I am responsible for the rate filings and other regulatory filings before the regulatory commissions in Kentucky, Tennessee, Maryland, Virginia, Pennsylvania, and West Virginia. I also oversee the preparation of budgets, forecasts, debt and equity financings, and financial statements for the seven operating companies. I also work with internal and external auditors in performance of their audits.

Q4. Please describe your professional education and experience.

A4. My professional education and work experience are attached to the testimony in Appendix A.

Q5. Have you previously testified before state utility regulatory bodies?

A5. I have appeared on numerous occasions before the regulatory commissions in Kentucky, Tennessee, West Virginia, and Virginia.

Q6. What is the purpose of your testimony in this case?

A6. In my testimony, I will address (1) Kentucky American's current capital structure and continued access to the capital market, (2) the impact of the Proposed Transaction on the rates of Kentucky American's customers, and (3) the current and future financial performance of Kentucky American.

CAPITAL STRUCTURE

Q7. Please describe Kentucky American's capital structure?

A7. Kentucky American's capital structure consists of common stock and equity, long and short-term debt, and preferred stock. All of Kentucky American's common stock is and has been owned by American Water Works Company, Inc. ("American Water"). That will not change as a result of the merger of Thames Water Aqua US Holdings, Inc. ("TWAUSHI") into American Water and the sale by Thames Water Aqua Holdings GmbH of up to 100% of the shares of common stock of American Water in one or more public offerings ("Proposed Transaction").

Kentucky American has issued and outstanding long-term debt in the total principal amount of $77,000,000 as of December 31, 2005. The long-term debt consists of (i) third-party debt issued by Kentucky American in the capital markets, and (ii) inter-company debt of Kentucky American issued to American Water Capital Corp. ("AWCC"). AWCC is a direct subsidiary of American Water. As of December 31, 2005, Kentucky American's long-term debt consisted of $23,500,000 in third party debt and $53,500,000 in notes issued to AWCC. Kentucky American also had inter-company short-term debt as of December 31, 2005 of $9,308,000. On June 12, 2007 $24,000,000 of the long-term debt to AWCC will mature in the normal course of business.

American Water has utilized AWCC as its financing vehicle since before RWE's acquisition of American Water. The purpose of AWCC is to borrow funds for the benefit of American Water's operating subsidiaries and then loan such borrowed funds to the operating subsidiaries. The advantage of this financing structure is that it allows Kentucky American, and all other American Water operating subsidiaries, to benefit from the economies of scale associated with group-wide financings. Those economies of scale include improving the borrowing power and reduced administrative costs. Those benefits will remain once RWE divests of American Water since AWCC will remain the financing structure for American Water post divestiture.

Q8. Describe any changes in Kentucky American's debt structure, if any, as a result of the proposed transaction?

A8. The Proposed Transaction will have no impact on the third-party debt. As a result of the Proposed Transaction, Kentucky American has $38,000,000 of inter-company long-term notes that could be called depending on timing of the IPO. The short-term notes will also need to be refinanced. Kentucky American will utilize AWCC to obtain the debt for this refinancing. Kentucky American will file a separate petition for the refinancing if that is required by the terms of the Order of the Commission approving the affiliated arrangement between Kentucky American and AWCC.

Q9. Will the proposed transaction result in any changes to Kentucky American's equity to capital ratio?

A9. No. Kentucky American expects to maintain its equity ratio between 40-45% of total capital as it has historically done. As will be explained later in this testimony, Kentucky American will require a major debt and equity investment over the next five years to finance the planned capital investment, including the investment in the source of supply solution mentioned by Mr. Rowe.

RATES

Q10. Please explain how Kentucky American water will have the ability to provide adequate, economical and reliable water service at just and reasonable rates.

A10. Returning American Water to publicly-traded status will not impair the ability of Kentucky American to provide adequate, economical and reliable water service at just and reasonable rates. The Proposed Transaction makes American Water a publicly-traded company that can be focused on providing water and wastewater services to the public in North America.

Q11. Will the rates of Kentucky American customers increase as a result of the proposed transaction?

A11. No. The proposed transaction will have no material impact on Kentucky American. Any changes in the cost of service and rates after the Proposed Transaction will be the result of changes in the general business and economic conditions. Any future change in rates will occur only after modification of Kentucky American's approved tariff in a formal filing before the Commission.

KENTUCKY AMERICAN FINANCIAL POSITION

Q12. Describe Kentucky American's financial performance over the last five years?

A12. The Company has struggled. I have attached to this testimony Exhibit 1 that provides historical financial information for Kentucky American for the last five years. The Company has significantly underachieved its authorized ROE from 2001-2005. The earnings were particularly bleak for 2004 and 2005.

Q13. What were the factors that drove earnings down in 2004 and 2005?

A13. The Company was precluded from filing a rate case before March 14, 2004 as a condition to the Change of Control Filing in Case No. 2002-0018, **<u>Application For Approval of the Transfer of Control of Kentucky American Water Company to RWE Aktiengesellschaft and Thames Aqua Holdings GMBH</u>**. Before rates from the 2004 case became effective in December 2004, Kentucky American had not had an increase since November 27, 2000 (as amended by the Commission Order dated May 9, 2001). During this time Kentucky American constructed capital improvements in excess of $60 million, experienced significant costs associated with additional security measures in the post September 11, 2001 environment, and absorbed inflationary expense increases including significant increases in employee benefit costs. In addition, 2004 was a wet year and the average usage per customer for 2004 was significantly below the historical trends. All of the above lead to a very disappointing financial performance in 2004.

Kentucky American placed rates in effect, subject to refund on December 1, 2004 (approved by final Order of February 28, 2005). Under normal circumstances this should have placed it in a position to achieve an ROE at or near the authorized ROE from that case during 2005. However, it was unsuccessful in convincing the Commission that rate recovery for the security expenses deferred from 2002-2004 was appropriate, or that rate recovery for the transition costs to the national call and shared service centers was appropriate. The Commission's decision required Kentucky American to comply with U.S. GAAP and write-off those expenses during 2005. These write-offs totaled $3,904,000 and were entirely borne by the Kentucky American's shareholders even though the customers fully benefited from the additional security costs during 2002-2004, and the customers received the full benefit of the cost savings and cost-effective services from the shared services functions. These write-offs negated the impact of the 2004 rate case on 2005 earnings. The shareholders have paid a hefty price regarding the rate filing moratorium imposed on Kentucky American in the previous change of control proceeding.

Q14. Why is it important that Kentucky American remain financially strong?

A14. Kentucky American faces unprecedented capital spending levels over the next five years. It must maintain achieve financial results if it is to attract the necessary debt and equity investment required to carry-out the major capital improvements that are required over the next five years. Kentucky American has been assured that the capital investment will be available for its construction plans, but as with any investment, the holder of that debt and equity expects a fair and reasonable return on that investment commensurate with the returns on investments of similar risk, such as, the other regulated subsidiaries of American Water.

Q15. Please explain the capital investment needed over the next five years?

A15. In addition to the normal recurring capital investment, Kentucky American expects to invest $150 million between 2006-2010 to solve the source of supply deficit. To put this in perspective, investment in the anticipated source of supply solution represents an increase in capital spending of $69.076 million or 85% over the total of the previous five years .

Q16. What other problems are presented by the anticipated investment in the source of supply solution?

A16. Without regular rate increases over this future construction period the earnings of Kentucky American would be predominately driven by non-cash AFUDC. Clearly capital investment of this magnitude comes with a substantial cost in rates. If no rate increases were granted before completion of the project, the impact of the rate increase in one case could constitute <u>**rate shock**</u> for the customers.

Q17. How will the company address the capital investment situation?

A17. Because of the unique situation of Kentucky American regarding its capital improvement level, it plans to propose innovative rate making concepts for the Commission's consideration. Kentucky American is aware that step-rate increases tied to CWIP levels have been included as rate base and embedded in rates at pre-determined timeframes during construction in the certificate filings in other states. Our research has not indicated any instance where the Commission has approved that type of rate recovery in Kentucky, but it would be one method to consider.

Another option would be to include CWIP in rate base, without imputing AFUDC related to that CWIP in above the line revenues. The CWIP (without AFUDC) would require regular general rate filings to address the significant CWIP associated with the multi-year construction required for the source of supply project.

Q18. Would either of the two methods address the earnings and cash concerns related to the unprecedented capital improvement plan?

A18. Yes, either method would permit Kentucky American to place in rates the large CWIP balances related to the source of supply project during construction of the multi-year project and permit it to maintain adequate earnings and interest coverage. In addition, regular rate increases during the construction would permit a phased-in approach to rate increases and avoid a significant rate shock to the customers if rate coverage for the source of supply project were delayed until completion of the project. It will be critical for Kentucky American to maintain reasonable earnings and adequate interest coverage during the next five years if it is to attract the debt and equity investment required to complete the capital improvement plan.

Q19. Does this conclude your direct testimony?

A19. Yes.

Appendix A

Resume of Michael A. Miller

I received my B.S. degree in Accounting from West Virginia Tech in May of 1976, and my West Virginia Certified Public Accounting Certificate on February 2, 1987.

I joined the American Water Works Service Company - Southern Division ("Service Company") in July of 1976, and have held various positions in the American Water System ("AWS") for over 29 years. I served as a Junior Accountant in the rate department until August 1977, at which time I was transferred to the Huntington Water Corporation as Accounting Superintendent. I held this position until July 1978, when I was transferred to the Southern Division Service Company as the Director - Budget Procedures, which position I held until April 1981. At that time, I became Customer Service Superintendent at West Virginia-American Water Company. In December 1981, I became Assistant Director of Accounting for the Southern Region Service Company. I held this position until August 1991, when I became the Business Manager at West-Virginia American Water Company. On January 1, 1994, I was promoted to Vice President and Treasurer at West-Virginia American Water Company. On April 1, 2000, I became an employee of the Service Company as Vice-President and Treasurer for the Southeast Region Companies located in West Virginia, Kentucky, Tennessee, Virginia, and Maryland. In January 2002 I was also named the Comptroller for each of the five Southeast Region Companies. In January 2004 my title was changed to Manager of Rates and Regulation for the Southeast Region of American Water Works Service Company and on May 16, 2006 I was given responsibility for the rates function for Pennsylvania American.

Kentucky-American Water Company
Case No. 2006-00197

Direct Testimony of Michael A. Miller

MAM - Exhibit 1

(000) Omitted	Actual					
	2001	2002	2003	2004	2005	Total
Net Income	6,473	5,488	4,313	1,531	1,697	
Common Equity	60,997	61,768	62,689	62.525	62.523	
Total Capitalization	150,115	151.827	154.318	152,163	153,484	
ROE	10.61%	8.88%	6.88%	2.45%	2.71%	
Authorized ROE	11.00%	11.00%	11.00%	10.00%	10.00%	
Utility Plant Balance	249,932	261.177	274.545	289.329	315.488	
Approved Rate Base	136,822	136,822	136,822	156,262	156,262	
Capital Improvements	14,891	13,863	14,602	17,143	20,425	80.924
Cash from Operations	13.149	14.162	11.326	8.126	11,075	57,838
Cash Available for Construction	10,694	12,999	11,864	10,932	12,227	58,716
Cash Interest Coverage	3.50	3.87	3.45	2.60	2.99	

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE JOINT PETITION OF KENTUCKY-AMERICAN WATER COMPANY, THAMES WATER AQUA HOLDINGS GMBH, RWE AKTIENGESELLSCHAFT, THAMES WATER AQUA US HOLDINGS, INC. AND AMERICAN WATER WORKS COMPANY, INC. FOR APPROVAL OF A CHANGE IN CONTROL OF KENTUCKY-AMERICAN WATER COMPANY	)	**CASE NO. 2006-00197**

JOINT PETITIONERS' POST-HEARING BRIEF

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Thames Water Aqua Holdings GmbH,
Thames Water Aqua US Holdings, Inc.,
American Water Works Company, Inc., and
Kentucky-American Water Company

AG EXH. NO 3

Table of Contents

INTRODUCTION

Kentucky-American Water Company ("KAWC"), Thames Water Aqua Holdings GmbH ("Thames"), RWE Aktiengesellschaft ("RWE"), Thames Water Aqua US Holdings, Inc. ("TWAUSHI") and American Water Works Company, Inc. ("American Water") (collectively the "Joint Petitioners") filed an Application/Petition ("Joint Petition") pursuant to KRS 278.020 seeking an order from the Kentucky Public Service Commission ("Commission") approving the change of control of KAWC which will result from the merger of TWAUSHI and American Water and the sale of up to 100% of the shares of American Water through an initial public offering ("IPO") and subsequent public offerings (the "Proposed Transaction"). Thereafter, RWE will no longer be the ultimate owner of all of the stock of American Water; instead, the stock will be held by a broad group of investors, including institutional and retail investors, who will buy the stock through the initial and any subsequent public offerings.

On August 14, 2006, the Commission issued an order in which it held that approval of the Proposed Transaction is governed by the provisions of KRS 278.020(5), which provides, "The commission **shall** grant its approval if the person acquiring the utility has the financial, technical, and managerial abilities to provide reasonable service." (Emphasis added). It went on to advise the parties that it had the implied power to consider whether the proposed transfer is consistent with the public interest and whether conditions should be imposed. The evidence before the Commission establishes that the requirements of KRS 278.020(5) and the public interest standard are met. The Joint Petition should, accordingly, be approved without the imposition of any conditions.

It is beyond dispute that KAWC, supported by American Water, has the financial, technical and managerial abilities to provide reasonable service to KAWC customers. In addition, by virtue of being a publicly traded company, American Water will have access to the Unites States capital markets and be subject to the provisions of the federal securities laws, including the Sarbanes-Oxley legislation, which will provide for transparency and the assurance of continued skillful management of American Water. Therefore, KAWC's already excellent service record will continue.

OVERVIEW OF THE PROPOSED TRANSACTION

The Joint Petition describes in detail the particulars of the Proposed Transaction that prompted the initiation of this proceeding. In general, the sale of the common stock of the parent corporation of KAWC constitutes an indirect change of control of KAWC which requires Commission approval in accordance with KRS 278.020(5).

The Joint Petitioners are familiar to the Commission. RWE is a foreign corporation organized and existing under the laws of the Federal Republic of Germany.[1] Thames is a foreign corporation organized and existing under the laws of the Federal Republic of Germany. It is a wholly-owned subsidiary of RWE and is the holding company for most of RWE's water companies, both in the United States and in several foreign countries.[2] TWAUSHI is a Delaware corporation. It is a wholly-owned subsidiary of Thames and the direct parent of American Water.[3] American Water is a Delaware corporation with its principal office located in Voorhees, New Jersey. It owns regulated operating subsidiaries in 18 states, including KAWC.[4]

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[1] Joint Petition, ¶ 11.
[2] Joint Petition, ¶ 12.
[3] Joint Petition, ¶ 13.
[4] Joint Petition, ¶ 14.

KAWC is a wholly-owned subsidiary of American Water. It is a Kentucky corporation with its principal office and place of business located in Lexington, Kentucky. It is engaged in the distribution and sale of water in Bourbon, Clark, Fayette, Harrison, Jessamine, Scott, Woodford, Gallatin, Grant and Owen Counties. KAWC owns, operates and maintains potable water production, treatment, storage, transmission and distribution systems for the purpose of furnishing potable water for residential, commercial, industrial and governmental users in its service territory. It also owns, operates and maintains collection, pumping and/or treatment systems for the purpose of furnishing wastewater service for residential, commercial, industrial and governmental users in its service territory.[5]

The Proposed Transaction consists of (i) the sale by Thames of up to 100% of the shares of common stock of American Water and (ii) prior to the IPO, the merger of TWAUSHI with and into American Water. The shares will be sold through one or more underwritten public offerings to a broad group of investors, including institutional and retail investors. Thames seeks to sell 100% of the shares in the IPO, but, depending on market conditions, all of the shares may not be sold and the unsold shares will be sold in a subsequent offering or offerings. The IPO and any subsequent offerings will be made in accordance with the rules for underwritten public offerings mandated by the Securities and Exchange Commission ("SEC").[6] The SEC's function in this process is not to approve the transaction,[7] but rather to provide guidance on the manner and scope of the disclosure that is presented to potential purchasers of American Water stock.

[5] Joint Petition, ¶ 15.
[6] Joint Petition, ¶ 16.
[7] Transcript of Evidence for Hearing dated August 16, 2006 ("TE") at 70.

After completion of the Proposed Transaction, American Water will be a publicly traded company and will no longer be an indirect subsidiary of RWE. It is anticipated that American Water's shares will be traded on the New York Stock Exchange.[8] The board of directors of American Water will meet the requirements of boards of publicly traded companies. It will consist of experienced individuals who, in the aggregate, possess the capabilities and experience appropriate for the board of a large, publicly-owned multi-state water utility holding company. In accordance with the federal securities laws and stock exchange rules, the board of directors will have a majority of independent directors and the audit, compensation and nominating committees will consist entirely of independent directors.[9] American Water's board of directors and management team will take it through the IPO process and assure continued provision of safe and reliable utility service during and after the IPO process. The highly qualified KAWC management team will continue to operate the local business.[10]

PROCEDURE

On May 10, 2006, the Joint Petitioners advised the Commission of their intent to apply for Commission approval of the Proposed Transaction. On May 11, 2006, the Commission acknowledged receipt of the notice of intent and established this docket. On May 17, 2006, the Office of the Attorney General of the Commonwealth of Kentucky ("AG") filed his Motion for Intervention. The Joint Petition was filed on June 5, 2006, along with the direct testimony of Ellen C. Wolf, Michael A. Miller and Nick O. Rowe. The Commission entered an order on the same day providing for electronic filing procedures in this case. On June 7, 2006, the Lexington-Fayette Urban County

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[8] Joint Petition, ¶ 23; Wolf Direct at 9.
[9] Joint Petition, ¶ 31; Wolf Direct at 18.
[10] Wolf Direct at 18.

Government ("LFUCG") filed its Motion to Intervene. On June 19, 2006, the Commission entered an order granting intervention to the AG and the LFUCG and an order setting forth a procedural schedule for the case. On the same day, the Commission entered an order directing the parties to brief the issue of whether KRS 278.020(5) and/or KRS 278.020(6) should apply to the Commission's consideration of the Proposed Transaction. On June 26, 2006, the parties submitted their briefs on the subject and submitted responses to the briefs on July 3, 2006. In the meantime, extensive discovery was conducted by the Commission Staff and the Intervenors. On August 14, 2006, the Commission entered an order that advised all parties that KRS 278.020(5), and not KRS 278.020(6), is applicable to the Proposed Transaction.

In the meantime, on August 10, 2006, an informal conference was held for the purpose of exploring the possibility of settling this case. The parties were unable to agree to a settlement. On August 14, 2006, the AG filed the direct testimony of Scott J. Rubin and J. Randall Woolridge.

The public hearing was held on August 16, 2006. The Commission provided an opportunity for public comment, but none was offered. The following persons testified at the public hearing: Nick O. Rowe, President of KAWC; Jens Gemmecke, Senior Project Manager in the RWE Mergers and Acquisitions Department; John S. Young, Jr., Chief Operating Officer of American Water; Ellen C. Wolf, Senior Vice President and Chief Financial Officer of American Water; Michael A. Miller, Treasurer/Comptroller of KAWC; Scott J. Rubin, attorney and consultant to the AG; and J. Randall Woolridge, consultant to the AG. Following the hearing, the Joint Petitioners submitted responses to the hearing data requests.

STANDARD OF REVIEW

KRS 278.020 requires Commission review and approval of any change in or transfer of control of a utility.[11] The issue of whether subsection 5 or subsection 6 of KRS 278.020 or both apply to the Proposed Transaction arose early in the proceeding. In its Order of August 14, 2006, the Commission decided that only subsection 5 applies and, in so doing, stated:

> The proposed transaction will result in a transfer of control, but as presently described will not result in an "acquisition of control" for purposes of KRS 278.020(6). Upon its completion, RWE, the entity that currently controls American Water and KAWC, will no longer control either entity. As the proposed transaction results in the transfer of RWE's ability to control American Water and KAWC, Subsection 5 is applicable. As there is no evidence that at the proposed transaction's completion any entity will possess a sufficient quantity of American Water stock to control American Water and thus KAWC, Section 6 is not applicable at this time.[12]
>
> KRS 278.020(5) provides, in pertinent part, as follows, "The commission shall grant its approval if the person acquiring the utility has the financial, technical, and managerial abilities to provide reasonable service."

In its determination of the standard of review to be utilized in this proceeding, the Commission considered and specifically rejected the contention of the LFUCG that the filing of the Joint Petition herein was premature because the identity of the purchasers of the American Water stock had not been established. In so ruling, the Commission said:

> The Commission further finds no merit to LFUCG's argument that Commission review of the proposed transaction is premature. Given the nature of the proposed transaction, the identity of those persons acquiring

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[11] *In the Matter of: Application for Approval of the Transfer of Control of KAWC Water Company to RWE Aktiengesellschaft and Thames Water Aqua Holdings GmbH*, Case No. 2002-00018, Order of May 30, 2002, at 6.

[12] Order of August 14, 2006 at 8-9.

> American Water stock will not be known until completion of the transaction. As the transfer of American Water stock can lawfully occur only if the Commission grants its prior approval to transfer, identification of the acquiring parties before the Commission considers the proposed transaction is not possible. Acceptance of LFUCG's argument requires us to hold that KRS 278.020(5) and KRS 278.020(6) prohibit initial public offerings. LFUCG has offered no argument or evidence to support the proposition that the General Assembly intended this result when enacting either section of KRS 278.020. (Footnote omitted.)[13]

Thus, in this case, the Commission must determine whether the party acquiring control has the requisite abilities to provide reasonable utility service.[14] Absent from subsection 5 of KRS 278.020 is the explicit requirement in subsection 6 that, in order to be approved, the Proposed Transaction must be "consistent with the public interest." The Commission has noted its implied power to determine if the Proposed Transaction is in the public interest and to impose conditions on the Proposed Transaction to ensure that it will not adversely affect utility service.[15] However, to the extent that such implied power may exist, it is clear that the Proposed Transaction is both in the public interest and will not adversely affect utility service. Therefore, the imposition of conditions is not necessary nor is it required by statute.

PROVISION OF REASONABLE UTILITY SERVICE

During the public hearing in this matter, Ellen C. Wolf, American Water Senior Vice President and Chief Financial Officer, was asked the following question:

[13] Id. at 9-10.
[14] Case No. 2002-00018, Order of May 20, 2002, at 7.
[15] The Commission addressed its implied powers under subsection 5 in its Order of August 14, 2006, by stating that the Commission has always had the implied power to review and hear evidence on utility transfers and went on to say, "[t]his implied power includes the authority to examine the effects of the proposed transfer on the adequacy of utility service, to determine if the proposed transfer is in the public interest, and to impose conditions upon the proposed transfer to ensure that it will not adequately affect utility service." Order of August 14, 2006 at 9, n. 14.

> Is it your opinion that, after the IPO for the Proposed Transaction as described in this Application, Kentucky-American Water Company will still have the financial, technical and managerial ability to provide reasonable service in its territory?[16]

She answered unequivocally, "Yes, it is."[17] As set forth below, the evidence in this case demonstrates beyond question that Ms. Wolf's sworn testimony is correct.

The financial ability of American Water and KAWC is clearly sufficient to enable KAWC to provide reasonable utility service and the consummation of the Proposed Transaction will not diminish that ability. KAWC can finance its expenditures through equity or debt financing. After the Proposed Transaction, American Water will remain the source of common equity capital for KAWC. As such, KAWC will benefit from American Water becoming a Sarbanes-Oxley compliant and publicly traded company which will be able to access the United States equity markets.[18] KAWC can also finance part of its investments in the debt markets. KAWC has in the past, and can in the future, issue debt instruments to third parties in the private debt markets.[19] KAWC will also be able to access the public debt markets through American Water Capital Corp. ("AWCC").[20] AWCC borrows money for the benefit of American Water and its regulated operating subsidiaries and then loans it to those companies at cost.[21] This financing vehicle allows the operating subsidiaries, including KAWC, to benefit from economies of scale associated with group-wide debt financing and lower administrative

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[16] TE at 97.
[17] Id.
[18] Joint Petition, ¶ 38.
[19] Joint Petition, ¶ 25.
[20] Id.
[21] Joint Petition, ¶ 26.

costs.[22] American Water has used AWCC as a financing vehicle for several years, predating the 2003 acquisition of American Water by RWE.[23]

While all inter-company financial relationships between RWE and American Water and its subsidiaries will be terminated in connection with the Proposed Transaction,[24] KAWC, supported by American Water, will still have the financial ability to provide reasonable service to its customers.[25] For example, as a publicly traded company, American Water will have access to public debt and equity markets in the United States,[26] whereas RWE did not have access to such markets in the United States.[27] Moreover, American Water will no longer have to compete with RWE's other affiliates for management attention and financial support.[28]

American Water's goal for its debt to equity ratio is 45-55% debt and 55-45% equity and equity-like components.[29] Thus, given American Water's plan for debt to equity levels, and assuming a rate of return similar to the average in the industry, Ms. Wolf does not expect a change in American Water's cost of capital, other than due to changes in the interest rate environment.[30] More broadly, no material changes to American Water's financial characteristics are anticipated as a result of the Proposed

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[22] Id.
[23] Id.
[24] The vast amount of any refinancing that will become necessary as a result of the Proposed Transaction is for loans that have or will become due under ordinary course of business terms and conditions between June 2006 and June 2007. Wolf Direct at 15.
[25] KAWC has filed a Verified Application with the Commission (Case No. 2006-00418) in which it seeks approval for a continued relationship with AWCC and for contemplated long term financings through December 31, 2007. The Verified Application states, in Paragraph 11, that the post-IPO short term debt costs to AWCC will be less than they are currently.
[26] Wolf Direct at 13; TE at 113. It is anticipated that AWCC will replace debt from RWE with debt from public and private debt markets in the United States. Wolf Direct at 15-16.
[27] TE at 108, 137.
[28] Wolf Direct at 14.
[29] Wolf Direct at 16.
[30] Wolf Direct at 17.

Transaction.[31] American Water's commitment to investing the capital required to appropriately maintain operations will continue.[32]

The KAWC financial profile will continue to be similar to that which currently exists.[33] AWCC will continue to support KAWC under the present arrangement.[34] American Water and AWCC will continue to support the financing needs of KAWC.[35] Of course, any changes to the inter-company debt between KAWC and AWCC will, if required, be subject to the approval of the Commission.[36]

KAWC's Treasurer and Comptroller, Michael A. Miller, testified that KAWC will require major debt and equity investment over the next five years.[37] While this investment requirement is unrelated to the Proposed Transaction, it will need to be met. As indicated above, American Water and AWCC will have the financial strength and commitment to meet these requirements and KAWC's customers' service will not suffer as a result of the Proposed Transaction.

After the consummation of the Proposed Transaction, KAWC will continue to have skilled technical employees on its staff and access to additional skilled employees at American Water Works Service Company, Inc. ("the Service Company"), with whom it has a contract that has been approved by the Commission. KAWC's President, Nick O. Rowe, testified that he does not anticipate that there will be any changes to the day-to-day operations of KAWC as a result of the Proposed Transaction.[38]

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[31] Id.
[32] Id.
[33] Wolf Direct at 18.
[34] Wolf Direct at 19.
[35] Wolf Direct at 129-20.
[36] Joint Petition, ¶ 30.
[37] Direct Testimony of Michael A. Miller ("Miller Direct") at 3-4.
[38] Direct Testimony of Nick O. Rowe ("Rowe Direct") at 4.

Recently, both of KAWC's water treatment plants received national recognition in the form of 5-year EPA Director Awards.[39] KAWC's Production Superintendent, Dillard Griffin, has over 35 years of experience in managing the day-to-day operation of its water and wastewater facilities, including oversight of water quality standards.[40] Mr. Griffin was instrumental in the EPA awards described above.[41] KAWC's Network/Distribution Superintendent, Fred White, has 30 years' experience ranging from the installation of new construction to managing distribution facilities.[42] KAWC's Manager of Capital Project Delivery, Linda Bridwell, has 16 years' experience in managing capital programs and planning processes for infrastructure replacement.[43]

The Commission is well aware of the long-standing relationship between the Service Company and KAWC and the technical expertise that the relationship provides for the benefit of KAWC's customers. The Service Company provides high quality customer service, accounting, administration, engineering, financial, human resources, information systems, operations, risk management, water quality and other services to KAWC.[44] That relationship will not change as a result of the Proposed Transaction.

One of the reasons that the Commission found that RWE and Thames would have the technical ability to provide reasonable service for the benefit of KAWC's customers was the sharing of Thames' best practices with American Water and its affiliates.[45] That sharing has, in fact, occurred. KAWC has instituted security procedures based on

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[39] Rowe Direct at 7.
[40] Rowe Direct at 10.
[41] Id.
[42] Id.
[43] Id.
[44] Joint Petition, ¶ 39.
[45] Case No. 2002-00018, Order of may 30, 2002, at 13.

Thames' experience.[46] KAWC has adopted Event Management procedures that allow it to anticipate and react to events, such as large main breaks, weather related incidents and safety and security incidents, which may materially affect its business.[47] KAWC has also adopted the concepts of Tiered Safety policies, Comprehensive Health and Safety Programs and Self-Certification which have contributed to improving health and safety performance.[48] While KAWC will no longer be a part of the RWE/Thames family of companies after the consummation of the Proposed Transaction, the benefits gained from having been a member of that corporate family will not disappear.[49] That relationship has helped KAWC enhance its technical ability to provide reasonable service. Those enhancements have been added to the corporate knowledge base and that increased knowledge will not disappear after the Proposed Transaction is consummated.

The Proposed Transaction will have no adverse impact on the managerial ability of KAWC, supported by American Water, to provide reasonable service to KAWC's customers. In fact, once American Water becomes a publicly traded company, the federal securities laws, including the Sarbanes-Oxley legislation, will enhance the transparency of the management of American Water and enable regulators to assure themselves that American Water's management is complying with SEC and Sarbanes-Oxley requirements. Those requirements are not currently applicable to American Water since its shares are all currently held by RWE/Thames/TWAUSHI. As indicated above, after completion of the IPO, a majority of the members of American Water's board will be independent directors and all members of the audit, compensation and nominating

[46] Rowe Direct at 7.
[47] Id.
[48] Id.
[49] Rowe Direct at 8.

committees will be independent directors.[50] The board will consist of experienced individuals who, in the aggregate, possess the capabilities and experience appropriate for the board of a large, publicly-owned multi-state utility company.[51] The seasoned management team at American Water will continue to have the background necessary to run a large, publicly-traded water company.[52]

KAWC will continue to be a subsidiary of American Water and will be operated by KAWC's skilled management under the supervision of KAWC's board of directors.[53] The experienced management of KAWC will continue to serve the customers and the communities in which they live.[54]

American Water is more than 100 years old. It and its subsidiaries have approximately 6,000 employees and provide water, wastewater and other water resource management services to approximately 18 million persons in 29 states and in Canada.[55] For nearly 60 years, American Water was one of the largest publicly-traded water companies in the United States. After the Proposed Transaction, American Water is expected to be the largest publicly-traded water company in the United States.[56] The focus of the management and the owners of American Water will be totally devoted to the water, wastewater and other water resource management services in the United States and Canada after the consummation of the Proposed Transaction.[57] As the Commission is aware, American Water had the financial, technical and managerial ability to provide reasonable service for years prior to its acquisition by RWE. It has had such ability while

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[50] Joint Petition, ¶ 31; Wolf Direct at 18.
[51] Id.
[52] Joint Petition, ¶ 40.
[53] Joint Petition, ¶ 39.
[54] Id.
[55] Wolf Direct at 6.
[56] Joint Petition, ¶ 35.
[57] Joint Petition, ¶ 34.

a member of the RWE family of companies. When American Water again becomes a publicly-traded company, it will continue to have those abilities and KAWC will as well.

The LFUCG has offered no testimony in this proceeding, so at this stage, it is impossible to know its position on whether reasonable utility service will be provided. The AG has offered testimony that contains some criticism of American Water, but it is not offered for the purpose of denying the Joint Petition. It is offered to support the AG's argument that the Commission should impose conditions on the approval of the Joint Petition in order for it to be consistent with the public interest.

Thus, the evidence fully supports the conclusion that American Water and KAWC will have the financial, technical and managerial ability to provide reasonable service to KAWC's customers after the consummation of the Proposed Transaction.

PUBLIC INTEREST

As indicated above, the Commission ruled in its August 14, 2006, Order herein that it has the implied power to determine if the Proposed Transaction is in the public interest even though KRS 278.020(5) does not give it the explicit power to make such determination. In 2002, when the Commission approved the transfer of control of American Water and KAWC to RWE/Thames, it set forth the standard of proof necessary to demonstrate that a transfer of control is in the public interest:

> The Commission finds that any party seeking approval of a transfer of control must show that the proposed transfer will not adversely affect the existing level of utility service or rates <u>or</u> that any potentially adverse effects can be avoided through the Commission's imposition of reasonable conditions on the acquiring party. The acquiring party should also demonstrate that the proposed transfer is likely to benefit the public through improved service quality, enhanced service reliability, the availability of additional services, lower rates, or a reduction in utility

> expenses to provide the present services. Such benefits, however, need not be immediate or readily quantifiable.[58] (Emphasis in original).

An examination of the evidence in this case and discussed herein demonstrates that the Proposed Transaction is consistent with the public interest, is likely to benefit the public, and, therefore, the Commission need not impose any conditions.

After the consummation of the Proposed Transaction, American Water will be a company with a sound financial structure that is focused on the water and wastewater business in the United States and Canada. It will be well-managed and will provide benefits to both the customers and employees of KAWC.[59] American Water will be subject to the laws and regulations of the SEC and the stock exchange on which its shares will be traded. Its operating subsidiaries will be subject to regulation by state utility regulatory agencies, like the Commission, as well as state and federal environmental, safety and employment regulatory agencies. Thus, not only will American Water and KAWC and the other operating subsidiaries operate in a manner consistent with the public interest, they are subject to the jurisdiction of regulatory agencies that will assure such conduct.

There are several immediate benefits that the public will realize as a result of the consummation of the Proposed Transaction. First, American Water will have access to the public debt and equity capital markets in the United States.[60] Currently, RWE does not have access to such markets, as the AG's witnesses acknowledged during the public

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[58] Case No. 2002-00018, Order of May 30, 2002, at 7; Case No. 2002-00018, Order of July 10, 2002, at 9; Affirmed in *In the Matter of: The Joint Petition of KAWC Water Company; Thames Water Aqua Holdings GmbH, RWE Aktiengesellschaft, Apollo Acquisition Company and American Water Works Company, Inc. for Approval of a Change of Control of KAWC Water Company*, Case No. 2002-00317, Order of December 20, 2002, at 13.
[59] Joint Petition, ¶ 34.
[60] Joint Petition, ¶ 38.

hearing.[61] Moreover, American Water's access to the United States public debt and equity capital markets is a significant benefit when compared to what American Water could face if it were forced to remain a fourth tier subsidiary of a foreign corporation which has refocused its core business on the European energy market.

Absent divestiture, RWE will be in the position of having to fund two highly capital intensive industries (water and energy), including the European energy industry, where rapidly evolving regulatory and market conditions will result in capital requirements that are greater than anticipated at the time RWE acquired American Water. Indeed, the AG's witness, Mr. Scott J. Rubin, stated, "I do not like the idea of keeping an owner in place that does not want to be there and is not willing to devote further capital to the enterprise."[62] While RWE would, of course, continue to provide capital necessary to assure safe and reliable service, there would clearly be increased competition for scarce capital funds which would increase constraints on the availability of capital for discretionary purposes, such as growth, earlier implementation of efficiency improvements, the rate of infrastructure replacement and the like. In addition, RWE's risk profile could change depending on developments in the European energy markets. All of these challenges could adversely impact the cost of available capital.

Second, American Water will be subject to the SEC laws and regulations, including the Sarbanes-Oxley legislation, and the rules of the stock exchange on which it is traded.[63] RWE is currently not subject to such laws, regulations and stock exchange rules. The AG's witness, J. Randall Woolridge, testified that, to the extent compliance

[61] TE at 108, 137.
[62] Direct testimony of Scott J. Rubin ("Rubin Direct") at 21.
[63] Joint Petition, ¶ 37.

with Sarbanes-Oxley enables American Water to attract capital at reasonable rates, it "may be" beneficial to ratepayers.[64]

Third, KAWC's customers will be able to invest in American Water and, thus, have an ownership interest in the parent of their water supplier.[65]

Fourth, KAWC's and American Water's employees will be able to invest in American Water.[66] Mr. Rowe testified at the public hearing as follows on that subject:

> The employees are excited – I can tell you they are – by that opportunity to purchase stock and, again, you know, it's something for a meter reader or someone in the field to say, "You know, I'm part owner of this company." Whether it be large or small in nature, it really does, in my mind, really changes the culture of the business, and that's what has made American Water strong over the years.[67]

Thus, the change in the ownership of American Water from private to public will have at least four identifiable immediate benefits for the public.

In other areas, there will be no material adverse impact to KAWC's customers as a result of the Proposed Transaction. The Joint Petitioners will not recover the costs of the Proposed Transaction from KAWC's (or any operating subsidiary of American Water) customers.[68] KAWC will continue to honor its collective bargaining agreements and there will be no adverse impact on KAWC's employees or the employment level in Kentucky as a result of the Proposed Transaction.[69] There will be no adverse impact on KAWC's rates or its policies with respect to customers, employees, operations, financing or other similar matters. There will be no adverse impact on KAWC's current investment

[64] TE at 137.
[65] Joint Petition, ¶ 42.
[66] Joint Petition, ¶ 43.
[67] TE at 36.
[68] Joint Petition, ¶ 46; Rowe Direct at 6.
[69] Joint Petition, ¶ 44; Rowe Direct at 5.

and capital programs.[70] KAWC does not contemplate any material changes in its income statement, balance sheet, or financial position as a result of the Proposed Transaction. There are no foreseeable adjustments to the book value of any of KAWC's assets.[71] KAWC will continue to provide safe, adequate and reliable service as it is obligated to do under state and federal law.[72]

American Water and KAWC will continue their contributions to state and local economies and KAWC's commitment to its local communities.[73] This will include KAWC's significant contributions to civic, charitable and economic development stewardship, including sponsorship in such programs as Bluegrass Pride, McConnell Springs, the Audubon Society and Reforest the Bluegrass.[74]

KAWC's customers will benefit from the Proposed Transaction because American Water will no longer be a subsidiary of a multi-national energy-focused corporation that has now decided to be primarily focused on a rapidly evolving European energy market.[75] While American Water's association with RWE has always been a positive one, the Proposed Transaction will alleviate any lingering concerns some may have about the foreign ownership of American Water.[76] In fact, it is the intention of the Joint Petitioners that no person or entity will obtain a controlling interest in American Water through the Proposed Transaction.[77] Specific disclosures are planned for the registration statement for the IPO to ensure that potential purchasers are aware that any

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[70] Joint Petition, ¶ 45.
[71] Joint Petition, ¶ 46.
[72] Joint Petition, ¶ 47.
[73] Joint Petition, ¶ 48.
[74] Rowe Direct at 6-7.
[75] Rowe Direct at 3-4.
[76] Wolf Direct at 14; Rowe Direct at 6.
[77] Joint Petition, ¶ 50; Wolf Direct at 9.

attempt to obtain a controlling interest in American Water will require compliance with any applicable state law, including provisions related to changes of control.[78]

A significant benefit that will result from the Proposed Transaction is the creation of a greater degree of transparency of the operations of American Water and its subsidiaries.[79] Transparency of operations and management decisions was shown in the wake of Enron to be one of the most important characteristics of publicly traded companies and is now required by federal legislation of corporate governance. During the public hearing, Dr. Woolridge, testifying on behalf of the AG, acknowledged the importance of this transparency and its resulting enhancement of the credibility of management and that it may benefit both the shareholders of American Water and the customers of its subsidiaries.[80]

When asked in his direct testimony if he believed that the Proposed Transaction is consistent with the public interest under the Commission's standard of proof set forth in the 2002 cases, Mr. Rowe responded, "As I have stated, and am absolutely convinced, the Proposed Transaction will not adversely affect the existing level of water and wastewater services and rates provided by KAWC. There are <u>no</u> known potential adverse affects on KAWC from the Proposed Transaction."[81] (Emphasis in original). Ms. Wolf echoed Mr. Rowe when she testified:

> The primary benefit of the Proposed Transaction will be to return American Water to its status as a United States publicly-traded company, with all the transparency and ready access to the U.S. public equity and debt capital markets that such a status entails.[82]

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[78] Wolf Direct at 9-10.
[79] Rowe Direct at 8.
[80] TE at 138-139.
[81] Rowe Direct at 9-10.
[82] Wolf Direct at 11.

CONDITIONS

The Joint Petitioners have requested the Commission to withdraw the conditions and obligations imposed in Case No. 2002-00317.[83] In his direct testimony, Mr. Rowe gave one of the reasons for the withdrawal of the conditions: neither RWE nor Thames will have any affiliation with American Water or KAWC.[84] At the public hearing, Mr. Rowe was asked if KAWC would continue its level of community activities even if no condition requiring it to do so were imposed. He said:

> Well, remember KAWC has been in existence for a number of years and we were absolutely – we were, well before conditions, we were supporting the community and we see no change in that going forward.[85]

Later during the public hearing, Mr. Rowe was asked how the Commission could enforce the Joint Petitioners' statement that no transaction costs would be passed along to ratepayers in the absence of a condition prohibiting such pass-through. He responded:

> Well, I mean, let's face it; after this hearing, or whenever, we're still regulated by this Commission. So, if we come to agreement with this regulatory body that those conditions are not necessary, then we'll honor the direction of the Commission, with or without a condition. I mean, the regulatory oversight of this Commission doesn't change, in my mindset, whether we have a condition or do not have a condition.[86]

Mr. Rowe addressed the condition issue further as follows at the public hearing:

> . . . I think the company's position has been, we don't think they [conditions] were necessary. We were operating under the guides [sic] of this Commission and many other regulatory agencies well before the conditions, and, you know, the one thing I'd like to remind the parties here is that, you know, we're sitting in Frankfort, Kentucky.

[83] Joint Petition, ¶ 52.
[84] Rowe Direct at 9.
[85] TE at 29.
[86] TE at 32.

> We're regulated by the Public Service Commission. Right down the road here, we're regulated by the Kentucky River Authority and the Department of Environmental Protection. None of those agencies go away. So, with or without conditions, I believe our company's viewpoint is we're a regulated entity and those entities have always had those authorities, and this Commission does have, we recognize, the ability to impose those conditions. We just don't feel they're necessary.[87]

Certainly, no one questions the Commission's jurisdiction over KAWC. Nor does anyone question the Commission's authority to regulate KAWC's rates and to investigate KAWC's methods and practices to require it to "conform to the laws of [Kentucky], and to all reasonable rules, regulations and orders of the commission not contrary to law."[88] Those oversight and enforcement powers obviate the need for any conditions.

An examination of the Commission's standard for the public interest inquiry in light of the evidence in this proceeding confirms Mr. Rowe's conclusion. The party seeking approval of the transfer of control must show that the proposed transfer will not adversely affect the existing level of utility service or rates.[89] If that showing is made, then there is neither a need nor legal grounds for conditions, according to the second part of that standard. Here, the proof is overwhelming that the Proposed Transaction will not adversely affect the existing level of KAWC's service or rates. Thus, conditions are neither necessary nor required by statute.

THE ATTORNEY GENERAL'S POSITION

The AG does not recommend disapproval of the Proposed Transaction.[90] He alleges "problems" and proposes the imposition of conditions on the Commission's

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[87] TE at 36-37.
[88] KRS 278.040.
[89] Case No. 2002-00018, Order of May 30, 2002, at 7; Order of July 10, 2002, at 9.
[90] In fact, the AG's witness, Scott J. Rubin, "does not like the idea of keeping an owner in place that does not want to be there . . . ." Rubin Direct at 21.

approval of the Proposed Transaction allegedly to avoid the potentially adverse effects of the "problems." But his alleged "problems" have nothing to do with the Proposed Transaction. Further, the alleged "problems" are unrelated to any RWE conduct. For these reasons and others set forth below, the AG's proposed conditions should be rejected.

The AG's witness, Scott J. Rubin, sets forth the alleged "problems" in his testimony. He begins his discussion by quoting from minutes of Supervisory Board meetings at RWE and attempting to divine from that limited information the reason for RWE's decision to divest American Water. He lists American Water's "lackluster" operating performance, American Water's allegedly inefficient operations, including high levels of water loss, high capital requirements and allegedly ineffective management.[91]

Rather than attempt to divine the intent of RWE based on selected portions of meeting minutes from Germany, the Commission should turn to the Joint Petitioners' filings in this proceeding, which make it clear that the decision to divest was the result of a need for RWE to focus on its core energy market.[92] Nothing in the board minutes contradicts this overriding reason for divestiture and any comments contained in the minutes should be viewed in that context.

The Commission has noted its implied power to impose conditions in this case. Further, the Commission has noted that such power exists to ensure that utility service will not be adversely affected. It is clear that conditions should not be used to remedy perceived "problems" with one of the parties to the transaction that have nothing to do with the transfer. The "problems" alleged by Mr. Rubin have nothing whatsoever to do

[91] Rubin Direct at 8-12.
[92] Wolf Direct at 10.

with the Proposed Transaction and do not give rise to the need for any conditions to address the situation.

One of the "problems" alleged by Mr. Rubin is a need by American Water and KAWC for increased capital expenditures occasioned largely by aging infrastructure and abnormally high levels of water loss.[93] It is well known in the water industry that all systems in the United States face high levels of capital expenditure now and in the future to replace aging infrastructure. Many of the Joint Petitioners' witnesses acknowledged the expected increased level of capital expenditures.[94] That is no reason to impose conditions on the approval of the Proposed Transaction. As to the alleged high level of water loss, Mr. Rubin acknowledged on cross-examination that KAWC's level of unaccounted for water in 2005 was only 13.6%.[95] He also agreed that the American Water Works Association's new M52 Manual states that it is not uncommon to find unbilled water to be over 20% in older systems, like KAWC's.[96] Mr. Rubin's conditions relating to water loss are "solutions" in search of a problem that does not exist.

Mr. Rubin claims that American Water's pension plans and OPEB obligations are under funded and that this forms a basis for conditions to the approval of the Proposed Transaction.[97] When tested on this unsupported conclusion, Mr. Rubin acknowledged that he had no evidence that at any time American Water's pension plan or its OPEB plan failed to meet all governmental requirements.[98]

[93] Rubin Direct at 8-10.
[94] See, for example, Miller Direct at 6.
[95] TE at 109.
[96] TE at 110-111.
[97] Rubin Direct at 12-13.
[98] TE at 118.

Using accounting standard FAS 87, Mr. Rubin defines the pension "funding ratio" as the ratio of plan assets to the projected benefit obligation.[99] However, this definition is inconsistent with Mr. Rubin's statements regarding the long-term funding of the plans. Mr. Rubin's measure of funding ratio is a snapshot measure of plan assets and obligations under FAS 87. The appropriate measure of funding as required by law (for purposes of determining the appropriate level of cash contributions to the pension plan) is based on a long-term measure of assets and obligations. That long-term measure is derived from the minimum funding rules set forth in the Employee Retirement Income Security Act of 1974 ("ERISA"). Mr. Rubin confuses the rules for determining the accounting cost of the pension plan under FAS 87 and the rules for determining the minimum required contribution under ERISA, the federal statute. The undisputed fact is that at no time (either before or after the RWE acquisition) were the plans out of compliance with all governmental requirements. Regardless of the measure used to determine funding status, the funding of the plans is completely unrelated to the Proposed Transaction, and, thus, is not a basis for the imposition of conditions.

Mr. Rubin complains that the IPO will not raise any capital for American Water.[100] It is true that the IPO is not being made for the purpose of raising capital for American Water. It is being made for the purposes of allowing a controlling shareholder to divest its holding in American Water and of allowing American Water to again be a publicly traded company. This issue is a red herring.

Mr. Rubin argues that American Water might be harmed by the redemption by RWE of its preferred stock in American Water. He also asserts, incorrectly, that the

[99] Rubin Direct at 12.
[100] Rubin Direct at 14.

preferred stock was issued illegally because he believes that it is guaranteed by American Water's operating subsidiaries, including KAWC.[101] Mr. Rowe and Ms. Wolf testified unequivocally that Mr. Rubin is incorrect in his belief that the preferred stock was guaranteed by KAWC or any other American Water operating subsidiary.[102] Mr. Rubin cannot change the fact that RWE has a legal and contractual right to redeem the preferred stock in the manner contemplated by the Joint Petitioners.

The AG's other witness, J. Randall Woolridge, devotes most of his testimony to a rehash of the "problems" identified by Mr. Rubin. Many of Dr. Woolridge's conclusions about the performance of American Water since its acquisition by RWE are based on a flawed comparison of American Water with Aqua America.[103] A comparison of American Water with Aqua America is a true "apples and oranges" comparison. Dr. Woolridge acknowledged numerous differences between the companies during cross-examination at the public hearing.[104] For example, he acknowledged that Aqua America added at least three large utilities to its system since RWE acquired American Water, yet he failed to examine the impact of those acquisitions on the growth of Aqua America's revenues, net income, rate base or number of customers.[105]

Dr. Woolridge focuses his entire criticism of past activities on American Water and RWE. He never mentions KAWC or whether these "problems" (which do not have any connection with the Proposed Transaction) will have any impact on KAWC or its customers. They do not. He also performs a "rough estimate of the impact of the

[101] Rubin Direct at 18-21.
[102] TE at 37, 62. See also, Joint Petitioners' Response to Hearing Data Request No. 3.
[103] Woolridge Direct at 9-11.
[104] TE at 141-142.
[105] TE at 141.

divestiture on American Water's cost of capital."[106] This "rough estimate" inappropriately becomes the basis for a proposed condition discussed below.

Mr. Rubin proposes to address his alleged "problems" by having the Commission force RWE to pay 20% of the proceeds it receives in the IPO to American Water as a condition to the Commission's approval of the Proposed Transaction.[107] Mr. Rubin supports his unjustified and inappropriate taking of a shareholder's proceeds of the sale of its stock by asserting that the 20% exit fee is "a way for RWE to make good on some of the commitments it made when it acquired AWW – commitments that have not been met, such as improving the safety, reliability and efficiency of service."[108]

Even if Mr. Rubin could factually support such claims regarding RWE's alleged failure to meet its "commitments," which he cannot, conditions are only to be used to mitigate any adverse effect of the proposed transfer of control, not as a means to assess punitive damages for alleged past actions by a shareholder.

Mr. Rubin devotes three pages of his direct testimony to a currency hedge that was utilized by RWE to its advantage.[109] Like its investment in American Water, RWE took the entire risk of loss on the currency hedge and it should be allowed to retain the benefits of that strategy. Indeed, Mr. Rubin acknowledged on cross-examination that he did not expect the ratepayers of American Water to make good on any loss that RWE may have experienced on the hedging transaction.[110] Mr. Rubin somehow inexplicably morphs into the argument that an exit fee should be required because RWE will receive funds from four different sources as a result of the Proposed Transaction.

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[106] Direct Testimony of J. Randall Woolridge ("Woolridge Direct") at 12-13.
[107] Rubin Direct at 22.
[108] Id.
[109] Rubin Direct at 23-25.
[110] TE at 126.

Mr. Rubin says that RWE will receive funds when its debt instruments are paid, when its preferred stock is redeemed, when it sells American Water's common stock in the IPO and when it cashes out the hedging transaction.[111] Even Mr. Rubin cannot deny that RWE has a right to be paid monies it has loaned to American Water, or anyone else for that matter. It has a right to redeem its preferred stock in accordance with its terms, which is the case here. It has a right to receive the proceeds of the sale of common stock that it owns. It has a right to benefit from a prudent hedging transaction for which it bore all the risk. Mr. Rubin does not suggest that RWE's receipt of monies from these transactions is improper or unfair; only that it is a lot of money[112] and that RWE should be forced to share it.

Furthermore, the concept of an exit fee assessed against selling shareholders was proposed by LFUCG in Case No. 2002-00018 and specifically rejected by the Commission. The Commission set forth LFUCG's suggestion as follows: "It further suggests that the public interest requires American Water's shareholders to share 'the enormous cash benefits' created by the Proposed Transaction with KAWC shareholders."[113] The Commission responded:

> We find no legal support for this proposition. Courts have long recognized that ratepayers are not entitled to a share of a portion of the proceeds of the sale of capital stock 'simply because they are the users of the service furnished by the utility.' (citing Democratic Central Committee of D.C. v. Washington Metropolitan Area Transit Comm'n, 485 F.2d 786, 805 (D.C. Cir. 1973)).[114]

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[111] Rubin Direct at 25.
[112] Interestingly, the calculation of the total "proceeds" by Dr. Woolridge was incorrect as he double counted the proceeds from the redemption of the preferred stock. Confidential Transcript of Evidence of Hearing dated August 16, 2006, at 9.
[113] Case No. 2002-00018, Order of May 30, 2002, at 9.
[114] Id. The Commission also referenced Board of Public Utility Commissioners v. New York Telephone Co., 271 U.S. 23, 32 (1926).

The Commission based its conclusion on the concept that only the utility's shareholders bore the risk of the investment and they should not be required to share a portion of the proceeds of the sale of the stock with others. Here, American Water did not bear any risk with respect to the value of its stock that was held by RWE. That risk was borne solely by RWE. It is inappropriate, therefore, to require RWE to pay an exit fee of any amount for the right to sell its stock in American Water.

Presumably, Mr. Rubin's recommendation of an exit fee seeks to protect the interests of the ratepayers, as the AG is the statutory representative of the ratepayers.[115] In support of this recommended condition, the AG must demonstrate by clear and satisfactory[116] evidence that the ratepayers' interests will be negatively affected by the Proposed Transaction. As set forth herein, exactly the opposite is true.

As the Commission and courts have recognized, ratepayers are not entitled to a share of the proceeds of the sale of capital stock "simply because they are the users of the service furnished by the utility." Recognizing this limitation, the AG does not recommend that the ratepayers directly receive a portion of the proceeds. Instead, the AG recommends limiting the amount of IPO proceeds that can be retained by RWE. The stock sale from RWE to third-party purchasers will be at arms-length with the price being set by the market. RWE, alone, bore all of the risks of stock ownership and, therefore, it is entitled to retain all of the proceeds from the sale of stock under the Commission's precedent and the authorities cited herein.

The proposed exit fee (as well as the AG's proposals of a rate case adjustment relating to cost of capital and a cap on the ability to recover Sarbanes-Oxley costs) invite

[115] KRS 367.150(8)
[116] KRS 278.340

the Commission to step outside the bounds of its statutorily given authority. The Commission has stated in this case that it may impose conditions to ensure that the Proposed Transaction will not adversely affect utility service. But the AG's proposed conditions are unrelated to the provision of service or the public interest. Rather, they are penal in nature and would require the Commission to exceed its authority as proscribed in South Central Bell Tel. Co. v. Utility Regulatory Comm'n, 637 S.W.2d 649, 654 (Ky. 1982).

The AG's recommendation would amount to an "exaction" (in the form of an exit fee) from RWE. An exaction is a concession made in order to receive a governmental permit or approval. To benefit the Kentucky ratepayers, the Commission would require RWE to give up its right to a portion of the IPO proceeds in exchange for the right to sell its stock.

The conditioning of the grant of a permit (or other approval) on an exaction may result in a regulatory taking claim.[117] The doctrine was further explained by the United States Supreme Court in Dolan:[118]

> Under the well-settled doctrine of 'unconstitutional conditions,' the government may not require a person to give up a constitutional right -- here the right to receive just compensation when the property is taken for public use -- in exchange for a discretionary benefit conferred by the

[117] See Nollan v California Coastal Commission, 483 U.S. 825 (1987). In Nollan, the Nollans applied for a coastal development permit to demolish their existing beachfront bungalow and to replace it with a three-bedroom house. 483 U.S. at 828. Finding that the construction of the new house would obstruct the public's view of the seashore, the California Coastal Commission conditioned approval of the building permit on the Nollans granting a lateral public easement over the beach portion of their property. Id. The Supreme Court held that even though the Commission could have denied the building permit altogether, it could not condition the grant of the permit on a concession by the property owners that lacked an "essential nexus" to the justification for the prohibition. 483 U.S. at 837. Because allowing members of the public already on the beach to walk along the Nollans' land would in no way address the barrier to visual access created by the new house, the Commission's attempted exaction was a taking without just compensation.
[118] Dolan v. City of Tigard, 512 U.S. 374 (1994).

> government where the property sought has little or no relationship to the benefit.

In other words, under the Fifth and Fourteenth Amendments to the United States Constitution,[119] a business must be allowed to obtain a fair return on its property given the risks. American Water, KAWC and the ratepayers of KAWC bear no risk in the fluctuation or sale of shares in the IPO. The right to capital gains or losses from the sale of the stock belongs to RWE. Furthermore, the exit fee sought against RWE bears no "essential nexus" to the justification for it. The Proposed Transaction is not the cause of the alleged "problems" Mr. Rubin identifies. Finally, the imposition of an exit fee would establish bad precedent that could adversely impact other utilities by chilling any desire to invest in those utilities for fear of an arbitrary and unjustified penalty upon a sale of that investment.

Next, Mr. Rubin proposes some additional conditions to address the concerns he and Dr. Woolridge allege in their direct testimony. First, he proposes a rate case adjustment for the next five years to the cost of capital to insulate KAWC's customers from the "adverse effect" on American Water's bond ratings from its divestiture from RWE.[120] Such a condition is inappropriate for at least three reasons: (i) it is single issue rate making in its most basic form; (ii) cost of capital must be examined in the context of a rate case as of the time the rates will be in effect, not as of the time of a change of control case; and (iii) it would be an unconstitutional confiscation to artificially restrict KAWC's ability to recover a market based cost of capital, particularly when a market

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[119] The takings clause of the Fifth Amendment to the United States Constitution provides that private property shall not "be taken for public use, without just compensation." U.S. Const. Amend. V. The takings clause is made applicable to the states through the Fourteenth Amendment. U.S. Const. Amend. XIV.

[120] Rubin Direct at 26.

based cost of capital has nothing to do with the Proposed Transaction. Finally, as discussed above, the proposed adjustment is inappropriately based on Dr. Woolridge's "rough estimate."[121] Utilities are not permitted to make rate case adjustments based on "rough estimates" and the AG should not be permitted to do so, especially in the unorthodox context of a change of control case.

Mr. Rubin also proposes two conditions relating to the reporting of information about unaccounted for water.[122] KAWC currently provides the Commission information on unaccounted for water and there is no need for additional reporting requirements given KAWC's performance set forth above.

Mr. Rubin proposes that all American Water or KAWC unregulated activities be conducted through separate entities and specific methods for allocating the cost of services provided by KAWC.[123] There is a thorough and sophisticated affiliate transaction and cost allocation methodology set forth in Kentucky's statutes[124] that deal fully with both issues. Thus, there is no need for the condition proposed by Mr. Rubin.

Finally, Mr. Rubin proposes a cap of $1 million per year on Sarbanes-Oxley compliance costs allocated to all of American Water's regulated subsidiaries.[125] Like the cost of capital adjustment above, this condition amounts to single issue ratemaking and is an unconstitutional confiscation. Also, the rate making process entails a determination of the reasonableness of proposed expenses; it is not appropriately made in a change of control case. It need not be made in a vacuum; it should be made during a rate case taking all elements of a utility's cost of service into account.

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[121] Woolridge Direct at 12.
[122] Id.
[123] Id.
[124] KRS 278.2201, et seq.
[125] Id.

Mr. Rubin concludes his testimony with a list of the conditions imposed in Case No. 2002-00317 that he believes should be imposed here.[126] For the reasons set forth herein, the conditions imposed in Case No. 2002-00317 are inapplicable as they were designed for a different purpose and reflect facts that will no longer apply (such as foreign ownership) after the Proposed Transaction.

CONCLUSION

The Joint Petitioners have demonstrated that American Water has the financial, technical and managerial abilities to provide reasonable service to the customers of KAWC. They have demonstrated that the Proposed Transaction will not adversely affect the existing level of KAWC's service or rates. They have demonstrated that the Proposed Transaction is in the public interest and that conditions to the approval of the Proposed Transaction are not necessary. Therefore, the Proposed Transaction should be approved without conditions.

[126] Rubin Direct at 26-30.

CERTIFICATION

This is to certify that a true and accurate copy of the foregoing has been electronically transmitted to the Public Service Commission on September 22, 2006; that the Public Service Commission and other parties participating by electronic means have been notified of such electronic transmission; that, on September 25, 2006, the original and one (1) copy in paper medium will be hand-delivered to the Public Service Commission, 211 Sower Boulevard, Frankfort, Kentucky 40601; and that on September 25, 2006, one (1) copy in paper medium will be served upon the following via U.S. mail:

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COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE JOINT PETITION OF KENTUCKY-AMERICAN WATER COMPANY, THAMES WATER AQUA HOLDINGS GMBH, RWE AKTIENGESELLSCHAFT, THAMES WATER AQUA US HOLDINGS, INC., AND AMERICAN WATER WORKS COMPANY, INC. FOR APPROVAL OF A CHANGE IN CONTROL OF KENTUCKY-AMERICAN WATER COMPANY	) CASE NO. 2006-00197

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AG EXH. NO 4

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE JOINT PETITION OF KENTUCKY-AMERICAN WATER COMPANY, THAMES WATER AQUA HOLDINGS GMBH, RWE AKTIENGESELLSCHAFT, THAMES WATER AQUA US HOLDINGS, INC., AND AMERICAN WATER WORKS COMPANY, INC. FOR APPROVAL OF A CHANGE IN CONTROL OF KENTUCKY-AMERICAN WATER COMPANY	)	CASE NO. 2006-00197

O R D E R

Joint Petitioners[1] have applied to the Commission for approval of Thames Water Aqua Holdings GmbH's ("Thames GmbH") sale of the common stock of American Water Works Company ("AWWC") to the public. The proposed transaction will effectively transfer indirect control of Kentucky-American Water Company ("Kentucky-American") from its current owner to unknown persons. At issue is whether the proposed transaction meets the requirements of KRS 278.020(5). Finding that, with the imposition of conditions to protect the public interest, the proposed transaction meets these requirements, the Commission approves the proposed transfer subject to certain conditions.

PROCEDURE

On May 10, 2006, Joint Petitioners advised the Commission of their intent to apply for Commission approval of Thames GmbH's sale of its common stock of AWWC

[1] The "Joint Petitioners" are: Kentucky-American Water Company; American Water Works Company; Thames Water Aqua US Holdings, Inc.; Thames Water Aqua Holdings GmbH; and RWE Aktiengesellschaft.

and the merger of Thames Water Aqua US Holdings, Inc. ("TWAUSHI") with AWWC. On May 11, 2006, the Commission established a docket to review the proposed transaction and further established procedures for the electronic filing of documents and pleadings in this docket. On June 5, 2006, Joint Petitioners filed their application.

On June 19, 2006, the Commission established a procedural schedule for this docket and directed the submission of memoranda upon the applicability of KRS 278.020(5) and (6) to the proposed transaction. On August 14, 2006, after all parties had submitted written memoranda, the Commission held that only KRS 278.020(5) was applicable to the proposed transaction.

The following parties have been granted leave to intervene in this proceeding: Attorney General's Office of Rate Intervention ("AG") and Lexington-Fayette Urban County Government ("LFUCG").

Following extensive discovery by the parties in this matter, the Commission held a public hearing on August 16, 2006, at its offices in Frankfort, Kentucky. Testifying at this hearing were: Nick O. Rowe, president of Kentucky-American; Jens Gemmecke, Senior Project Manager in the RWE Mergers and Acquisitions Department; John S. Young, Jr., Chief Operations Officer, AWWC; Ellen C. Wolf, AWWC Senior Vice President and Chief Financial Officer; Michael A. Miller, Kentucky-American Treasurer/Comptroller; J. Randall Woolridge, consultant; and Scott J. Rubin, attorney and consultant.[2] Following the hearing, all parties submitted written briefs.

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[2] Although the Commission provided an opportunity for public comment at this hearing, no members of the public appeared and presented comments.

THE PROPOSED TRANSACTION: AN OVERVIEW

Kentucky-American, a Kentucky corporation, owns and operates facilities that are used in the distribution of water to the public in Bourbon, Clark, Fayette, Gallatin, Grant, Harrison, Jessamine, Owen, Scott and Woodford counties. It also owns and operates facilities for the collection and treatment of sewage for the public in Clark and Owen counties. It is a utility subject to Commission jurisdiction and regulation.[3]

AWWC, a Delaware corporation, and its operating subsidiaries employ approximately 6,000 persons and provide water, wastewater and other water resource management services to approximately 18 million persons in 29 states and Canada. From 1947 until 2003, it was one of the largest publicly-traded water companies in the United States and was listed on the New York Stock Exchange. It currently owns all outstanding shares of Kentucky-American stock. It neither conducts nor is authorized to conduct business within the Commonwealth.

TWAUSHI, a Delaware corporation, is AWWC's direct parent company. It neither conducts nor is authorized to conduct business within the Commonwealth. It owns subsidiaries that provide water, wastewater services and other water resource management services to approximately 18 million customers in 29 states and Canada.

Thames GmbH is a foreign corporation that is organized and exists under the laws of the Federal Republic of Germany. It is a wholly-owned subsidiary of RWE Aktiengesellschaft ("RWE") and is the holding company for most of RWE's water operations throughout the world. Thames GmbH owns all of the outstanding stock of

[3] KRS 278.010(3)(d) and (3)(e); KRS 278.040(1).

TWAUSHI. It neither conducts nor is authorized to conduct business within the Commonwealth.

In February 2003, after obtaining Commission approval, RWE and Thames GmbH acquired AWWC's outstanding stock and effectively obtained control of Kentucky-American and all of AWWC's other operating companies. Two years after acquiring AWWC and its operating subsidiaries, however, RWE chose to focus upon its electric and natural gas operations and to divest itself of its water operations. One of AWWC's witnesses testified as to RWE's reasoning:

> RWE has revised its core business focus to be on the European power and energy markets, where historically its roots lie. In the last two years, in order to become a more market-oriented and focused company, RWE had already divested non-core activities such as its environmental business. In order to maintain its position among Europe's leading integrated electricity and gas companies, in response to fierce competition, growing customer needs, and rising costs both for energy production facilities and many other energy production inputs, RWE is forced to concentrate on its power and energy markets. As a result of these developments, RWE's ability to maintain its competitiveness in its core European businesses is proving far more capital intensive than RWE could have predicted when it acquired American Water. Consequently, RWE decided that it intends to sell the water operations of Thames Water in the U.K. and to return American Water to its status as a U.S. publicly-traded company. The Proposed Transaction will allow RWE to focus on its core businesses in its home region . . . .[4]

RWE's planned divesture of its North American water operations involves two steps. First, TWAUSHI will merge with and into AWWC. AWWC will be the surviving corporation. This merger will consolidate all of RWE's water-related assets in the

[4] Direct Testimony of Ellen C. Wolf at 10.

United States into one entity.[5] Thereafter, Thames GmbH will sell up to 100 percent of the common stock of AWWC. These shares will be sold through one or more public offerings to a broad group of investors, including institutional and retail investors. If less than 100 percent of the AWWC stock is sold in the initial offering, then subsequent pubic offerings of AWWC stock will be conducted. The identities of the stock purchasers will not be known until the public offerings are complete.

An initial step in the proposed transaction is the preparation and filing of a registration statement with the U.S. Securities and Exchange Commission ("SEC"). This statement will contain AWWC's "audited financial statements, descriptions of its business, financial performance, management and risk factors that investors may consider in deciding to buy the shares."[6] This statement will also set forth the principal risks in investing in AWWC. The SEC will review and comment upon this statement. AWWC must address these comments with amendments to the initial registration statement.

Upon submission of a registration statement that is acceptable to the SEC, AWWC, Thames GmbH, and the underwriters will market the stock issuance. Once this marketing process is completed, AWWC will request the SEC to declare the registration statement effective. The underwriters and Thames GmbH will then agree upon a price per share at which the shares will be sold to the public.

When the public sale occurs, Thames will sell its shares of AWWC stock to the underwriters who will then resell these shares to the subscribed purchasers. Both sales

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[5] Joint Petition at ¶ 16.

[6] Direct Testimony of Ellen C. Wolf at 7.

should occur within the same day. The closing of the stock offering will occur at the settlement of purchases, which is expected to occur within 3 or 4 days of the pricing. At settlement, shares are transferred directly to the investors. On the date of closing, AWWC's stock will begin regular trading on the New York Stock Exchange.

The proposed transaction will have no immediate or direct effect upon Kentucky-American. None of its stock or debt is involved. No change in Kentucky-American's financial or management structure will occur.[7] As AWWC owns all of Kentucky-American's outstanding common stock, however, the initial public offering ("IPO") of AWWC stock will effectively transfer control of Kentucky-American when the IPO is completed.

STANDARD OF REVIEW

KRS 278.020 requires Commission review and approval of any change in or transfer of control of a utility. KRS 278.020(5) provides:

> No person shall acquire or transfer ownership of, or control, or the right to control, any utility under the jurisdiction of the commission by sale of assets, transfer of stock, or otherwise, or abandon the same, without prior approval by the commission. The commission shall grant its approval if the person acquiring the utility has the financial, technical, and managerial abilities to provide reasonable service.

KRS 278.020(6) provides in part:

> No individual, group, syndicate, general or limited partnership, association, corporation, joint stock company, trust, or other entity ("an acquirer"), whether or not organized under the laws of this state, shall acquire control, either directly or indirectly, of any utility furnishing utility service in this state, without having first obtained the approval of the commission. Any acquisition of control without prior

[7] Joint Petitioners' Post-Hearing Brief at 13; Direct Testimony of Nick O. Rowe at 4-5.

> authorization shall be void and of no effect. . . .The commission shall approve any proposed acquisition when it finds that the same is to be made in accordance with law, for a proper purpose and is consistent with the public interest.

Subsections 5 and 6 are not dependent. Subsection 5 represents the codification of the holding of Public Service Commission v. Cities of Southgate, Highland Heights, 268 S.W.2d 19, 21 (Ky. 1954),[8] and addresses the transfer of ownership or control of a utility. Subsection 6 focuses more narrowly on the "acquisition of control" of a utility. While a transaction that results in a transfer of control may trigger both subsections, it does not necessarily do so.

The proposed transaction will result in a transfer of control, but as presently described will not result in an "acquisition of control" for purposes of KRS 278.020(6).[9] Upon its completion, RWE, the entity that currently controls AWWC and Kentucky-American, will no longer control either entity. As the proposed transaction results in the transfer of RWE's ability to control AWWC and Kentucky-American, Subsection 5 is applicable. As there is no evidence that at the proposed transaction's completion any entity will possess a sufficient quantity of AWWC stock to control AWWC, and thereby Kentucky-American, Subsection 6 is not applicable at this time.

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[8] See also Public Service Commission v. City of Paris, 299 S.W.2d 811 (Ky. 1957); South Central Rural Tel. Co-op. Corp. v. Public Service Commission of Ky., 453 S.W.2d 257 (Ky. 1970).

[9]

> Control shall be presumed to exist if any individual or entity, directly or indirectly, owns ten percent (10%) or more of the voting securities of the utility. This presumption may be rebutted by a showing that ownership does not in fact confer control. . . .

KRS 278.020(6).

While Subsection 6 is not applicable, the Commission's review in this case is not limited merely to the examination of the acquirer's financial, technical, and managerial abilities to provide utility service. As Kentucky's highest court noted in Southgate, the Commission has always possessed the implied power to review and hear evidence on utility transfers, including the authority to examine the effects of the proposed transfer on the adequacy of utility service, to determine if the proposed transfer is in the public interest, and to impose conditions upon the proposed transfer to ensure that it will not adversely affect utility service.[10] KRS 278.020(5) codified this implied power.[11]

In reviewing Joint Petitioners' application, the Commission must first determine if the persons who are acquiring control of Kentucky-American have the requisite abilities to provide reasonable utility service. Next, we must determine whether the proposed transfer is consistent with the "public interest."

The Commission has previously held that a proposed transfer is in the public interest if it will not adversely affect the existing level of utility service or rates or that any potentially adverse effects can be avoided through the Commission's imposition of

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[10] Southgate at 21 ("[W]here an existing utility proposes to sell its system, the [C]ommission, in order to carry out its responsibility, must have the opportunity to determine whether the purchaser is ready, willing and able to continue providing adequate service."). See, e.g., Blue Grass State Tel. Co. v. Public Service Commission, 382 S.W.2d. 81, 82 (Ky. 1964) ("The sole issue for [the Commission] to decide was whether the operation of this system by Blue Grass was in the public interest.")

[11] See also KRS 278.280 (permitting the Commission to determine and fix the just, proper, adequate, reasonable or sufficient practices, services and methods to ensure the proper delivery of utility service).

reasonable conditions on the acquiring party.[12] The Commission has further required a showing that the proposed transfer is likely to benefit the public through improved service quality, enhanced service reliability, the availability of additional services, lower rates, or a reduction in utility expenses to provide present services.[13] Such benefits, however, need not be immediate or readily quantifiable.[14]

ACQUIRING PARTIES' ABILITY TO PROVIDE REASONABLE UTILITY SERVICE

Joint Petitioners argue that, upon completion of the proposed transaction, no material changes will occur in Kentucky-American's operation and that the provision of service will be unaffected. They note that after the IPO, Kentucky-American will continue to operate with its current employees and will continue to contract with American Water Works Service Company ("AWWSC") for additional services. Kentucky-American currently employs directly or through AWWSC an experienced engineering staff that has been nationally recognized.[15]

They further note that AWWC will remain a source of equity capital for Kentucky-American and that Kentucky-American will continue to be able to access the debt

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[12] Case No. 2002-00018, Application for Approval of the Transfer of Control of Kentucky-American Water Company to RWE Aktiengesellschaft and Thames Water Aqua Holdings GmbH (Ky. PSC May 30, 2002) at 7.

[13] Case No. 2002-00317, The Joint Petition of Kentucky-American Water Company, Thames Water Aqua Holdings GmbH, RWE Aktiengesellschaft, Thames Water Aqua US Holdings, Inc., Apollo Acquisition Company and American Water Works Company, Inc. for Approval of a Change of Control of Kentucky-American Water Company (Ky. PSC Dec. 20, 2002) at 10.

[14] See, e.g., Case No. 2000-00129, Joint Application of NiSource, Inc., New NiSource, Inc., Columbia Energy Group, and Columbia Gas of Kentucky for Approval of a Merger (Ky. PSC June 30, 2000).

[15] Direct Testimony of Nick O. Rowe at 4-6.

market through American Water Capital Company ("AWCC"). Acting as the financing arm of AWWC since 2000,[16] AWCC borrows money for AWWC and its operating subsidiaries and then loans those monies to the operating subsidiaries at cost. This arrangement enables each operating subsidiary to share any benefits from a greater economy of scale.

Finally, Joint Petitioners assert that the management that is currently operating Kentucky-American will continue to remain in place after the IPO of AWWC stock. They further note that upon completion of the IPO, a majority of AWWC's directors, and all members of the audit, compensation and nominating committees of AWWC's board of directors will be independent directors.[17] "The seasoned management team at American Water will continue to have the background necessary to run a large, publicly traded water company."[18]

LFUCG argues that, as the identity of those persons acquiring AWWC stock through the IPO is currently unknown, the record is devoid of any evidence of their ability to provide reasonable utility service.[19] Given that the Commission lacks any ability to assess and determine an unknown entity's ability to provide reasonable utility service, LFUCG argues, the General Assembly through its enactment of KRS

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[16] See Case No. 2000-00189, The Application of Kentucky-American Water Company for Approval for Participation in Borrowing Program (Ky. PSC July 21, 2000).

[17] Direct Testimony of Ellen C. Wolf at 18.

[18] Joint Petitioners' Post-Hearing Brief at 13.

[19] Although he devotes little attention to it, the AG also makes this argument. See Office of Attorney General Post-Hearing Brief at 4 ("Given the identification of any actual owner that will succeed RWE, there is no basis in the record for the premise that the new owners will supply any financial, technical, or managerial expertise.")

278.020(5) clearly intended to prohibit the use of IPOs of stock to transfer ownership or control of a utility.[20] Accordingly, it argues, Joint Petitioners' application should be denied or, in the alternative, be held in abeyance until such time as AWWC files its registration statement with the SEC.

The plain language of KRS 278.020(5) does not support LFUCG's position. The statute addresses transfers of control or ownership "by sale of assets, transfer of stock, **or otherwise,** [emphasis added] . . . ." The use of the phrase "or otherwise" suggests an intent on the General Assembly's part to include all means of transfer of ownership or control. The statute does not exclude IPOs.[21]

The Commission acknowledges that lack of the acquiring party's identity renders any determination of that party's abilities more difficult and less reliable. The proposed transaction, however, assumes the issuance of stock to a broad range of the public and does not envision any of the purchasing parties acquiring sufficient stock to direct the utility's management and activities. As a practical matter, these purchasers are acquiring the stock as a passive investment and will rely upon the management already

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[20] LFUCG's Brief at 8-9. See also LFUCG's Memorandum in Response to the Commission's June 19, 2006 Order at 3.

[21] We find no support for LFUCG's assertion that the acquiring party must personally demonstrate its ability to provide reasonable service. LFUCG's Brief at 9 ("The express language of this statute is that the **acquirer** (and not AWW, for instance) **must demonstrate the abilities** that the Kentucky legislature has determined are required for such a transfer of ownership [emphasis added].") KRS 278.020(5) merely requires the Commission to determine if the acquirer has such abilities and, if it does, to approve the transfer. See also Case No. 2002-00018, Order of May 30, 2002 at 11 (holding that KRS 278.020 "does not expressly require that a transferor or acquirer apply for Commission approval nor does it prohibit a corporate subsidiary from doing so on behalf of a corporate parent").

in place to operate the utility. Should this change and one or more investors seek to acquire "control" of AWWC, the requirements of KRS 278.020(6) would be triggered.

The Commission finds that an accurate assessment of the acquiring parties' ability to provide utility service can be made through an examination of the abilities of the management that is currently in place and will remain in place after the transaction is completed.[22] Based upon this examination, the Commission finds that, the acquiring parties using the current management of AWWC and Kentucky-American, will have the requisite abilities to provide reasonable utility service.

PUBLIC INTEREST ANALYSIS

Joint Petitioners argue that the proposed transaction will result in several benefits for Kentucky-American's ratepayers and the public at large. First, they point to AWWC's enhanced access to public debt and equity capital markets in the United States. They note that RWE currently does not have access to such markets. This access, they further note, "is a significant benefit when compared to what . . . [AWWC] could face if it were forced to remain a fourth tier subsidiary of a foreign corporation which has refocused its core business on the European energy market" and subject to "increased competition for scarce capital funds which would increase constraints on the availability of capital for discretionary purposes."[23]

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[22] An acquirer's reliance upon existing management is not unusual and has previously served as the basis for a determination of the acquiring party's ability to provide utility service. See, e.g., Case No. 2005-00433, The Joint Application of Nuon Global Solutions USA, BV, Nuon Global Solutions USA, Inc., AIG Highstar Capital II, LP, Hydro Star, LLC, Utilities, Inc. and Water Service Corporation of Kentucky for Approval of an Indirect Change in Control of a Certain Kentucky Utility Pursuant to the Provisions of KRS 278.020(5) and (6) and 807 KAR 5:001, Section 8 (Ky. PSC Mar. 8, 2006).

[23] Joint Petitioners' Post-Hearing Brief at 16.

Second, Joint Petitioners note that, upon completion of the transaction, AWWC will be "subject to the SEC laws and regulations, including the Sarbanes-Oxley legislation, and the rules of the stock exchange on which it is traded."[24] They further note that RWE is not currently subject to these laws. Joint Petitioners suggest that the application of these laws will create investor confidence in AWWC and will better enable it to attract capital at reasonable rates.

Third, Joint Petitioners assert that the proposed transaction will enable Kentucky-American customers and Kentucky-American employees to invest in AWWC and thus have an ownership interest in their water supplier or employer. Kentucky-American officials testified that employee ownership of AWWC stock would strengthen employee-employer relations and potentially improve employee productivity.[25]

Joint Petitioners assert that there are no known potential adverse effects on Kentucky-American from the proposed transaction.[26] They note that none of the proposed transaction costs will be recovered from Kentucky-American ratepayers;[27] that Kentucky-American will continue to honor its collective bargaining agreements;[28] that Kentucky-American's rates, operating policies, and current investment and capital programs will not change;[29] and that Kentucky-American will continue its contributions

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[24] Id.

[25] Joint Petition at ¶ 23.

[26] Direct Testimony of Nick O. Rowe at 8.

[27] Joint Petition at ¶ 46.

[28] Direct Testimony of Nick O. Rowe at 8.

[29] Id.

and commitment to local communities.[30] They expect no adverse change in either AWWC or Kentucky-American's cost of capital.[31]

The AG and LFUCG do not share this view. They find no significant benefits resulting from the proposed transaction. LFUCG argues that the proposed transaction will eliminate all purported benefits from RWE's acquisition of AWWC, which included access to Thames GmbH resources and expertise, a sharing of Thames GmbH's best operating practices, and greater availability to technical resources, capital markets, and Thames GmbH's research and development programs.[32]

The AG argues that the proposed transaction will increase AWWC's capital costs. He notes 3 factors in support of his position: (1) Standard and Poor's downgrading its rating of AWWC's debt to A- after the announcement of the proposed transaction; (2) AWWC's need to refinance $2.65 billion of existing debt that RWE currently holds; and (3) the effective conversion of $1.75 billion of AWWC preferred stock, which RWE holds, to common equity.[33]

The AG further argues that the proposed transaction will expose AWWC to significant auditing and reporting costs associated with the Sarbanes-Oxley Act of 2002.[34] Upon completion of the proposed transaction, AWWC will be a publicly traded corporation and will be subject to the requirements of the Sarbanes-Oxley Act.

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[30] Id.

[31] Direct Testimony of Ellen C. Wolf at 17.

[32] LFUCG's Brief at 12-13.

[33] Direct Testimony of J. Randall Woolridge at 12.

[34] Pub.L. No. 107-204, 116 Stat. 745.

Although AWWC estimates these costs at one million dollars annually after the first year following the proposed transaction, the AG asserts that the financial cost of compliance will be much greater. These costs, the AG suggests, will be pushed down to Kentucky-American and its ratepayers.

The AG expresses great concern that the AWWC which RWE and Thames GmbH leave behind will be a significantly weakened entity that faces major financial challenges. He notes that AWWC's pension fund and other post-employment benefit plans are currently underfunded by $277 million and $177 million respectively.[35] As compared to an industry average of 90 percent, AWWC's funding ratio was only 60 percent. Under a recently enacted federal law,[36] this funding shortfall must be corrected by 2015. The AG asserts that such a shortfall can only be corrected through higher rates or delay of needed capital and maintenance expenditures.

In addition to addressing its pension fund shortages, AWWC will need to maintain a high level of capital expenditure spending to upgrade and maintain its existing utility plant to meet present and expected regulatory standards. The AG notes that AWWC expects capital expenditures for maintenance to increase at a rate of 15 percent annually from 2011 through 2020. He further notes that AWWC's capital expenditure averaged close to $500 million over the past 3 years and its capital spending is expected to markedly increase in the next 5 years.[37]

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[35] Direct Testimony of Scott J. Rubin at 12.

[36] Pension Protection Act of 2006, Pub. L. No. 109-280, 120 Stat. 780.

[37] Direct Testimony of Scott J. Rubin at 10-12.

Based upon our review of the record, we find few benefits from the proposed transaction that will accrue to Kentucky-American ratepayers. We agree with the AG and LFUCG that the proposed transaction will eliminate virtually all benefits that were to have resulted from RWE's acquisition of AWWC. It will eliminate Kentucky-American's access to world capital markets through Thames GmbH and RWE.[38] It will end Kentucky-American's ability to draw upon Thames GmbH's research and development programs and its resources and expertise, including those in the critical area of infrastructure security.[39]

While the proposed transaction provides some benefits, these are of limited value. Any benefit resulting from AWWC's access to public debt and equity capital markets in the United States occurs at the expense of AWWC's access to foreign debt and equity capital markets. Joint Petitioners, moreover, have failed to provide

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[38] The result is likely to be higher capital costs. See Case No. 2002-00018, Petitioners' Post-Hearing Brief at 19-20 (citations omitted) ("[S]ince RWE's bond ratings are higher than American's, capital will be available at a cost lower than American's cost. No longer confined to domestic markets, Kentucky-American will have access to capital markets from around the world. This expansion of financial sources should bring down Kentucky-American's cost of capital and position the Company to both grow and enhance services.").

[39] In his direct testimony, Mr. Rowe insists that Kentucky-American has benefited greatly from its current relationship with Thames GmbH and that these benefits will remain with the utility. Direct Testimony of Nick O. Rowe at 8-9. While nothing in the record indicates that these benefits will disappear, the transfer of ideas, practices, and experiences between AWWC and Thames GmbH will cease. In Case No. 2002-00018, Kentucky-American asserted that this constant sharing of ideas would provide future benefits long after the transaction had been consummated. See Case No. 2002-00018, Joint Applicants' Response to Attorney General's Initial Requests for Information, Item 118 ("Through the potential exchange of personnel and information that will result from the merger, the management of KAWC will have access to this increased breadth of experience. Over time, this exchange of information will result in more rapid application of new methods and technologies to KAWC than KAWC would be able to effect without the transaction.")

convincing evidence that access to domestic public debt and equity capital markets will result in lower capital costs.

We find very limited value in the ability of Kentucky-American customers and employees to invest in AWWC. While such ability may have a positive effect on the utility's relations with labor and the public, the record is devoid of any specific evidence that it will produce greater employee productivity, reduce management-labor disputes, or otherwise benefit the public or Kentucky-American's ratepayers who do not choose to invest in AWWC.

The Commission recognizes that enhanced regulatory review and scrutiny of AWWC results from the proposed transaction. The SEC will again exercise regulatory oversight of certain aspects of AWWC's operations. Moreover, the reporting requirements of federal securities laws and SEC regulations provide greater and timelier access to information about AWWC's operations to this Commission and the general public. For Kentucky-American ratepayers, the benefit of such requirements is much less significant. As this Commission and other state utility regulatory commissions have imposed significant reporting requirements as a condition to RWE's acquisition of AWWC, most of the relevant information necessary for review and supervision of AWWC's regulated subsidiaries and AWWC's interactions with those subsidiaries is already available. [40]

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[40] Joint Petitioners contend that the applicability of the Sarbanes-Oxley Act and the regulations of the New York Stock Exchange will enable AWWC to attract capital at reasonable rates. While the Commission does not dispute this assertion, we find no compelling evidence on this point. Moreover, while the overall effect of the Sarbanes-Oxley Act on domestic public debt and equity capital markets may be a reduction in the cost of capital, it is unclear whether this reduction would produce a lower cost of capital for AWWC than remaining as a subsidiary of RWE.

The most compelling benefit from the proposed transaction is AWWC's removal from a large, multi-national entity that has operations in several different business sectors and is no longer interested in the water industry. RWE has clearly chosen to focus its resources and attention upon the European energy market. If Kentucky-American and AWWC were to remain in such an organization, their capital and resource requirements would likely be given lower priority than those sectors upon which RWE has chosen to focus.[41] At a minimum, Kentucky-American would be less likely to improve the quality of its service and meet the growing demand for water. At worst, it might experience deterioration in the quality of its service and lack the resources to make important infrastructure replacements. With AWWC as an independent entity, Kentucky-American would be much better positioned to address its capital requirements and to take the necessary actions to maintain and improve the quality of its service.

The record indicates that, upon completion of the proposed transaction, AWWC will face significant capital expenditures to replace and improve the infrastructure of its regulated subsidiaries. It also apparently faces a significant shortfall in its pension funding. Concurrent with the proposed transaction, it must refinance its existing debt as RWE and Thames GmbH divest themselves of any interest in AWWC. Prior to completion of the proposed transaction, AWWC will undergo significant management changes as the composition of its Board of Directors changes with the addition of several independent members.[42] Accordingly, we find that, in light of the lack of any significant benefit that the proposed transaction will bring to Kentucky-American

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[41] The AG and LFUCG share this view. See, e.g., Direct Testimony of Scott J. Rubin at 21; LFUCG Brief at 19.

[42] Joint Petitioners' Post-Hearing Brief at 4.

ratepayers and the significant risk and uncertainty that it will create, the proposed transaction is in the public interest only under the conditions described below and more fully set forth in Appendix A to this Order.

CONDITIONS TO APPROVAL OF PROPOSED TRANSACTION

Based upon our review of the proposed transaction, we find that our approval must be conditioned upon the inclusion of certain protections for Kentucky-American ratepayers. Many of these conditions are similar to those placed upon our approval of RWE's acquisition of AWWC and merely restate AWWC and Kentucky-American's existing obligations.

Service Quality

Our principal concern is the possible degradation of service quality after the public offering. To ensure that the proposed transaction will not unduly disrupt Kentucky-American's operations or adversely affect the quality of its service, we have expressly conditioned our approval upon Kentucky-American customers experiencing no material adverse change in utility service as a result of the proposed transaction.[43]

To guard against immediate and drastic changes in Kentucky-American's management after the public offering of AWWC common stock, we have further conditioned our approval upon retention of the current Kentucky-American management for one year following completion of the IPO and required AWWC and Kentucky-American to provide us with written notification of any changes in management

[43] Appendix A, Condition No. 22.

personnel.[44] Similar conditions have been placed on reductions of non-management employee positions.[45]

The Commission has further imposed several conditions that restate and emphasize Kentucky-American's primary duty to provide reasonable utility service. The provision of utility service must be Kentucky-American's highest priority.[46] Kentucky-American will not be used as an employer or purchaser of last resort for employees, assets, and products associated with any failed or troubled AWWC affiliated venture.[47] Kentucky-American and AWWC must adequately fund and maintain Kentucky-American's facilities to ensure their compliance with all state and federal requirements and their ability to meet the current and future demands of Kentucky-American customers.[48]

We have also extended the requirement that we imposed in Cases No. 2002-00018 and No. 2002-00317 for an annual report on Kentucky-American's water quality standards, number of water service interruptions, average employee response time to water service interruptions, number of customer complaints, and customer inquiry time.[49] We will continue to use these reports as a tool to monitor the quality of Kentucky-American's service and detect any decline in that quality.

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[44] Appendix A, Conditions No. 12 and No. 13.

[45] Appendix A, Condition No. 41.

[46] Appendix A, Condition No. 18.

[47] Appendix A, Condition No. 17.

[48] Appendix A, Condition No. 24.

[49] Appendix A, Condition No. 23.

Transaction Costs

Thames GmbH and AWWC expect to incur costs related to the proposed transaction of $12 million and $11 million, respectively.[50] The Commission finds that Kentucky-American should not bear any of these costs. Joint Petitioners have represented that none of the costs of the proposed transaction will be recovered from Kentucky-American.[51] We have incorporated their representations into our conditions for approving the proposed transaction[52] and have further required that no costs related to early termination costs, retention bonuses or change in control payments resulting from the proposed transaction will be allocated to Kentucky-American.[53] We have further prohibited the payment for the redemption of AWWC's preferred stock to be recorded on Kentucky-American's books.[54]

Local Control/Local Concerns

While the Commission recognizes that the proposed transaction is likely to reduce the distance between Kentucky-American's operations and its ultimate owners, we are of the opinion that the public interest requires that Kentucky-American's local management have the necessary authority and autonomy to make decisions on a local level. To ensure that Kentucky-American remains responsive and retains some measure of local autonomy, we have required Kentucky-American to:

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[50] Joint Petitioners' Response to Commission Staff's First Information Request, Item 10(c) and (d).

[51] Joint Petition at ¶ 46.

[52] Appendix A, Condition No. 3.

[53] Appendix A, Condition No. 7.

[54] Appendix A, Condition No. 5.

- Actively support economic development and social and charitable activities throughout the areas in which it serves.

- Maintain a substantial level of involvement in community activities, through annual charitable and other contributions, on a level comparable to or greater than the participation levels experienced prior to the proposed transaction.

- Ensure that at least 40 percent of the members of its board of directors are persons who reside within the area that Kentucky-American serves and are not employees or officers of AWWC or any AWWC affiliated entity.

We have further conditioned our approval upon Kentucky-American's headquarters remaining in Lexington and the utility's books and records remaining within the state.[55] We have also conditioned our approval upon Kentucky-American honoring all existing contracts and agreements with local governments and negotiating renewal of those agreements in good faith.[56]

Sarbanes-Oxley Act of 2002 Compliance Costs

AWWC estimates that it will incur approximately $2 million to comply with the Sarbanes-Oxley Act in the year following the proposed transaction and $1 million annually thereafter.[57] A portion of these costs will be apportioned to Kentucky-American in accordance with its agreement with AWWSC. The AG proposes that Kentucky-

[55] Appendix A, Condition No. 1.

[56] Appendix A, Condition No. 36.

[57] Joint Petitioners' Response to Commission Staff's First Information Request, Item 3.

American's recovery of these costs through general rates be limited to an amount no greater than Kentucky-American's pro rata share of $1.0 million of such costs.[58]

While we find few benefits accruing to Kentucky-American's ratepayers as a result of AWWC being subject to the requirements of the Sarbanes-Oxley Act, we will not place any specific restriction on Kentucky-American's recovery of those costs through the rate-making process. Such compliance costs may be a reasonable and a necessary cost of providing utility service. We place Kentucky-American on notice, however, that in any general rate proceeding in which it seeks recovery of <u>any</u> Sarbanes-Oxley Act compliance costs, it must clearly demonstrate not only that these costs were reasonably incurred but that Kentucky-American ratepayers receive a specific and definite benefit from these costs. Generalities without specific empirical support will not suffice.

<u>Increased Capital Costs</u>

Asserting that the proposed transaction will increase Kentucky-American's capital costs, the AG urges the Commission to condition our approval of the proposed transaction on Joint Petitioners' agreement that AWWC and Kentucky-American hold Kentucky-American's ratepayers harmless for 5 years for the proposed transaction's adverse effects on AWWC's cost of capital.[59]

In light of our general rate-making powers that permit the disallowance of any unreasonable expenses, we find such condition to be unnecessary. In any general rate-making proceeding in which substantial evidence is presented to demonstrate that

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[58] AG Post-Hearing Brief at 10.

[59] Direct Testimony of Scott J. Rubin at 26.

Kentucky-American is experiencing higher capital costs as a result of the proposed transaction, the Commission may disallow the portion of such costs that are due solely to the proposed transaction.[60] The party seeking disallowance of any capital costs for this reason must clearly demonstrate that the increased costs result directly from the proposed transaction.

Capital Contribution

In light of AWWC's significant need for capital in the upcoming years, the AG and LFUCG urge that the proposed transaction be conditioned upon requiring Thames GmbH to contribute to AWWC 20 percent of the proceeds of the public stock offering. This required contribution, they argue, would improve AWWC's credit rating, make funds available for necessary capital expenditures, reduce the total amount of debt that must be issued, and cover some of the initial costs associated with compliance with the Sarbanes-Oxley Act. It would force Thames GmbH to "make good on some of the commitments it [and RWE] made when it acquired AWW[C]."[61]

Characterizing this proposal as the assessment of an "exit fee," Joint Petitioners voice strong policy and legal objections. First, they contend that the purpose of the proposed condition is improper as it seeks to penalize Thames GmbH and RWE for their alleged failure to meet certain commitments made at the time of their acquisition of AWWC.[62] Conditions should only be used, they argue, "to mitigate any adverse effect

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[60] The Commission places all parties on notice that our approval of the transfer of control with conditions does not constitute a finding that all costs related to the proposed transaction or that ultimately result from the proposed transaction are reasonable.

[61] Joint Petitioners' Post-Hearing Brief at 22.

[62] Joint Petitioners' Brief at 26.

of the proposed transfer of control, not as a means to assess punitive damages for alleged past actions by a shareholder."[63] The proposed condition, the Joint Petitioners assert, is unrelated to the provision of service. They further deny that Thames GmbH or RWE have failed to meet any of their commitments.

Joint Petitioners also contend that the proposal constitutes an improper and inappropriate taking of Thames GmbH's proceeds. Citing previous legal precedent, they assert that RWE and Thames GmbH solely bore the risk of their investment and should not be required to share a portion of the proceeds with others. As AWWC did not bear any risk with the value of its stock, they argue, it is not entitled to share in any proceeds from the sale of its stock.

Joint Petitioners argue that the AG's proposal constitutes an exaction, a concession made in order to receive a governmental permit or approval. In effect, the proposal, if accepted, would require RWE and Thames GmbH to surrender 20 percent of the stock sale proceeds to obtain Commission approval for the proposed transaction. Such conditioning, they argue, may result in a regulatory taking and be prohibited by the Federal Constitution.

While Joint Petitioners object to the AG's assertion that AWWC's capital needs are the result of poor planning or neglect, they acknowledge that "all [water] systems in the United States face high levels of capital expenditure now and in the future to replace aging infrastructure."[64] They further note that this need alone is not a sufficient basis to impose any conditions on the proposed transaction.

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[63] Id. at 26.

[64] Joint Petitioners' Post-Hearing Brief at 23.

While the Commission agrees that AWWC must have adequate capital if its regulated subsidiaries are to provide adequate service, neither the AG nor LFUCG has provided any legal authority to support this proposal nor have they explained how this required level of capitalization was determined or identified RWE and Thames GmbH's responsibility to provide it. Accordingly, we decline to accept this proposal.

The Commission is not unmindful of AWWC and Kentucky-American's significant capital needs. To the extent that RWE and Thames GmbH during their ownership of AWWC failed to ensure adequate funding of AWWC's pension fund and other post-employment benefit plans to prevent increases in the level of unfunded liabilities, they must bear responsibility for such increases and should not be allowed to foist that responsibility onto the shoulders of AWWC's new owners and ultimately on the ratepayers of AWWC's regulated utilities. As they divest themselves of their interests in AWWC, RWE and Thames GmbH should be required to make the equity capital infusions necessary to render AWWC's current pension funding ratio at the same level that existed when they acquired AWWC.[65] This condition is not an exaction but merely eliminates the effects of a departing owner's budgetary decisions, and is consistent with that departing owner's commitments to this Commission at the time of the acquisition.

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[65] Mr. Rubin testified that AWWC's pension funding ratio was 77 percent as of December 31, 2001 and was only 60 percent as of December 31, 2004. The record does not contain any information regarding this level for the past 2 years. Any contribution to restore AWWC's pension ratio to the December 31, 2002 level should be computed using the pension funding ratios that existed on December 31, 2002 and December 31, 2006.

Avoiding Unauthorized Acquisitions of Control

While Joint Petitioners represent that they have no intention of permitting any person to acquire control[66] of AWWC through the proposed transaction,[67] the Commission remains concerned that the proposed transaction could result in such acquisition. KRS 278.020(6) requires that such acquisition be made only with prior Commission approval. To prevent any violation of this statute, we condition our approval of the proposed transaction upon AWWC's filing of a registration statement with the SEC in connection with the proposed transaction that contains a clear disclosure that no person may acquire control of AWWC without obtaining necessary regulatory approvals pursuant to applicable state laws, including KRS 278.020. We have further required that any agreements that Thames GmbH or AWWC have with the transaction's underwriters require the underwriters to report to AWWC and the Commission all instances in which a person or entity has acquired directly or indirectly 10 percent or more of AWWC stock through the IPO.

Most Favored Nations Clause

The Commission finds that since AWWC has operating subsidiaries in numerous jurisdictions, a "most favored nations clause" would ensure that Kentucky-American ratepayers receive all of the benefits that RWE, Thames GmbH, and AWWC make available to other jurisdictions. We find that the public interest requires our approval of the proposed merger be conditioned upon RWE, Thames GmbH, AWWC, and Kentucky-American extending to Kentucky-American ratepayers proportionate net

[66] For a definition of "control," see supra note 9.

[67] Joint Petition at ¶ 50.

benefits of each condition imposed by another state regulatory commission that will benefit ratepayers in another jurisdiction.

Intervenor Proposed Conditions

The AG has proposed 47 conditions to be placed upon any approval of the proposed transaction. Many of these conditions are similar to those that we placed upon RWE and Thames GmbH's acquisition of AWWC.[68] Some of these have been discussed previously in this Order and have been incorporated into those set forth in Appendix A. Of the 47 conditions that the AG proposed, we have accepted 35 conditions in toto or with modifications.

The AG proposes that the Commission require Kentucky-American to adopt new procedures to closely monitor lost water and to file quarterly water loss reports with the Commission.[69] He argues that such procedures would address one of the reasons for Thames GmbH's divesture of AWWC and would assist in resolving Kentucky-American's source of supply concerns. As Kentucky-American already must file a report of its water loss with its annual report and as Kentucky-American's current water losses do not appear excessive,[70] we decline to impose this condition. We will,

[68] LFUCG also urges the Commission to apply the same conditions that we attached to RWE's acquisition of AWWC. LFUCG Brief at 1 and 18.

[69] Direct Testimony of Scott J. Rubin at 26.

[70] For the calendar year ending December 31, 2005, Kentucky-American has a water loss percentage of 13.1399 percent. See Annual Report of Kentucky-American Water Company to the Public Service Commission of Kentucky for the Calendar Year Ended December 31, 2005 at 35. The Commission's regulations consider any water loss in excess of 15 percent as unreasonable for rate-making purposes. See 807 KAR 5:066, Section 6.

however, continue to monitor Kentucky-American's water losses. If they worsen, we will consider additional remedies.[71]

The AG further requests that all AWWC or Kentucky-American unregulated activities[72] be conducted through a separate corporate entity and that any services that Kentucky-American provides be charged at no less than Kentucky-American's fully embedded cost.[73] In light of existing statutory restrictions on non-regulated utility transacations,[74] we find no need for this condition. We, however, continue to insist that AWWC and Kentucky-American retain separate books for each corporate entity operating within Kentucky and follow appropriate state cost allocation guidelines.[75]

The AG proposes that AWWC report to the Commission in writing on several aspects of its operations.[76] The Commission declines to accept these proposals. The requested information will be available through filings that AWWC must make to the SEC or easily obtained through the use of publicly available documents.

The AG also proposes that AWWC be required to appoint an agent in Kentucky for the limited purpose of accepting service of process of any enforcement action that

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[71] Our authority to order remedial action is independent of any condition to the proposed transfer of control. See KRS 278.280(1).

[72] The AG's reference to unregulated activities presumably refers to Kentucky-American's operation of non-public utilities. Kentucky-American has previously operated water treatment and production facilities for several Kentucky municipalities. These operations are not subject to Commission jurisdiction.

[73] Direct Testimony of Scott J. Rubin at 26.

[74] See KRS 278.2201-.2219.

[75] Appendix A, Condition No. 14.

[76] These proposals are virtually identical to Conditions No. 31 and No. 34 that we imposed in Case No. 2002-00317.

the Commission may bring and to consent to the personal jurisdiction of Franklin Circuit Court to hear and consider any legal action or proceeding that the Commission may bring against AWWC to enforce the provisions of this Order.

We find these proposals unworkable and unnecessary. Kentucky law makes no provisions for the appointment of an agent for the sole purpose of accepting service of process for a Commission enforcement action. As AWWC is a party to this proceeding and has sought relief from this Commission, it has already consented to the jurisdiction of the courts of this Commonwealth for any action to enforce the provisions of this Order.

MONITORING THE PROPOSED TRANSACTION

The AG urges the Commission to continue monitoring the proposed transaction until its completion to ensure that ratepayers "will not be harmed by a change in the transaction after any approval under this proceeding but subsequent to the actual implementation of the plan."[77] The Commission concurs with this proposal and has in this Order directed Joint Petitioners to submit monthly written reports on the progress of the proposed transaction and to file simultaneously with the Commission any documents that they file with the SEC in connection with the proposed transaction. These requirements will ensure that the Commission remains abreast of all developments and can take any necessary actions to protect Kentucky-American's ratepayers.

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[77] AG Post-Hearing Brief at 15.

RELEASE OF RWE AND THAMES GmbH FROM PRIOR CONDITIONS

Joint Petitioners have requested that RWE and Thames GmbH be released from all conditions set forth in our Orders of December 19, 2002 and January 21, 2003 in Case No. 2002-00317 in which we approved RWE and Thames GmbH's acquisition of indirect control over Kentucky-American. These conditions were intended to protect Kentucky-American ratepayers and the public interest. Upon the completion of the proposed transaction, at which time RWE and Thames GmbH will cease to hold any beneficial interest, direct or indirect, in any class of securities of AWWC, these conditions will no longer serve that purpose. At that time, RWE and Thames GmbH should be released from the conditions set forth in those Orders.

SUMMARY

Having considered the evidence of record and being otherwise sufficiently advised, the Commission finds that:

1. Kentucky-American owns and operates facilities that are used in the distribution of water to the public in Bourbon, Clark, Fayette, Gallatin, Grant, Harrison, Jessamine, Owen, Scott and Woodford counties and owns and operates facilities for the collection and treatment of sewage for the public in Clark and Owen counties. Kentucky-American is a utility subject to the Commission's jurisdiction.

2. AWWC owns and controls Kentucky-American.

3. TWAUSHI currently owns all of AWWC's common stock.

4. Thames GmbH currently owns all of TWAUSHI's common stock.

5. By virtue of its ownership of TWAUSHI, Thames GmbH possesses indirect control of Kentucky-American.

6. Joint Petitioners propose to merge TWAUSHI and AWWC and then to conduct a public offering of AWWC's common stock. Upon completion of the proposed transaction, Thames GmbH will possess less than 10 percent of AWWC's common stock and will no longer exercise direct control over AWWC or indirect control of Kentucky-American.

7. The proposed transaction will result in a transfer of indirect control of Kentucky-American and will require Commission approval.

8. The identities of those persons who will acquire AWWC's common stock are currently unknown and will not be known until completion of the public offering of AWWC common stock.

9. Upon completion of the public offering and transfer of AWWC's common stock, the management that currently manages AWWC and Kentucky-American will continue to be in place and will continue to manage those entities' day-to-day operations.

10. The current management has the managerial, technical and financial abilities to provide reasonable utility service.

11. As those persons who are acquiring AWWC common stock will continue to use AWWC's management immediately following the public offering, these persons will possess the managerial, technical and financial abilities to provide reasonable utility service.

12. The proposed transaction may have potentially adverse effects on the quality of service that Kentucky-American provides and will be consistent with the public interest only under the conditions set forth in Appendix A to this Order.

IT IS THEREFORE ORDERED that:

1. The transfer of control of Kentucky-American resulting from the merger of AWWC and TWAUSHI and the proposed public offering of AWWC common stock is approved, subject to the conditions set forth in Appendix A of this Order.

2. The proposed transfer of control shall not proceed unless, within 20 days of the date of this Order, the written acknowledgements on behalf of RWE, Thames GmbH, TWAUSHI, AWWC, and Kentucky-American by each entity's chief executive officer that these entities each accept and agree to be bound by the commitments set forth in Appendix A to this Order are filed with the Commission.

3. Within 10 days of the date of this Order, Joint Petitioners shall advise the Commission in writing of the following:

a. AWWC's total liability for pension and other post-retirement benefit plans as of December 31, 2002;

b. The fair value of AWWC's plan assets for pension and other post-retirement benefit plans as of December 31, 2001;

c. The percentage of AWWC's pension and other post-retirement benefit plans that was funded as of December 31, 2002;

d. AWWC's total liability for pension and other post-retirement benefit plans as of December 31, 2006;

e. The fair value of AWWC's plan assets for pension and other post-retirement benefit plans as of December 31, 2006;

f. The percentage of AWWC's pension and other post-retirement benefit plans that was funded as of December 31, 2006;

g. The amount of capital necessary to bring AWWC's plan assets for pension and other post-retirement benefit plans as of December 31, 2006 to the same percentage level of funding that existed for AWWC's plan assets and other post-retirement benefits as of December 31, 2002.

4. Within 10 days of the date of this Order, Joint Petitioners shall file with the Commission the financial statements of AWWC for the calendar years ending December 31, 2002 and December 31, 2006.

5. AWWC shall not impair Kentucky-American's capacity to meet its obligations to provide adequate, efficient, and reasonable utility service.

6. Kentucky-American is prohibited from guaranteeing the debt of RWE, Thames GmbH, TWAUSHI, AWWC, or any of their affiliates or subsidiaries without the prior approval of the Commission.

7. Joint Petitioners shall file with the Commission a copy of the final decision or order or other forms of regulatory notification regarding the proposed transfer of control that each state regulatory authority with jurisdiction over the proposed IPO of AWWC stock issues within 20 days of the issuance of such order or notification.

8. Kentucky-American shall include with its annual report to the Commission a report in table format that shows each water quality standard imposed by law, the number of water service interruptions, the average employee response time to water service interruptions, the number of customer complaints, and the customer inquiry response time for that year.

9. Kentucky-American shall report with its annual report to the Commission its actual expenditure levels for economic development activities and civic and charitable activities for the past calendar year.

10. AWWC and Kentucky-American shall comply with all reporting and filing requirements set forth herein. Unless otherwise noted, all quarterly reports shall be filed within 45 days of the close of the reporting quarter, and all annual reports shall be filed by March 31 of the year following the reporting period.

11. AWWC shall, at 6-month intervals, submit to the Commission written reports on the actual cumulative costs of the proposed IPO of AWWC common stock until all transaction costs have been incurred. These reports shall be for periods ending June 30 and December 31 and shall be submitted within 45 days of the end of the reporting period.

12. On the last day of each month following the issuance of this Order and continuing until the proposed transaction is completed, Joint Petitioners shall submit a written report of current status of the proposed transaction. This report shall, at a minimum, address Joint Petitioners' progress in obtaining the approval of all state utility regulatory commissions that must review the proposed transaction and the status of all filings with the SEC.

13. Should the Joint Petitioners receive any information or notice that a person or persons have purchased or otherwise acquired 10 percent or more of AWWC's common stock through the IPO, they shall advise the Commission in writing of this information or notice within 72 hours of its receipt.

14. Thames GmbH and AWWC shall in their agreements with all persons that are underwriting the IPO of AWWC common stock require that those persons report to AWWC and the Commission all instances in which a person or entity has acquired directly or indirectly 10 percent or more of AWWC stock through the IPO and to identify such persons or entities.

15. Joint Petitioners shall simultaneously with each filing made to the SEC in connection with the proposed transaction file with the Commission a copy of such filing.

16. At such time as RWE and Thames GmbH cease to have any beneficial interest, direct or indirect, in any class of securities of AWWC, all terms and conditions set forth in the Commission's Orders of December 19, 2002 and January 21, 2003 in Case No. 2002-00317 shall terminate.

17. Within 10 days of completion of RWE and Thames GmbH's transfer of all interests in AWWC, they shall notify the Commission is writing that such transfer has occurred.

Done at Frankfort, Kentucky, this 16th day of April, 2007.

By the Commission

ATTEST:

Executive Director

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 2006-00197 DATED April 16, 2007

The proposed IPO of AWWC common stock and the transfer of indirect control of Kentucky-American from TWAUSHI, Thames GmbH and RWE to unknown persons are approved upon the following conditions:

1. Kentucky-American's books and records will be maintained and housed in Kentucky.

2. AWWC and Kentucky-American will not assert in any judicial or administrative proceeding that the Commission lacks for rate-making purposes jurisdiction over Kentucky-American's capital structure, financing, and cost of capital.

3. Neither Kentucky-American nor its ratepayers, directly or indirectly, will incur any additional costs, liabilities, or obligations in conjunction with Thames GmbH and RWE's divesture of AWWC.

4. AWWC and Kentucky-American will obtain Commission approval prior to the transfer of any Kentucky-American asset with an original book value in excess of $1 million or real property or real estate with a net original book value in excess of $200,000.

5. The payment for redemption of AWWC's preferred stock will not be recorded on Kentucky-American's books.

6. RWE and Thames GmbH's divesture of AWWC will not affect the accounting and rate-making treatments of Kentucky-American's excess deferred income taxes.

7. No early termination costs, change in control payments, or retention bonuses paid to a Kentucky-American or AWWC employee as a result of the proposed transaction will be allocated to Kentucky-American or recovered from Kentucky-American's ratepayers.

8. Kentucky-American will not bear any costs incurred to comply with any law, regulation, standard, or practice of the United Kingdom, Federal Republic of Germany, or European Community necessary to complete the proposed transaction.

9. AWWC and Kentucky-American will not assert in any Commission proceeding that Commission review of the reasonableness of any cost has been or is preempted by any other governmental regulator.

10. The prospectus within the registration statement to be filed with the Commission in connection with the proposed transaction will include a clear statement that no person may acquire control of AWWC without obtaining necessary regulatory approvals pursuant to applicable state laws, including KRS 278.020.

11. Thames GmbH and AWWC will require in their agreements with the underwriters of the IPO of AWWC stock that the underwriters report to AWWC and the Commission all instances in which a person or entity has acquired directly or indirectly 10 percent or more of AWWC stock through the IPO and to identify such persons or entities.

12. RWE and/or Thames GmbH will infuse equity capital into AWWC prior to the proposed transaction sufficient to render AWWC's pension funding ratio on December 31, 2006 at the same level that existed on December 31, 2002.

13. For at least one year from the date of the IPO of AWWC stock, each of Kentucky-American's current corporate officers will continue in his or her current position and perform his or her current duties unless he or she requests reassignment or retirement, resigns on his or her own volition, is unable to continue to perform the duties of that position due to some physical, mental, or civil disability, or has engaged in some misconduct that requires his or her removal or reassignment.

14. For at least one year from the date of the IPO of AWWC stock, AWWC or Kentucky-American will notify the Commission in writing within 10 days of any changes in Kentucky-American's corporate officers and management personnel.

15. AWWC and Kentucky-American will retain separate books for each corporate entity operating within Kentucky and will follow state cost-allocation guidelines, as well as all applicable codes of conduct.

16. Kentucky-American's equity-to-capital ratio will be maintained between 35 to 45 percent. If the equity-to-capital ratio falls outside this range, AWWC and Kentucky-American will notify the Commission in writing within 30 days of this development and will submit to the Commission a detailed plan of action to return Kentucky-American's equity-to-capital ratio to this range.

17. AWWC and Kentucky-American will notify the Commission in writing within 30 days of any downgrading of the bonds of AWWC or any AWWC subsidiary and will include with such notice the complete report of the issuing bonding agency.

18. Kentucky-American will not be the employer or purchaser of last resort for employees, assets, and products associated with any failed or troubled AWWC affiliate or venture.

19. Kentucky-American's utility operations will be Kentucky-American's highest priority and will not be used to solely benefit non-utility affiliates.

20. If AWWC issues new debt or equity in excess of $100 million, it will notify the Commission in writing 30 days prior to such issuance.

21. Kentucky-American will file with its annual report to the Commission a report of its dividend payments and other funds transfers to AWWC. This report will list the date of each dividend payment or other funds transfer made to AWWC during the calendar year, the amount of each payment, and the amount of net income available at the time of each payment.

22. AWWC will semi-annually submit written reports to the Commission on the actual cumulative costs of the proposed divesture. The reports should be for reporting periods ending June 30 and December 31 and submitted within 45 days of the end of the reporting period.

23. Kentucky-American customers will experience no material adverse change in utility service due to the divesture.

24. Beginning for calendar year 2007 and for the next 5 years thereafter, Kentucky-American will include in its annual report to the Commission in table format a report that shows each water quality standard, the number of water service interruptions, the average employee response time to water service interruptions, the number of customer complaints, and the customer inquiry response time for that calendar year.

25. AWWC and Kentucky-American will adequately fund and maintain Kentucky-American's treatment, transmission, and distribution systems; comply with all

applicable Kentucky statutes and administrative regulations; and supply the service needs of Kentucky-American customers.

26. At least 30 days prior to any planned reduction of 5 percent or more in Kentucky-American's workforce, AWWC or Kentucky-American will notify the Commission in writing of the planned reduction and will include with such notice a written study of the reduction's expected effects on service and Kentucky-American's plan for maintaining service quality at the reduced workforce level.

27. AWWC will maintain Kentucky-American's levels of commitment to high quality utility service and will fully support maintaining Kentucky-American's record for service quality.

28. Kentucky-American will continue to protect and safeguard the condition of all of its watershed land holdings surrounding its reservoirs and well fields in Kentucky.

29. AWWC and Kentucky-American will actively support economic development and social and charitable activities throughout the areas in which Kentucky-American serves for as long as Kentucky-American continues to serve those areas.

30. Kentucky-American will maintain a substantial level of involvement in community activities, through annual charitable and other contributions, on a level comparable to or greater than the participation levels experienced prior to the date of the IPO of AWWC stock.

31. AWWC will maintain and support the relationship between Kentucky-American and the communities that it serves.

32. At least 40 percent of the members of Kentucky-American's Board of Directors will be persons who reside within the area that Kentucky-American serves and who are not employees or officers of AWWC or any AWWC affiliated entity.

33. AWWC will hold all of Kentucky-American's common stock and will not transfer any of that stock without prior Commission approval even if the transfer is pursuant to a corporate reorganization as defined in KRS 278.020(7)(b).

34. If any state regulatory commission imposes conditions on RWE, Thames GmbH, TWAUSHI, or AWWC as a condition for its approval of the proposed divesture and IPO of AWWC common stock and those conditions would benefit ratepayers in any other jurisdiction, proportionate net benefits and conditions will be extended to Kentucky-American ratepayers.

35. Kentucky-American will retain its current name and will continue as a corporation organized under Kentucky law.

36. Kentucky-American's headquarters will remain in Lexington, Kentucky.

37. AWWC and Kentucky-American will honor all existing Kentucky-American contracts, easements, or other agreements with local governments, and will negotiate with those local governments in good faith regarding the renewal of those agreements.

38. Kentucky-American will not, for at least one year from the date of the IPO of AWWC common stock, eliminate any non-management or union employee positions.

39. AWWC and Kentucky-American will maintain a sound and constructive relationship with those labor organizations that may represent certain AWWC or Kentucky-American employees, will remain neutral respecting an individual's right to choose to be a trade union member, will continue to recognize the unions that currently

have collective bargaining agreements with Kentucky-American, and will honor any agreements with those unions.

KENTUCKY-AMERICAN WATER COMPANY
Case No. 2015-00418
RATE BASE SUMMARY
AS OF APRIL 30, 2016

EXHIBIT 37, SCHEDULE B-1
Rate Base\[Exhibit 37 Schedules B1 - B8 8.31.2017.xlsx]Sch B-1
PAGE 1 OF 2
Witness Responsible L. Bridwell

DATA: _X_ BASE PERIOD ___ FORECASTED PERIOD
TYPE OF FILING: _X_ ORIGINAL __ UPDATED __ REVISED

Line No.	Rate Base Component	Supporting Schedule Reference	Base Period
1			
2	Utility Plant In Service	B-2	$648,948,902
3			
4	Property Held for Future Use	B-2.6	0
5			
6	Utility Plant Acquisition Adjustments		0
7			
8	Accumulated Depreciation	B-3	(142,044,393)
9			
10			
11			
12	Net Utility Plant In Service		506,904,509
13			
14			
15	Construction Work in Progress	B-4	23,768,036
16			
17	Working Capital Allowance	B-5/W/P - 1-13	3,946,000
18			
19	Other Working Capital Allowance	B-5 & W/P - 1-5	813,037
20			
21	Contributions in Aid of Construction	B-6	(58,104,260)
22			
23	Customer Advances	B-6	(13,644,640)
24			
25	Deferred Income Taxes	B-6	(73,841,186)
26			
27	Deferred Investment Tax Credits	B-6	(38,059)
28			
29	Deferred Maintenance	W/P-1-10	7,212,746
30			
31	Deferred Debits	W/P-1-11	1,407,974
32			
33	Other Rate Base Elements	W/P-1-12	1,229,349
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45	Jurisdictional Rate Base		$399,653,506

AG Hearing Exhibit No. 5

KENTUCKY-AMERICAN WATER COMPANY
Case No. 2018-00358
RATE BASE SUMMARY
Forecast Year at 6/30/2020

EXHIBIT 37, SCHEDULE B-1
Rate Base\[KAWC 2018 Rate Case - Exhibit 37 Schedules B1 - B8.xlsx]Sch B-1
PAGE 2 OF 2
Witness Responsible: Melissa Schwarzell

DATA: ___ BASE PERIOD _X_ FORECASTED PERIOD
TYPE OF FILING: _X_ ORIGINAL __ UPDATED __ REVISED

Line No.	Rate Base Component	Supporting Schedule Reference	End of Period Amount	13 Month Avg Forecasted Period Amount
1				
2	Utility Plant In Service	B-2	$810,058,267	$790,806,081
3				
4	Property Held for Future Use	B-2.6	0	0
5				
6	Utility Plant Acquisition Adjustments	WP - 1-14	212,912	225,195
7				
8	Accumulated Depreciation	B-3	(206,300,148)	(197,770,499)
9				
10				
11				
12	Net Utility Plant In Service		603,971,030	593,260,778
13				
14				
15	Construction Work in Progress	B-4	4,645,017	7,859,210
16				
17	Working Capital Allowance	B-5/W/P - 1-13	3,754,000	3,754,000
18				
19	Other Working Capital Allowance	B-5 & W/P - 1-5	807,789	807,789
20				
21	Contributions in Aid of Construction	B-6	(74,388,870)	(73,319,577)
22				
23	Customer Advances	B-6	(14,266,894)	(13,508,680)
24				
25	Deferred Income Taxes	B-6	(90,588,400)	(90,721,671)
26				
27	Deferred Investment Tax Credits	B-6	(6,175)	(10,001)
28				
29	Deferred Maintenance	W/P-1-10	12,345,613	11,816,493
30				
31	Deferred Debits	W/P-1-11	1,170,141	1,198,681
32				
33	Other Rate Base Elements	W/P-1-12	(14,660)	(14,660)
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45	Jurisdictional Rate Base		$447,428,590	$441,122,362

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES SUPPORTED BY A FULLY FORECASTED TEST YEAR	) CASE NO. 2012-00520

TABLE OF CONTENTS

AG EXH. NO 10

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES SUPPORTED BY A FULLY FORECASTED TEST YEAR	))))	CASE NO. 2012-00520

ORDER

Kentucky-American Water Company ("Kentucky-American") has applied to adjust its rates for water service to produce additional revenues of $12,317,702, or 15.05 percent, over forecasted operating revenues from existing water rates of $81,832,138.[1] By this Order, we establish rates that will produce an annual increase in revenues from water sales of $6,904,134, or 8.25 percent, over adjusted forecasted revenues from water sales of $83,642,642; deny Kentucky-American's request to establish a Distribution System Improvement Charge and a Purchased Power and Chemical Charge; and approve adjustments to Kentucky-American's nonrecurring charges.

BACKGROUND

Kentucky-American, a Kentucky corporation, owns and operates water production and distribution facilities that provide water service to 124,344 customers in Bourbon, Clark, Fayette, Gallatin, Grant, Harrison, Jessamine, Owen, Scott, and Woodford counties, Kentucky.[2] It provides wholesale water service to Harrison County

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[1] As required by KRS 278.192(2)(b), Kentucky-American submitted its base period update on May 15, 2013, to report the actual results for the base period months that were originally forecasted. This update contains corrections of certain errors and the "slippage" that result in a revised revenue increase of $12,068,431, or $249,271 below the originally proposed increase.

[2] *Annual Report of Kentucky-American Water Company to the Public Service Commission for the Calendar Year Ended December 31, 2012* at 5, 30.

Water Association, East Clark Water District, Peaks Mill Water District, Jessamine-South Elkhorn Water District, and the cities of Georgetown, Midway, North Middletown, Nicholasville, and Versailles.[3] It directly or indirectly provides potable water service to approximately 490,000 persons.[4] Kentucky-American last applied for a rate adjustment in 2010.[5]

Kentucky-American is currently organized into two divisions: Northern Division and Central Division. The Northern Division consists of all facilities located in Gallatin, Grant, and Owen counties, Kentucky. As of May 31, 2012, the Northern Division had approximately 3,862 customers.[6] Kentucky-American's remaining facilities compose the Central Division. The Central Division has approximately 120,500 customers.

PROCEDURE

On November 29, 2012, Kentucky-American notified the Commission in writing of its intent to apply for an adjustment of rates using a forecasted test period. On December 28, 2012, it submitted its application. The Commission established this docket and permitted the following parties to intervene in this matter: the Attorney General of Kentucky ("AG"), Lexington-Fayette Urban County Government ("LFUCG"), and Community Action Council for Lexington-Fayette, Bourbon, Harrison, and Nicholas Counties, Inc. ("CAC").

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[3] *Id.* at 33.

[4] *See* http://www.amwater.com/kyaw/about-us/ (last visited Oct. 20, 2013).

[5] Case No. 2010-00036, *Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year* (Ky. PSC Dec. 14, 2010).

[6] Case No. 2012-00096, *Application of Kentucky-American Water Company for a Certificate of Public Convenience and Necessity Authorizing Construction of the Northern Division Connection*, Kentucky-American's Response to Commission Staff's First Request for Information, Item 33 (filed July 23, 2012).

On January 22, 2013, the Commission suspended the operation of the proposed rates for six months and established a procedural schedule for this proceeding. Following discovery, the Commission held an evidentiary hearing in this matter on June 4-5, 2013, in Frankfort, Kentucky.[7] We also conducted a public meeting in Lexington, Kentucky, on May 28, 2013 to receive public comment on the proposed rate adjustment. All parties submitted written briefs following the conclusion of the evidentiary hearing.

On July 26, 2013, Kentucky-American notified the Commission of its intent to place the proposed rates into effect for service rendered on and after July 27, 2013. In response, we directed Kentucky-American to maintain appropriate records of its billing to permit any necessary refunds.

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[7] The following persons testified at the evidentiary hearing: Cheryl Norton, President, Kentucky-American; Keith Cartier, Vice President of Operations, Kentucky-American; Scott Rungren, Financial Analyst, American Water Works Service Company, Central Division; Melissa Schwarzell, Financial Analyst, American Water Works Service Company, Central Division; Linda C. Bridwell, Manager Rates and Regulation for Kentucky and Tennessee, American Water Works Service Company; Gary VerDouw, Director of Rates, American Water Works Service Company, Central Division; Carl Meyers, Director of Income Tax, American Water Works Company; David Baker, Vice President, American Water Works, North East Division, and President, New Jersey-American Water Company; Paul R. Herbert, President, Valuation and Rate Division, Gannett Fleming, Inc.; Stephen M. Rackers, Consultant, Brubaker and Associates, Inc.; Brian Kalcic, Principal, Excel Consulting; William O'Mara, Commissioner of Finance, LFUCG; and Jack E. Burch, Executive Director, CAC. The following persons submitted written testimony but did not appear at the evidentiary hearing: Lance Williams, Director of Engineering for Kentucky and Tennessee, American Water Works Service Company; Lewis Keathley, Financial Analyst, American Water Works Service Company, Central Division; Jermaine Bates, Rates Analyst, American Water Works Service Company, Central Division; James H. Vander Weide, Professor of Finance and Economics, Duke University; and J. Randall Woolridge, Professor of Finance, Pennsylvania State University. After the hearing, Witnesses Meyers, Vander Weide, and Woolridge responded to written questions from Commission Staff.

ANALYSIS AND DETERMINATION

Test Period

Kentucky-American uses as its forecasted test period the 12-month period ending July 31, 2014.[8] Its base period is the 12-month period ending March 31, 2013.[9]

Rate Base

Kentucky-American proposes a forecasted net investment rate base of $385,994,706.[10] The Commission accepts this forecasted rate base with the following exceptions:

Utility Plant in Service ("UPIS"). Kentucky-American uses capital construction budgets to determine its forecasted UPIS amount of $627,540,378.[11] Kentucky-American separates its construction budgets into three categories: normal recurring construction, construction projects funded by others,[12] and major investment projects.

In prior rate proceedings, the Commission has adjusted forecasted UPIS to reflect 10-year historical trend percentages of actual-to-budgeted construction

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[8] Application ¶ 7.

[9] *Id.* ¶ 8.

[10] *Id.* Ex. 37, Sch. B-1 at 2.

[11] *Id.*

[12] Contributions in Aid of Construction or Customer Advances, which are forms of cost-free capital, fund these projects.

spending.[13] In support of our action, we have noted the imprecision of the budgeting process:

> Budgeting being an inexact science, it is imperative that the historical relationship between the budgets and actual results be reviewed to determine what projects Kentucky-American is likely to have in service or under construction in the forecasted period. A forecasted period does not preclude the examination of historic data and trends but, rather, compels their examination to test the historic to forecasted relationships. Nor will an adjustment based on the historical slippage factor have a devastating impact on Kentucky-American's earning potential. Such an adjustment will have a minimal impact on revenue requirements by eliminating a return on utility plant not in service during the forecasted period due to delayed investment.[14]

These "slippage factors" thus serve as an indicator of Kentucky-American's accuracy in predicting the cost of its utility plant additions and the time period during which new plant will be placed into service.

Kentucky-American did not propose a slippage factor adjustment to its forecasted construction budget in its application. In its base period update, however, it revised its revenue requirement to reflect the effect of a slippage adjustment on its forecast.[15] Applying a slippage factor for normal recurring construction and major investment projects of 122.14 percent and 82.25 percent respectively to its capital construction

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[13] *See, e.g.*, Case No. 92-452, *Notice of Adjustment of Rates of Kentucky-American Water Company* (Ky. PSC Nov. 19, 1993) at 9 - 11; Case No. 95-554, *The Application of Kentucky-American Water Company to Increase Its Rates* (Ky. PSC Sep. 11, 1996) at 2 - 3; Case No. 97-034, *The Application of Kentucky-American Water Company to Increase Its Rates* (Ky. PSC Sep. 30, 1997) at 3 - 7; Case No. 2000-120, *The Application of Kentucky-American Water Company to Increase Its Rates* (Ky. PSC Nov. 27, 2000) at 2 - 4; Case No. 2004-00103, *Adjustment of the Rates of Kentucky-American Water Company* (Ky. PSC Feb. 28, 2005) at 3 - 4; and Case No. 2010-00036, Order of Dec. 14, 2010 at 4 - 7.

[14] Case No. 92-452, Order of Nov. 19, 1993 at 9.

[15] Rebuttal Testimony of Linda C. Bridwell at 2; Base Period Update-Revised Ex. 37, Sch. B-2 at 2 (filed May 25, 2013).

budgets,[16] Kentucky-American calculated its forecasted UPIS to be $629,839,138, or $2,298,760 greater than the original forecasted UPIS of $627,540,378.[17] In support of its use of a slippage adjustment above 100 percent, Kentucky-American refers to two prior Commission decisions in which we allowed such reverse slippage adjustments.[18]

Although initially opposing the use of a reverse slippage adjustment,[19] the AG subsequently reversed his position and now supports Kentucky-American's proposed adjustment. While having "qualms about the use of a slippage factor mechanism to increase the Company's revenue requirement,"[20] the AG states that the slippage factor served as "an effective regulatory device to correct . . . [Kentucky-American's] former

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[16] For the comparison of actual-to-budgeted construction spending for the 10-year period ending December 31, 2011, see Kentucky-American's Response to Commission Staff's First Request for Information, Item 11(a) (filed January 23, 2013). In its second discovery request, Commission Staff calculated the slippage factors and requested that Kentucky-American apply those factors to all monthly Recurring Capital Expenditure Projects expenditures beginning December 2009 through the end of the forecasted test period. *See* Commission Staff's Second Request for Information, Item 41 (filed Feb. 6, 2013).

[17] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 41, Schedule B-1 at 2.

[18] Case No. 2010-00036, Order of Dec. 14, 2010; Case No. 2005-00042, *An Adjustment of the Gas Rates of the Union Light, Heat and Power Company* (Ky. PSC Dec. 22, 2005).

[19] *See* AG's Response to Commission Staff's Request for Information, Item 26 (filed May 1, 2013) ("The Attorney General does not agree with or support the use of an adjustment consequent to a pattern of underbudgeting. It removes an incentive for KAW [Kentucky-American] to accurately budget and properly implement its capital construction program."). In response to a discovery request, AG witness Stephen M. Rackers states:

> KAWC is in possession of all the information regarding its operations, including the budgeting function and construction program. KAWC also controls the timing and completion of the various construction projects. As a result the risk of including the proper level of forecasted plant should be borne by KAWC.
>
> Therefore, the ratepayer protection of a slippage adjustment should not also serve as a mechanism to increase revenue requirement due to potential under budgeting. The incentive for KAWC to control cost is also diminished by allowing a slippage adjustment to increase forecasted construction.

AG's Response to Commission Staff's Request for Information, Item 28.

[20] AG Brief at 4.

'pervasive pattern of overbudgeting for its construction.'"[21] He noted that it "protects ratepayers from overbudgeting and also properly serves to provide the utility with a measure of protection (and risk management)."[22]

We find that a reverse slippage factor adjustment in this proceeding is appropriate and consistent with our prior holdings. In Case No. 2010-00036, we noted that the purpose of the slippage factor "is to produce a more accurate, reasonable, and reliable level of forecasted construction."[23] The application of slippage factors in this proceeding is consistent with that purpose. Accordingly, we find that Kentucky-American's forecasted UPIS should be increased by $2,298,760 to reflect the application of slippage factors for normal recurring construction and major investment projects of 122.14 percent and 82.25 percent respectively.

Business Transformation ("BT") Program. American Water Works Company[24] ("AWWC"), Kentucky-American's parent corporation, is developing and deploying several new, integrated information technology systems to manage the following core functional areas of AWWC and its subsidiaries: human resources, finance and accounting, purchasing and inventory management, capital planning, and customer and field services.[25] The project, which AWWC has named the "Business Transformation"

[21] *Id.*

[22] *Id.* at 5.

[23] *See* Order of Dec. 14, 2010 at 7.

[24] AWWC, a Delaware corporation, is the largest, investor-owned water and wastewater utility company in the United States. Its 15 regulated subsidiaries currently provide water and wastewater services in 16 states. AWWC currently owns all outstanding shares of Kentucky-American stock. *See* http://www.amwater.com/About-Us/our-subsidiaries.html (last visited Oct. 23, 2013).

[25] Direct Testimony of Gary M. VerDouw at 36 - 37.

("BT") Program, is intended to replace legacy information technology systems, promote greater efficiency, improve customer service, and increase employee effectiveness.[26]

AWWC estimates the BT Program's total cost to be $320.3 million.[27] It intends to allocate this cost to each of its regulated utilities based on the percentage of their customer counts to the overall AWWC regulated utility customer count.[28] This method of allocation is consistent with the terms of the 1989 agreement between American Water Works Service Company and Kentucky-American.[29] AWWC projects an allocation of $12,290,381 of total BT Program costs to Kentucky-American. According to Kentucky-American Witness Gary VerDouw, this cost "equates to a cost of just over $100 per Kentucky American customer, or approximately $10 per year per customer based on the anticipated life of ten years for the BT assets."[30] AWWC will have billed Kentucky-American for its share of BT Program costs to Kentucky-American by 2014.[31] Approximately $11,027,990 of Kentucky-American's forecasted UPIS is attributable to BT Program assets.[32]

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[26] *Id.* at 36.

[27] *Id.* at 37.

[28] *Id.* at 37, 46 - 47.

[29] Agreement between American Water Works Service Co. and Kentucky-American Water Company ("Service Agreement") (Jan. 1, 1989) (available at Kentucky-American's Response to Commission Staff's First Request for Information, Item 32). ¶ 2.4 provides: "All costs incurred in rendering services to Water Company in common with similar services to other Water Companies which cannot be identified and related exclusively to services rendered to a particular Water Company, shall be allocated among all water Companies so served, or, in the case of costs incurred with respect to a particular group of Water Companies, among the members of such group, based on the number of customers served at the immediately preceding calendar year end."

[30] Direct Testimony of Gary M. VerDouw at 37. Kentucky-American indicated that BT Program assets have a ten-year useful life and should be depreciated over a ten-year period. *Id.* at 50 - 51.

[31] *Id.* Ex. BT-1 at 1.

[32] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 41 at 122.

The BT Program consists of three information systems: Enterprise Resource Planning; Enterprise Asset Management; and Customer Information System. AWWC deployed the Enterprise Resource Planning system in August 2012.[33] Deployment of the remaining systems began in 2013.[34]

LFUCG opposes inclusion of the BT Program assets into Kentucky-American's rate base for ratemaking purposes.[35] It argues that Kentucky-American has failed to meet its burden of proof that the program is reasonable. More specifically, it notes the absence of any Kentucky-American specific study regarding the program and the lack of any study of possible alternatives to the BT Program.[36]

Our review of the evidence indicates sufficient evidence to support inclusion of the BT Program costs into UPIS. The evidence of record indicates that Kentucky-American's information infrastructure was approaching the end of its useful life and a need to replace the system existed. Most of Kentucky-American's information system had been in service since the 1990s or the early part of the last decade.[37] These systems were not integrated and had limited functionality. They could not perform many of the customer-service technology functions that the public has come to expect.[38]

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[33] *Id.* at 43.

[34] *Id.*

[35] In his brief, the AG took no position on the BT program. In response to discovery requests, AG Witness Rackers stated that without a cost-benefit analysis study that considered whether Kentucky-American could have developed or purchased its own system that met its needs and cost less than $12 million, no determination could be made regarding the reasonableness of the BT Program costs. AG's Response to Commission Staff's Request for Information, Item 20.

[36] LFUCG Brief at 5.

[37] Direct Testimony of Gary M. VerDouw at 38; Kentucky-American's Response to Commission Staff's Third Request for Information, Item 25.

[38] These services include internet billing, appointments for repair calls, self-service inquiry and ordering capabilities, and secure transfer of personal information.

Some supporting software for these systems was no longer available. Moreover, while the lives of some systems could be extended through system customizations, numerous customizations would be required and would be expensive.[39]

The record further indicates that a reasonable and thorough review process was used to determine the needs of AWWC's utilities and to procure the information technology systems. AWWC performed a comprehensive study of its needs.[40] It used a competitive bidding and evaluation process to select its information systems and system integrator. AWWC conducted "extensive analyses of potential service providers, used competitive bidding processes to select key service providers and negotiated 'not to exceed' fixed fee arrangements to ensure effective cost control."[41] Throughout the process it solicited and received comments and input from these corporate stakeholders, including Kentucky-American officials.[42]

BT Program costs compare favorably to similar-sized customer-service information system projects that other utilities in this state have undertaken. The cost of the customer service portion of Kentucky-American's BT Program is approximately $30 per customer.[43] In contrast, Louisville Water Company recently installed a customer-care information system at a cost of $92 per customer. Louisville Gas and Electric

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[39] Direct Testimony of Gary M. VerDouw at 39 - 40.

[40] AWWC, *American Water Information Technology Infrastructure Comprehensive Planning Study Report* ("*Comprehensive Planning Study Report*") (Voorhees, N.J. Apr. 13, 2010) (available at Kentucky-American's Response to AG's First Request for Information, Item 168).

[41] Kentucky-American's Response to Commission Staff's Third Request for Information, Item 25.

[42] Rebuttal Testimony of Gary M. Verdouw at 3 - 4.

[43] The total cost of BT Program, not merely the customer-service technology portion, is approximately $100 per customer. *See supra* note 30 and accompanying text.

Company and Kentucky Utilities Company jointly installed a customer-care and billing-information system project whose cost is roughly $68 per customer.[44]

While the record does not indicate any Kentucky-specific analysis of the BT Program, Kentucky-American has identified several benefits that will inure to its customers as a result of the BT Program. These include:

> (1) Optimizing material availability to field personnel, which will enhance the quality and timeliness of field service; (2) increasing efficiencies in recruiting process to minimize work gaps and ensure continuity of service for customers; (3) improving asset reliability and fewer unexpected outages by optimizing reliability-centered maintenance programs; (4) proactively communicating to customers through automated phone messages about incidents in their area; (5) improving employee dispatch, thereby enhancing customer solutions and response times; (6) greater first contact resolution as a result of automation in the bill correction process and redirected resources providing the opportunity to resolve customer requests in a timely manner; (7) opportunities for enhanced bill presentment options; (8) ability to introduce tools that would assist customers in resolving debt issues and eliminate manually intensive collection processes; (9) improving scheduling between field service representatives and customers; and (10) the ability to track service orders that will allow customers to monitor the progress online.[45]

It has also provided evidence of the alternatives that were considered and a reasonable basis for its rejection of those alternatives.[46]

We find that Kentucky-American has adequately demonstrated that the BT Program was necessary for Kentucky-American to meet its service obligations; BT Program assets are currently in use to serve Kentucky-American customers; and, BT

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[44] VR 06052013; 15:13:17 - 15:15:37.

[45] Kentucky-American Brief at 56; *Comprehensive Planning Study Report* at 37 - 39.

[46] *See* Rebuttal Testimony of Gary M. Verdouw at 4 - 5, *Comprehensive Planning Study Report* at 56 - 57.

Program costs were not unreasonable or excessive. Accordingly, we deny LFUCG's proposed adjustment to remove BT Program assets from UPIS.[47]

Accumulated Depreciation. Kentucky-American uses a 13-month average of its accumulated depreciation balances for the period from July 1, 2013, through July 31, 2014, to arrive at forecasted accumulated depreciation of $136,601,885.[48] The Commission finds that forecasted accumulated depreciation should be increased by $31,332 to reflect the effect of construction slippages, which results in an adjusted balance of $136,633,217.[49]

Construction Work in Progress ("CWIP"). Kentucky-American uses capital construction budgets for the period from July 1, 2013, through July 31, 2014, to calculate forecasted CWIP of $6,851,268.[50] The Commission finds that Kentucky-American's forecasted CWIP should be decreased by $554,089 for an adjusted balance of $6,297,179 to reflect the effect of construction slippages.[51]

Working Capital. In its application, Kentucky-American includes a cash working capital allowance of $3,946,000 in its forecasted rate base.[52] It subsequently revised its

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[47] As Kentucky-American has demonstrated BT Program's benefits and costs, our decision in this case is easily distinguishable from other proceedings in which applicants have failed to make such showing. *See, e.g.*, Case No. 2008-00563, *Application of Water Service Corporation of Kentucky for an Adjustment of Rates* (Ky. PSC Nov. 9, 2009).

[48] Application, Ex. 37, Sch. B-1, at 2.

[49] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 41 at 38.

[50] Application Ex. 37, Sch. B-4.1 at 2.

[51] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 41 at 38.

[52] Application Ex. 37, Sch. B-5.2 at 4.

calculation of cash working capital to remove federal income tax from net income[53] and reflect the effects of slippage.[54] These revisions reduce cash working capital by $854,000 to $3,092,000.[55] Kentucky-American used a lead/lag study that employs the methodology approved in prior Kentucky-American rate proceedings to calculate cash working capital allowance and includes non-cash expenses and common equity profits.

The AG proposes the removal of a working capital component from the rate base.[56] Although conceding that working capital is necessary to recognize the lag between the collection of funds from the ratepayers to pay for the cash expenses that are necessary to fund Kentucky-American's daily operations, the AG argues that non-cash expenses and common equity profits should not be considered in the calculation of working capital, since these items are not cash expenses necessary to fund daily operations.[57] He further argues that, if these items are not considered, the revenue requirement associated with working capital is immaterial and should not be considered.[58]

Opposing this proposal, Kentucky-American notes the Commission has consistently rejected the AG's position in numerous proceedings over the last 20 years.[59] It argues that the proposal should be rejected in light of the Commission's

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[53] Rebuttal Testimony of Linda C. Bridwell at 2.

[54] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 41 at 38.

[55] Base Period Update Filing, Ex. 37, Sch. B-5.2 at 4.

[56] Direct Testimony of Stephen M. Rackers at 19.

[57] *Id.* at 15; AG Brief at 13.

[58] Direct Testimony of Stephen M. Rackers at 15.

[59] Kentucky-American Brief at 9 - 11.

longstanding precedent and in the absence of any new argument or support for the AG's position.

Kentucky-American's lead/lag study uses the methodology that the Commission has generally accepted since 1983.[60] Our review of past Kentucky-American rate adjustment proceedings indicates that the AG has consistently presented, and the Commission has consistently refused to adopt, his argument regarding working capital.[61] The AG has offered no new evidence or argument in the current proceeding to disturb our previous findings or to require a change in the Commission's position on this matter. We find his proposal regarding cash working capital should be denied.

After applying all reasonable and necessary adjustments to Kentucky-American's forecasted working capital calculation, the Commission finds the appropriate working capital allowance to be $2,406,000, a decrease of $1,540,000 to Kentucky-American's forecasted level of $3,946,000.

<u>Contributions in Aid of Construction ("CIAC")</u>.[62] In its application, Kentucky-American includes CIAC of $52,238,690[63] as a reduction to rate base. We find that this

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[60] Case No. 8314, *Notice of Adjustment of Rates of Kentucky-American Water Company* (Ky. PSC Feb. 8, 1982) at 6.

[61] *See, e.g.*, Case No. 10069, *Notice of Adjustment of the Rates of Kentucky-American Water Company* (Ky. PSC July 31, 1996) at 6 – 8; Case No. 92-452, *Notice of Adjustment of the Rates of Kentucky-American Water Company* (Ky. PSC Nov. 19, 1993) at 17 – 21; Case No. 95-554, *Notice of Adjustment of the Rates of Kentucky-American Water Company* (Ky. PSC Sept. 11, 1996) at 21 – 24; Case No. 97-034, *Notice of Adjustment of the Rates of Kentucky-American Water Company* (Ky. PSC Sept. 30, 1997) at 25 – 28; Case No. 2004-00103, *Adjustment of the Rates of Kentucky-American Water Company* (Ky. PSC Feb. 28, 2005) at 17.

[62] For a definition of CIAC, see Direct Testimony of Linda C. Bridwell at 28 ("a reduction in rate base that recognizes the value of mains, meters, services or hydrants that are paid for by a third party and thus are not an investment by KAW [Kentucky-American], but fully owned and maintained by the Company."

[63] Application Ex. 37, Sch. B-1 at 2.

amount should be increased by $813,001, to $53,051,691, to reflect the effects of construction slippage.[64]

Customer Advances.[65] In its application, Kentucky-American identifies customer advances as $13,997,843.[66] The Commission finds that customer advances should be increased by $179,147 to $14,176,990, to reflect the effects of construction slippage.[67]

Deferred Maintenance. Kentucky-American incurs maintenance expenses (e.g., tank and hydrator painting and repairs, station cleaning) for which the Commission has historically allowed deferred accounting treatment. With such expenses, Kentucky-American is permitted annual recovery of allowed amortization expense. The unamortized balance of these expenses is generally included in rate base.

In its application, Kentucky-American proposes the inclusion of $4,644,233 of deferred maintenance in its rate base.[68] The allowed amounts are based on actual costs from historical periods and forecasted costs. Among the forecasted maintenance projects whose costs will be deferred are six new tank paintings.[69] The Commission finds that Kentucky-American's forecasted deferred maintenance of $4,644,233 is reasonable and should be allowed in rate base.

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[64] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 41 at 38.

[65] For a definition of Customer Advances, see Direct Testimony of Linda C. Bridwell at 27 ("a reduction to rate base to recognize money collected for new mains that are held in an account and refunded to the original customer as new customers tap onto a main").

[66] Application Ex. 37, Sch. B-1 at 2.

[67] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 41 at 38.

[68] Application Ex. 37, Sch. B-1 at 2.

[69] Direct Testimony of Linda C. Bridwell at 29.

Deferred Taxes. In its application, Kentucky-American reduces rate base by accumulated deferred income tax of $57,007,044.[70] In its base period update, Kentucky-American revises forecasted deferred income taxes upward by $446,815 to $57,453,859 to reflect the effect of construction slippages.[71] Included in deferred income taxes are items approved in prior rate cases: UPIS, deferred maintenance, and deferred debits.[72] Kentucky-American's calculations are consistent with Statement of Financial Accounting Standards ("SFAS") 109 – Accounting For Income Taxes,[73] a methodology that the Commission has previously accepted.[74]

In its calculation of deferred income taxes, Kentucky-American has taken into account a potentially adverse ruling from the Internal Revenue Service ("IRS") on certain accounting practices. On December 31, 2008, Kentucky-American, as a member of a consolidated group of American Water Works Company ("AWWC") subsidiaries, requested authorization from the IRS to change its accounting method for recording repairs and maintenance. Instead of capitalizing repairs and maintenance costs, the members of the consolidated group sought to deduct these costs in the current tax year. In February 2010, the IRS approved the request and Kentucky-American recognized a tax deduction for costs that previously were capitalized for tax

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[70] Application Ex. 37, Sch. B-6 at 2.

[71] Base Period Update-Revised Ex. 37, Sch. B-6 at 2; Kentucky-American's Response to Commission Staff's Second Request for Information, Item 41 at 83.

[72] Direct Testimony of Scott W. Rungren at 14.

[73] SFAS 109 is "a balance sheet approach to deferred income taxes that requires the deferred income tax provision be shown in total, but also recognizes the regulatory assets and liabilities that will be recovered in rates in future years." *Id.* at 15.

[74] *See, e.g.*, Case No. 2010-00036, Order of Dec. 14, 2010 at 16 – 17.

purposes.[75] The members of the consolidated group, however, believe that the IRS ruling fails to address a critical component of the deduction calculation, that this failure creates uncertainty regarding the deduction, and that they are potentially subject to additional tax liability.

Kentucky-American maintains that, in light of this uncertainty, Financial Accounting Standards Board Interpretation No. 48 ("FIN 48") requires the creation of a liability account to record the amount of deferred taxes that the IRS would likely deny. FIN 48 provides that "[a]n enterprise shall initially recognize the financial statement effects of a tax position when it is more likely than not, based on the technical merits, that the position will be sustained upon examination."[76] Kentucky-American notes that its experience is common among many utilities and that many of these utilities have taken the same action as Kentucky-American.[77] The FIN 48 liability reduces Kentucky-American's deferred tax liability and thus increases Kentucky-American's rate base.[78]

Kentucky-American began booking the FIN 48 liability in 2009. As of the end of the forecasted test period, Kentucky-American will have booked $3,922,247 to this liability account.[79]

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[75] Price Waterhouse Coopers, *Kentucky-American Water Co. Financial Statements as of and for the years ended December 31, 2008 and December 31, 2009* (Mar. 25, 2010) at 17 - 18, available at Case No. 2010-00036, Kentucky-American's Response to the AG's Second Request for Information, Item 85 at 20-21 (filed May 24, 2010).

[76] FASB Interpretation No. 48, Accounting for Uncertainty in Income Taxes (June 2006) ¶ 6.

[77] VR 06/04/2013; 16:18:30 - 16:18:50.

[78] *Id.* Item 13(b). AG Witness Stephen M. Rackers testified that the FIN 48 account increases Kentucky-American's revenue requirement by approximately $400,000. Direct Testimony of Stephen M. Rackers at 2.

[79] Kentucky-American's Response to AG's Second Request for Information, Item 13(a). For a year-by-year listing of Kentucky-American's FIN 48 liability level, see Kentucky-American's Responses to Hearing Data Requests, Item 11 (filed June 20, 2013).

This case is not the first occasion in which the Commission has examined the reasonableness of Kentucky-American's establishment of the FIN 48 liability account. In Case No. 2010-00036 in which we approved Kentucky-American's accounting treatment, we stated:

> Kentucky-American determined that some uncertainty exists regarding the legality of the deduction related to the change in accounting methods. No party challenges the reasonableness of this determination or the appropriateness of establishing a reserve in the event of an adverse IRS ruling. Kentucky-American's action, moreover, is consistent with FIN 48. If the IRS ultimately allows the deduction or the statute of limitations expires without a challenge to the deduction, ratepayers and shareholders will benefit from the tax deferral. If the IRS disallows Kentucky-American's deduction, Kentucky-American has stated that it will not seek recovery for interest and penalties imposed by the IRS and the ratepayers will not be negatively affected.[80]

In the same Order, we rejected the AG's proposals that the Commission (1) increase Kentucky-American's accumulated deferred income taxes by the FIN 48 liability and recognize the benefit with an interest amount for the FIN 48 reserve that is recorded above the line; or (2) require Kentucky-American to record the interest below the line in tandem with the creation of a regulatory asset.

In the present proceeding, the AG urges the Commission to reconsider that decision. AG Witness Rackers recommends that Kentucky-American's accumulated deferred income taxes be increased by the FIN 48 liability and, should Kentucky-American receive an adverse ruling from the IRS, it be permitted to recover any interest payments from ratepayers.[81] In the alternative, he recommends that the FIN 48 liability be excluded from accumulated deferred income tax, that the future potential annual

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[80] Case No. 2010-00036, Order of Dec. 14, 2010 at 20.

[81] Testimony of Stephen M. Rackers at 6.

interest cost associated with the FIN 48 reserves be included in the cost of service in this case, and that a true-up and any recovery or refund of interest costs be performed in subsequent rate case proceeding.[82]

Our review of the record does not indicate any significant change since our decision in Case No. 2010-00036. The IRS has yet to provide definitive guidance, and therefore, the uncertainty related to the deductions still exists. No party in this proceeding has challenged the reasonableness of the establishment of the FIN 48 reserve.[83] Ratepayers will benefit if the IRS allows the deductions or the statute of limitations expires. Kentucky-American continues to represent that it will not seek rate recovery of the interest from its ratepayers if the IRS disallows a portion of the deduction.[84] The AG has offered no new argument or reasoning to support of his position.

Given the lack of any significant change and the absence of any new argument in this matter, we decline to depart from the position that we established in Case No. 2010-00036 and we find that accumulated deferred income taxes should be $57,007,044.

Deferred Debits. In its application, Kentucky-American requests that rate base be increased by $1,536,404 to include the unamortized balance of the deferred debits.[85] The Commission finds that this level is reasonable and should be allowed in rate base.

Other Rate Base Elements. In Case No. 2004-00103, the Commission reduced rate base for contract retentions, unclaimed extension deposit refunds, retirement work

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[82] *Id.* at 7.

[83] *See, e.g.*, Testimony of Stephen M. Rackers at 4.

[84] Kentucky-American Brief at 14.

[85] Application Ex. 37, Sch. B-1 at 2; Direct Testimony of Linda C. Bridwell at 30.

in progress, deferred compensation and accrued pensions.[86] Kentucky-American calculates a rate base increase of $650,081, consistent with the Commission's decision in that case. The Commission finds that Kentucky-American's calculation of other rate base elements is accurate and increases Kentucky-American's rate base by $650,081.

Summary. Based on the adjustments discussed above, the Commission has determined the company's net investment rate base to be as shown in Table I.

Table I

Rate Base Component	Application Forecasted 13-Month Average Rate Base	Commission's Adjustments	Commission Forecasted 13-Month Average Rate Base
Utility Plant at Original Cost	$ 627,540,378	$ 2,298,760	$ 629,839,138
Accumulated Depreciation	(136,601,885)	(31,332)	(136,633,217)
Net Utility Plant in Service	490,938,493	2,267,428	493,205,921
CWIP	6,851,268	(554,089)	6,297,179
Working Capital Allowance	3,946,000	(1,540,000)	2,406,000
Other Working Capital	727,081		727,081
CIAC	(52,238,690)	(813,001)	(53,051,691)
Customer Advances	(13,997,843)	(179,147)	(14,176,990)
Deferred Income Taxes	(57,007,044)	(446,815)	(57,453,859)
Deferred Investment Tax Credits	(55,276)		(55,276)
Deferred Maintenance	4,644,233		4,644,233
Deferred Debits	1,536,404		1,536,404
Other Rate Base Elements	650,081		650,081
Net Original Cost Rate Base	$ 385,994,707	$ (1,265,624)	$ 384,729,083

Income Statement

For the base period, Kentucky-American reports operating revenues and expenses of $87,282,760 and $60,961,773, respectively.[87] It proposes several adjustments to revenues and expenses to reflect the anticipated operating conditions during the forecasted period, resulting in forecasted operating revenues and expenses

[86] Case No. 2004-00103, Order of Feb. 28, 2005 at 38.

[87] Application Ex. 37, Sch. C-1.

of $84,157,833 and $59,977,919, respectively.[88] The Commission accepts Kentucky-American's forecasted operating revenues and expenses with the following exceptions:

Water Revenues. Kentucky-American proposes to decrease its base period water revenues of $84,830,506 by $2,998,368 to $81,832,138. Kentucky-American's billing analysis reflects the actual billing determinants for the base period. Kentucky-American has adjusted these determinants to include customer growth through the forecasted test year and adjusted residential, commercial and Other Public Authority classes for declining usage trends for the forecasted test year.[89]

- Change in Revenue Normalization Method. Kentucky-American proposes an adjustment to normalized usage for residential, commercial and Other Public Authority ("OPA") customers. It has modified the methodology that it previously used to calculate this adjustment. In prior cases, it used a statistical weather normalization model that was based upon actual and historical meteorological data and other known predictor variables to predict customer use or sales levels. In the present case, Kentucky-American has employed a usage-normalization approach.

Under the usage-normalization approach, Kentucky-American calculated customer base usage by reviewing monthly water sales during the winter months (December through April) for each year in the period from 2003 to 2012.[90] Due to the low amount of outdoor water usage in these months, Kentucky-American regards these months as reflecting base, non-discretionary usage.[91] Studying the usage in these

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[88] *Id.*

[89] Testimony of Linda C. Bridwell at 7.

[90] *Id.* at 34.

[91] *Id.*

months, Kentucky-American Witness Linda Bridwell testified, allowed the utility to see the underlying trends in base usage.[92]

To calculate usage per customer, Kentucky-American performed a four-step calculation. First, it recorded monthly sales data and then divided monthly sales by the number of customers to yield an average usage per customer. Next, Kentucky-American calculated winter consumption for residential and OPA customers, expressed in gallons per customer per month, for each year during the period. For commercial customers, Kentucky-American made this calculation only for the period from 2008 to 2012. Next, Kentucky-American created a "best-fit" linear regression trend line using the ten-year winter usage data for residential and OPA customers and the five-year winter usage data for commercial customers. Finally, it calculated the portion of consumption that is constant throughout the year as opposed to the amount of increased usage that occurs during summer usage period. It added the ten-year average non-base usage to the base use trend to produce the total trend.[93]

Kentucky-American asserts that this methodology produces a "weather neutral" result. The methodology reflects the trend in base usage, which is relatively unaffected by weather. As to non-base usage, which is significantly affected by the weather, the methodology uses a ten-year average of summer usage, which "represents the 'most likely' outcome in a given year."[94]

Kentucky-American further asserts that its methodology is more indicative of the factors that affect water usage than an adjustment based solely on weather. It contends

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[92] *Id.*

[93] *Id.* at 34-35.

[94] *Id.* at 36.

that the reduction in water usage universally is due to numerous factors, including conservation, the installation and use of more-efficient plumbing fixtures and appliances, and new plumbing requirements.

Based upon this analysis, Kentucky-American determined that residential usage per customer is declining at a rate of 780 gallons per customer per year, or 2.1 gallons per customer per day; that the commercial usage per customer is declining at a rate of 7,584 gallons per customer per year, or 20.8 gallons per customer per day, and that the other public authority usage per customer is declining at a rate of 49,344 gallons per customer per year, or 135.2 gallons per customer per day.[95] This declining usage is reflected in the adjustments that Kentucky-American had made to base period usage.

The AG opposes the change in methodology and takes issue with the contention that the new approach is more accurate or more reflective of Kentucky-American's customers' usage. He notes that during the course of several ratemaking proceedings that stretch back to the early 1990s, the Commission discussed, scrutinized, and adjusted Kentucky-American's weather normalization model before finally accepting it. He describes Kentucky-American's unilateral action to replace "the approved weather normalization process with a declining use factor" as "a rather large step backward."[96] Noting that the usage normalization approach is based upon AWWC's system usage patterns, the AG argues that the Commission has previously rejected such an approach to be insufficient and has sought an approach based upon the usage characteristics of Kentucky-American's service territory.[97]

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[95] *Id.*

[96] AG Brief at 15.

[97] *Id.*

Using weather information from the National Oceanic and Atmospheric Administration and the Palmer Drought Severity Index, AG Witness Rackers recommended that 2012 residential customer average monthly usage of 4,580 gallons and 2012 commercial customer average monthly usage of 37,200 gallons be used to determine normalized revenue for the test period. Mr. Rackers contends that, as rainfall levels in 2012 were closer to normal levels, the 2012 usage is more indicative of these customers' usage.[98] He further recommended that, instead of calculating OPA usage based upon a monthly average of 212,400 gallons per OPA customer, as Kentucky-American proposes, 229,590 gallons per OPA customer should be used to calculate sales to that customer class.[99] In support of this recommendation, Mr. Rackers notes that Kentucky-American's usage amount was less than that the average OPA customer usage in 2011, a year in which the area experienced extreme rainfall amounts.

Based upon our review of the evidence, the Commission finds that Kentucky-American's proposed adjustment should be denied. We agree that Kentucky-American has failed to properly account for customer usage trends. Although we find support for Kentucky-American's contention that customer usage is declining, we find insufficient evidence to support the severe decline in usage that Kentucky-American claims. We are of the opinion that Kentucky-American's methodology does not adequately consider the effect of weather and that, especially as it relates to commercial customer usage, is not based upon a sufficient period of time to establish reliable usage trends. The Commission further finds that the usage amounts that AG Witness Rackers proposes

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[98] Testimony of Stephen M. Rackers at 23.

[99] *Id.* at 24.

are reasonable and should be used to calculate the normalized forecasted usage for residential, commercial, and OPA customers.

- Customer Counts. AG Witness Rackers testified that Kentucky-American used incorrect customer counts in its calculation of revenues from Industrial Customers, OPA, and Other Wholesale Customers. Mr. Rackers stated that Kentucky-American erred in using 21 customers in its annualized calculations for the Industrial Customer classification and should have used 24 customers instead.[100] He further contended that Kentucky-American erred in using 531 OPA customers, not 533 that Kentucky-American used.[101] Finally, he contended that Kentucky-American incorrectly used 12 wholesale customers to calculate revenues from wholesale customers, instead of 13 customers.[102]

Kentucky-American disputes Mr. Rackers's contentions. As to the missing industrial customers, Kentucky-American reviewed the usage of the customers in the industrial customer class and found that three customers historically used little or no water.[103] As they had little or no usage, Kentucky-American removed these customers from its customer counts.

As to its count of wholesale customers, Kentucky-American asserts that the missing wholesale customer had limited water purchases during the period and its purchases were included in the purchases of the other 12 wholesale customers. In the forecasted period, Kentucky-American took into account the 12 forecasted purchasers In contrast, Mr. Rackers used the average yearly amount purchased for the 12

[100] *Id.* at 23.

[101] *Id.* at 24.

[102] *Id.*

[103] Rebuttal Testimony of Linda C. Bridwell at 6.

customers and multiplied this average yearly amount by his 13 customers. This action results in the overstatement of revenues for this customer classification.[104]

As to the OPA Customer classification, Kentucky-American stated that it recognized a sharp decline in the number of OPA customers and usage in the last five years and noted that some OPA customers are seasonal customers, causing a fluctuation in usage. Kentucky-American used a ten-year decline in usage per customer to project a more moderate decline and sought to remove the effects of seasonal fluctuation.[105]

Having reviewed the AG's proposed adjustments and finding that Kentucky-American's adjustments more accurately reflect customer count and usage than those that the AG proposes, the Commission denies the AG's proposed adjustments to Kentucky-American's customer counts.

– <u>Imputed Billing Revenue from LFUCG.</u> LFUCG proposes that the Commission impute to Kentucky-American approximately $1.6 million of annual revenue that it asserts Kentucky-American effectively surrendered by terminating its agreement to provide billing services for LFUCG on August 31, 2012.

LFUCG operates a sanitary sewer system that serves Fayette County. Prior to 1995, LFUCG performed its own billing and collection functions. In May 1995, it entered into an agreement with Kentucky-American for collection and billing services. Under this agreement, Kentucky-American billed for LFUCG sanitary sewer service and

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[104] *Id.* at 7.

[105] *Id.*

remitted those receipts to LFUCG.[106] In October 1996, Kentucky-American agreed to provide billing services for LFUCG landfill fees.[107] In 2009, it further agreed to bill and collect LFUCG's water quality fees.[108] For the three-year period ending December 31, 2011, Kentucky-American's average annual revenue for these billing and collection services was $1,406,960.[109] On August 31, 2012, Kentucky-American ceased its provision of billing and collection services for LFUCG.[110]

LFUCG offers several reasons for its proposed adjustment. It suggests that Kentucky-American's decision was unreasonable, as termination of the billing contract resulted in the loss of $1.6 million of annual revenues and produced only $250,000 of annual savings. It further states that Kentucky-American's decision caused significant financial harm to LFUCG by requiring LFUCG to obtain the same services from another vendor at a much higher cost. Finally, it contends that Kentucky-American customers received no recognizable benefit from the termination of the billing agreement.

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[106] Agreement between Lexington-Fayette Urban County Government and Kentucky American Water Company (May 22, 1995) *available at* http://www.psc.ky.gov/tariffs/Water/Districts,%20Associations,%20&%20Privately%20Owned/Kentucky-American%20Water%20Company/Contracts (last visited Oct. 24, 2013).

[107] Agreement between Lexington-Fayette Urban County Government and Kentucky American Water Company (Oct. 31, 1996), *available at* http://www.psc.ky.gov/tariffs/Water/Districts,%20Associations,%20&%20Privately%20Owned/Kentucky-American%20Water%20Company/Contracts/ (last visited Oct. 24, 2013).

[108] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 77 at 1143-1153.

[109] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 76. During this period, Kentucky-American also provided billing and collection services for the city of Sadieville, Treehaven Mobile Home Park, and Verna Hills Neighborhood Association. The average annual revenue from these services during the same period was $3,094.

[110] The 2009 Agreement provided that either party could terminate the agreement on 90 days' prior notice. On July 1, 2011, Kentucky-American informally notified LFUCG of its intent to terminate the agreement. On October 3, 2011, Kentucky-American provided formal notification of the termination of the agreement as of March 31, 2012. *See* Kentucky-American's Response to Commission Staff's Second Request for Information, Item 77 at 1141. At LFUCG's request, Kentucky-American continued providing billing services until August 31, 2012.

Kentucky-American offers several reasons in support of its decision to terminate the agreement. First, termination of the agreement results in annual savings of $254,625. These savings stem primarily from avoiding the need to customize the BT information systems to permit third-party billing services and from the elimination of an employee to handle third-party billing issues.[111] Second, as a result of the elimination of LFUCG charges from Kentucky-American bills, "a greater number of [Kentucky-American] customers are timely paying their bills."[112] Third, Kentucky-American bills are easier to understand, and less customer confusion occurs.[113] Finally, terminating the agreement eliminated the obscured price signals that customers were receiving regarding their efficiency levels. Kentucky-American argues that its inclusion of fees on water bills that are unrelated to water consumption, for example water quality management fee and landfill fee, prevents customers from properly gauging the benefits of Kentucky-American's water efficiency efforts.[114]

We question the appropriateness of LFUCG's proposed adjustment. The practical consequence of the proposed adjustment is to penalize Kentucky-American for not continuing its provision of billing services to LFUCG. The agreement, which LFUCG negotiated and executed, however, clearly allows Kentucky-American to terminate the provision of billing services upon 90 days' notice. LFUCG, furthermore, has provided no

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[111] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 78.

[112] Rebuttal Testimony of Cheryl D. Norton at 5. Ms. Norton testified that, after Kentucky-American discontinued third-party billing, it saw a nearly 37 percent decline in the number of shut-offs and assessed 16 percent fewer late-payment fees than expected. *See also* Kentucky-American's Responses to Hearing Data Requests, Item 4.

[113] *Id.*

[114] *Id.* at 5-6.

support for the proposition that a public water utility has an obligation to provide auxiliary services outside its regulated utility functions to raise revenue for its utility operations. We were unable to find any legal precedent to support such obligation.

Similarly, the Commission is reluctant to afford significant weight to LFUCG's claims of financial harm. Each of the agreements between LFUCG and Kentucky-American regarding billing and collection services was for a specified term. While each agreement was renewable, each agreement also permitted either party to terminate the agreement upon timely notice. By executing these agreements, LFUCG clearly recognized and accepted the possibility that Kentucky-American might exercise its right to terminate the agreement. If LFUCG preferred a longer commitment, then it had the opportunity to negotiate a longer commitment and either chose not to do so or was unwilling to agree to a higher contract price for such commitment.

The Commission finds that the provision of third-party billing services may result in some customer confusion. Kentucky-American customer surveys indicate customer confusion over the services that Kentucky-American provides and its responsibility for the services for which it billed.[115] While Kentucky-American had no role in LFUCG's efforts to address Fayette County's water quality and waste management problems, its provision of billing services for such functions could easily create a contrary impression in the public's mind. The level of customer confusion and its effect on Kentucky-American, however, is difficult to quantify and to balance against the costs of terminating the billing services agreement.

The record provides a confusing picture of the benefits and costs from the termination of the billing services agreement. The termination reduces Kentucky-

[115] Kentucky-American's Response to Hearing Data Requests, Item 5.

American's revenues by $1,619,499,[116] but also reduces Kentucky-American's total revenue requirement by $254,625.[117] This reduction in revenue requirement, however, does not flow through to Kentucky-American's ratepayers. By Kentucky-American's own calculations, the monthly bill of an average Kentucky-American residential customer is $0.90 greater than if the Kentucky-American had continued providing billing services.[118]

This confusion is at least in part due to the lack of accurate cost allocation information. Despite performing third-party billing services for LFUCG since 1995, Kentucky-American has never conducted a thorough cost-of-service study to determine the cost to provide the billing services. It acknowledges the absence of a detailed cost tracking mechanism for the expenses associated with third-party billing services. While a Kentucky-American employee was tasked with managing third-party billing contracts, "other costs to manage third party billing would have been embedded within a variety of functions, including customer service center charges and information technology charges."[119] Rather than allocate the expenses related to the performance of third-party billing and then remove both the revenues and expenses associated from third-party billing for ratemaking purposes, Kentucky-American instead chose to treat its revenues

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[116] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 78. VR 06/05/2013; 09:22:14 – 09:23:23.

[117] *Id.*

[118] With the exception of public fire hydrant customers, the average bill for each customer class was lower if Kentucky-American continued to provide the billing services. *See* Kentucky-American's Responses to Hearing Data Requests, Item 13.

[119] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 76.

from third-party billing services as "above the line" and thus avoided a more detailed and specific allocation of costs.[120]

Based upon our review of the record, we find insufficient evidence to support LFUCG's proposed adjustment to revenues. While the Commission is sympathetic to LFUCG's arguments, we lack the legal authority to prevent Kentucky-American from exercising its right under the billing agreements to exit the contract arrangement. We, therefore, deny the proposed adjustment.

Allowance for Funds Used During Construction ("AFUDC"). In its application, Kentucky-American proposes to increase forecasted operating revenues by $491,629[121] to include an allowance for AFUDC. In calculating this forecast, Kentucky-American uses the weighted cost of capital of 8.2 percent.[122] To reflect the effect of slippage on CWIP and the reduction of its requested weighted cost of capital to 8.12 percent,[123] Kentucky-American in its base period update decreased AFUDC by $50,888 to arrive at its revised level of $440,741.[124] Using the 13-month average CWIP available for AFUDC of $5,862,774[125] and the overall rate of return of 7.61 percent, the Commission calculates a forecasted level of AFUDC of $446,157. This action, coupled with

[120] Greater Cincinnati Water Works currently provides billing and collection services for LFUCG. LFUCG selected Greater Cincinnati Water Works after a five-month competitive selection process. Greater Cincinnati Water Works was the total least cost vendor. *See* LFUCG's Response to Kentucky-American's Request for Information, Item 1 (filed May 1, 2013). LFUCG pays $500,000 more to Cincinnati Water Works to provide the same services that Kentucky-American had previously provided. Direct Testimony of William O'Mara at 6. The increased cost for similar services raises questions about the cost allocation practices that Kentucky-American employed.

[121] Application Ex. 37, Sch. C-1.

[122] *Id.* Ex. 37 Sch. J-1.1/J-2.1.

[123] Base Period Update-Revised Ex. 37, Sch. J-1.1/J-2.1.

[124] *Id.* Sch. C-1.

[125] Kentucky-American's Response to Commission Staff's First Request for Information, Item 3(a), W/P-1 at 39; Kentucky-American's Response to Commission Staff's Second Request for Information, Item 41 at 131.

Kentucky-American's revisions, results in an increase to Kentucky-American's revised forecasted operating revenues of $5,416.[126]

Fuel and Power. Having accepted the AG's proposed adjustments to water sales, the Commission finds that a corresponding adjustment to fuel and power expense to reflect the costs incurred to produce the additional water sales is necessary. To properly reflect the impact the increase in water sales will have on forecasted expenses, the AG proposes to increase Kentucky-American's fuel and power forecast by $150,000.[127] To calculate his proposed adjustment, the AG developed a cost factor using Kentucky-American's water sales and electricity costs and applied this factor to his recommended water sales.[128] The Commission finds that fuel and power expense should be increased by $117,061[129] to reflect the effect the Commission adjustment to water sales will have on the fuel and power expense forecast.

Chemicals. A corresponding adjustment to chemical expense to reflect increased costs due to the Commission's adjustment to forecasted sales is also necessary. The AG proposes to increase chemical expense by $70,000.[130] To calculate his adjustment, the AG developed a chemical cost factor and applied this factor to his proposed increase to water sales.[131] The Commission finds the AG's

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[126] $5,862,774 (13-Month Average CWIP Available for AFUDC) x 7.61% (Commission Weighted Cost of Capital) = $446,157.

[127] Direct Testimony of Stephen M. Rackers at 25.

[128] *Id.*

[129] $368,231 (Increase to Forecasted Water Sales) x $0.3179 (Fuel and Power Cost Factor) = $117,061.

[130] Direct Testimony of Stephen M. Rackers at 25.

[131] *Id.*

chemical cost factor is reasonable and has applied it to the increased level of water sales, which produces a chemical expense adjustment of $53,725.[132]

Pension. Kentucky-American records pension expense in accordance with FASB Accounting Standards Codification Topic 715 ("ASC 715"), formerly Statement of Financial Accounting Standards 87.[133] Kentucky-American proposes to decrease its base year pension expense of $1,025,878 by $42,671 to its forecasted level of $983,207.[134] Forecasted pension expense is based on an allocation of AWWC's 2013 and 2014 ASC 715 defined pension expense of $64,500,000 and $55,600,000 respectively. AWWC's monthly pension expense is calculated for the forecasted test year and a 1.99 percent allocation factor is used to arrive at Kentucky-American's gross pension expense of $1,180,236. Kentucky-American multiplies this amount by the reciprocal of its capitalization rate, or 83.31 percent[135] to arrive at its forecasted pension expense of $983,207.[136]

In its base period update, Kentucky-American proposes to decrease forecasted pension expense by $35,902 to reflect Towers Watson's most recent projections.[137] The Commission finds that the proposed adjustment to most current projections is reasonable and that Kentucky-American's forecasted pension expense should be decreased by $35,902 to a revised level of $947,305.

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132 368,231 (Increase to Forecasted Water Sales) x $0.1459 (Chemical Cost Factor) = $53,725.

133 Direct Testimony of Melissa L. Schwarzell at 14.

134 Application Ex. 37, Sch. C-1; Direct Testimony of Melissa L. Schwarzell at 14.

135 *Id.* at 11. $6,880,213 (Kentucky-American's Operation and Maintenance Labor) ÷ $8,258,965 (Kentucky-American's Total Gross Labor) = 83.31%.

136 Direct Testimony of Melissa L. Schwarzell at 11.

137 Base Period Update Filing-Summary of Forecast Year Revisions at 1; Rebuttal Testimony of Linda C. Bridwell at 4.

Group Insurance. Kentucky-American increased its base year group insurance expense of $1,964,516 by $144,987 to arrive at its forecast expense level of $2,109,504.[138] The forecasted expense comprises two components other post-retirement employee benefit costs ("OPEB"s) and Non-OPEB Group Insurances.[139]

Non-OPEB group insurances include: (1) basic life, short and long term disability, accidental death and disability; (2) voluntary employee beneficiary association ("VEBA"); and (3) health, dental, and vision coverages that Kentucky-American provides its employees.[140] The expense associated with the first category was calculated using the 2012 plan rates and a projected 8 percent premium increase in October 2013.[141] The second category, VEBA, "is a trust to help finance post-retirement benefits of non-pension-eligible employees" with a cost of $500 per non-union employees hired between January 1, 2006 and December 31, 2010.[142] The third category involves a gross Company cost net of employee contributions and is calculated on a position by position basis, according to each actual employee plan selection.[143] This category is based upon 2012 premiums with a projected 8 percent premium increase in October 2013.[144] Kentucky-American combines the three non-OPEB categories for each employee and multiplies each employee's total by each employee's reciprocal

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[138] Kentucky-American's Response to Commission Staff's First Request for Information, Item 3(a), W/P-3 at 31.

[139] Direct Testimony of Melissa L. Schwarzell at 7.

[140] *Id.* at 7-8.

[141] *Id.* at 8.

[142] *Id.* at 9.

[143] *Id.*

[144] *Id.*

capitalization rate to arrive at the forecast non-OPEB group insurance costs of $1,418,443.[145]

Non-union employees hired before January 1, 2005 and union employees hired before January 1, 2010, are eligible for OPEBs upon their retirement, which includes Company sponsored medical, dental and prescription drug benefits.[146] To forecast test year OPEB cost, Kentucky-American starts with the latest estimates of AWWC's 2013 and 2014 post-retirement welfare costs, which are $33.3 million and $30.7 million, respectively.[147] AWWC's monthly OPEB expense is calculated for the forecast test year and a 2.61 percent allocation factor is used to arrive at Kentucky-American's gross OPEB expense of $829,455. Kentucky-American multiplies this amount by the capitalization rate of 83.31 percent to arrive at its forecasted OPEB expense of $691,061.[148]

After filing its application, Kentucky-American proposed to decrease forecasted OPEB expense by $48,149 to reflect Towers Watson's most recent projections and a further reduction of $8,783 to eliminate a duplicated cost.[149] The Commission finds that the proposed adjustments to reflect the most current projections and to eliminate duplicate costs are reasonable and that Kentucky-American's forecasted pension expense should be decreased by $56,932 to a revised level of $2,052,571.

Support Service Fees. American Water Works Service Company ("AWWSC") provides certain support services to Kentucky-American. These support services

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[145] *Id.* at 9-10.

[146] *Id.* at 10.

[147] *Id.*

[148] *Id.*

[149] Rebuttal Testimony of Linda C. Bridwell at 4.

include the use of centralized call centers, water quality testing lab, information technology support, accounts payable and accounts receivable, tax support and insurance, as well as corporate governance.[150]

Kentucky-American has increased base period support service expense of $8,951,414 by $372,820 to its forecasted level of $9,324,234.[151] While Kentucky-American proposes to remove employee incentive compensation of $513,193 from its forecasted expense level,[152] its forecasted test period expense still exceeds base period expense level due primarily to two driving forces. First, labor and labor-related costs are forecasted to increase $382,055, due to merit pay increases in 2013 and 2014 and additional information technology support for BT efforts.[153] Second, maintenance and depreciation expenses are expected to increase by $415,023, due to the BT implementation and to efforts to continue the operations of the old financial systems.[154]

We note that in 2012, AWWSC revised its method for billing for Customer Service Center services. Prior to that year, AWWSC allocated most Customer Service Center costs to Kentucky-American based on the percentage of its customer count to the overall AWWC regulated utility customer count.[155] After it began tracking the calls by operating affiliate and the average call handling time, AWWSC found a

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[150] Direct Testimony of Linda C. Bridwell at 16.

[151] Kentucky-American's Response to Commission Staff's First Request for Information, Item 3(a), W/P-3 at 85.

[152] *Id;* Direct Testimony of Linda C. Bridwell at 16. In previous Kentucky-American rate case proceedings, the Commission had identified several concerns with Kentucky-American's employee incentive compensation plans and had not permitted recovery of such plans' costs to be recovered through rates. *See, e.g.,* Case No. 2010-00036, Order of Dec. 14, 2010 at 29-33.

[153] *Id.* at 18.

[154] *Id.* at 19.

[155] Kentucky-American's Response to Hearing Data Requests, Item 30

disproportionate level of calls and call handling time by state.[156] In 2012 it began directly charging Customer Service Center calls based on the proportionate number of calls and average call handling time.[157]

Kentucky-American reports that presently approximately 63 percent of its call center costs are being direct charged for the amount of call handling, billing and collections costs it incurs at the Customer Service Center. The remaining 37 percent represents overhead components of Customer Service Center functions which are charged to Kentucky-American and its regulated utility affiliates based on the previous allocation method.[158] Based upon Kentucky-American's estimates, the change in methodology has increased the annual cost of the Kentucky-American's use of the Customer Service Center's services by $899,162.[159]

We find no basis to conclude that the change in AWWSC's billing is inconsistent with the provisions of the 1989 agreement between AWWSC and Kentucky-American. This agreement provides that directly billed costs are to be charge based on the employee's hours directly attributable to the affiliate "or other mutually acceptable means of determination."[160] It also provides that all costs incurred in connection with the services provided by AWWSC which can be identified and related to exclusively to

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[156] Direct Testimony of Linda C. Bridwell at 17-18.

[157] *Id.* at 18.

[158] Kentucky-American's Response to Hearing Data Requests, Item 30.

[159] *Id.*

[160] Agreement between American Water Works Service Co. and Kentucky-American Water Co. (Jan. 1, 1989) ¶ 2.2.

Kentucky-American shall be charged to Kentucky-American.[161] AWWSC's new billing practice appears consistent with these provisions.

In summary, the Commission finds that Kentucky-American's forecasted support service fees of $9,324,323 is reasonable and should be accepted for ratemaking purposes.

Miscellaneous Expense. Kentucky-American includes miscellaneous expense of $1,170,548 in forecasted operations.[162] This expense includes, but is not limited to, the following: customer education items; community relations; company dues and memberships; director's fees; hiring costs; injuries and damages; lab supplies; and operating expenses. Kentucky-American has identified $150,250 of this expense as charitable donations that were inadvertently included in forecasted miscellaneous expense[163] and for which it has disclaimed any intent to seek rate recovery. In its base period update, it removed these donations from its forecasted miscellaneous expense.[164] Kentucky-American also removed $62,000 for a low income payment program, which is a form of charitable donation.[165] Kentucky-American's total adjustment to miscellaneous expenses to remove charitable donations is $212,250.[166]

As such donations are not essential to the provision of utility service, the Commission has generally found that charitable contributions should be borne by utility

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[161] *Id.* at ¶ 2.3.

[162] Application Ex. 37, Sch. C-2.

[163] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 109.

[164] Base Period Update Filing-Ex. 37, Sch. C-2.

[165] Kentucky-American's Supplemental Response to Commission Staff's Second Request for Information, Item 109 (filed May 15, 2013).

[166] Rebuttal Testimony Linda C. Bridwell at 2.

shareholders.[167] Accordingly, we accept Kentucky-American's proposed reduction to its forecasted miscellaneous expense of $212,250.

Uncollectible Accounts. To calculate its forecasted uncollectible account expense, Kentucky-American applied the three-year average of its net charge-offs to billed revenue for the 12-month periods ending September 31, 2010, September 31, 2011, and September 31, 2012.[168] Kentucky-American applied that ratio to forecasted revenues at present rates to calculate its uncollectible expense forecast of $481,803.[169] By applying the Kentucky-American's uncollectible ratio to the Commission-adjusted increase in water sales, the Commission arrives at its uncollectible account expense adjustment of $10,457.[170]

Depreciation. Kentucky-American includes depreciation expense of $13,121,602 in its forecasted operations.[171] Based on the Commission's treatment of forecasted rate base with regard to slippage, an adjustment has been made to increase forecasted depreciation expense by $19,815.[172]

General Taxes. Kentucky-American includes a forecast of general tax expense of $5,114,771, which includes property taxes of $4,455,772, payroll taxes of $532,600,

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[167] Case No. 10481, *Adjustment of Rates of Columbia Gas of Kentucky, Inc.* (Ky. PSC Oct. 6, 1989) at 22-23.

[168] Direct Testimony of Jermaine K. Bates at 3.

[169] *Id.*; Application Ex. 37, Sch. C at 2.

[170] $83,642,642 (Water Sales) + $1,834,066 (Other Operating Revenues) = $85,476,708.
$85,476,708 (Operating Revenues) x 0.5759% (Uncollectible Ratio) = $492,260.
$492,260 (PSC Uncollectible Account) - $481,803 (Utility Uncollectible Account) = $10,457.

[171] Application Ex. 37, Sch. C-1; Kentucky-American's Response to Commission Staff's First Request for Information, Item 3(a), W/P-4 at 2, 20. $11,517,623 (Depreciation) + $1,603,979 (Cost of Removal) = $13,121,602.

[172] Kentucky-American's Response to Commission Staff's Second Request for Information, Item 41 at 84. $11,531,748 (Depreciation-Slippage Adjusted) + $1,609,669 (Removal-Slippage Adjusted) = $13,141,417 (Total-Slippage Adjusted). $13,141,417 - $13,121,602 = $19,815.

Public Service Commission assessment of $123,659, and taxes and licenses of $2,740.[173] The Commission finds that based on our treatment of forecasted rate base with regard to slippage, forecasted property tax expense should be increased by $8,730. We further find that the PSC assessment should be increased by $2,676 to reflect the effect of increased water sales. The total increased adjustment to Kentucky-American's forecasted general tax expense is $11,406.

Interest Synchronization. Kentucky-American proposes a forecasted interest expense of $12,481,618 based on the forecasted capital structure, the weighted cost of debt and the weighted dividend rate on the preferred stock.[174] As shown in Table II, the Commission has recalculated this expense to be $12,503,605 based on the rate base and weighted cost rates found reasonable herein.

Table II

	Weighted Cost Rates	Commission's Rate Base	Interest Synchronization
Short-Term Debt	0.0100%	384,729,083	$ 38,473
Long-Term Debt	3.1400%	384,729,083	12,080,493
Preferred Dividend	0.1000%	384,729,083	384,729
Interest Synchronization	3.15%	384,729,083	$ 12,503,695

Income Taxes. Kentucky-American includes a forecast of current income tax expense of $4,149,912, which includes state income taxes and federal income taxes of $491,702[175] and $3,658,210,[176] respectively. Adjusting Kentucky-American's income

[173] Kentucky-American's Response to Commission Staff's First Request for Information, Item 3(a), W/P-5 at 2.

[174] Application Ex. 37, Sch. E-1.3.

[175] Kentucky-American's Response to Commission Staff's First Request for Information, Item 3(a), W/P-6 at 5.

[176] *Id.* at 4

tax forecast, the Commission arrives at its current state income tax expense of $572,622 and federal income tax expense of $4,143,811 as shown in Table III.

Table III

	Income Taxes	
	State	Federal
Taxable Income - Forecast	$ 8,195,045	$ 10,452,028
Adjustments to Taxable Income:		
Water Sales	1,810,504	1,810,504
Fuel and Power	(117,061)	(117,061)
Chemicals	(53,725)	(53,725)
Pensions	35,902	35,902
Group Insurance	56,932	56,932
Miscellaneous Expenses	212,249	212,249
Uncollectible Accounts	(10,457)	(10,457)
Depreciation	(19,815)	(19,815)
General Taxes	(11,406)	(11,406)
State Income Taxes		(83,919)
Interest Synchronization	206,309	206,309
Temporary Differences - Slippage	(710,775)	(638,081)
Taxable Income - Commission	9,593,702	11,839,460
Multiplied by: Income Tax Rates	6%	35%
Income Taxes - Commission	$ 575,622	$ 4,143,811

Deferred Income Taxes. Kentucky-American includes a forecast of deferred income tax expense of $3,573,985, which includes state deferred income taxes and federal deferred income taxes of $674,791 and $2,899,194, respectively.[177] The Commission finds that, after adjusting Kentucky-American's income tax forecast for slippage, its forecasted deferred income tax expense should be of $4,078,706.

Summary. As shown in Table IV, the Commission finds that Kentucky-American's forecasted net operating income at present rates is $25,013,042.

[177] Application Ex. 37, Sch. E-1.3 and E-1.4.

Table IV

Account Titles		Application Forecasted Revenues and Expenses		Commission Adjustments		Commission Forecasted Revenues and Expenses
Operating Revenue:						
Water Sales	$	81,832,138	$	1,810,504	$	83,642,642
Other Operating Revenues		1,834,066		0		1,834,066
AFUDC		491,629		4,244		495,873
Total Operating Revenues		84,157,833		1,814,748		85,972,581
Operating Expenses:						
Operation and Maintenance Expenses		33,892,178		(123,840)		33,768,338
Depreciation		13,121,602		19,815		13,141,417
Amortization - UPAA		210,261		0		210,261
Current State Income Tax		491,702		83,919		575,621
Deferred State Income Tax		674,791		38,745		713,536
Current Federal Income Tax		3,658,210		485,601		4,143,811
Deferred Federal Income Tax		2,899,194		465,976		3,365,170
Investment Tax Credit		(84,792)		0		(84,792)
General Taxes		5,114,771		11,406		5,126,177
Total Operating Expenses		59,977,917		981,622		60,959,539
Net Income Available for Common	$	24,179,916	$	833,126	$	25,013,042

Rate of Return

Capital Structure. Kentucky-American's proposed capital structure, which is based on the projected 13-month average balances for the forecasted test period, and the costs assigned to each capital component are shown in Table V.

Table V

Kentucky-American's Application				
Components		Capitalization	Ratio	Assigned Returns
Short-Term Debt	$	7,845,933	2.041%	0.8100%
Long-Term Debt		200,086,655	52.037%	6.1400%
Preferred Stock		4,489,951	1.168%	8.5200%
Common Equity		172,085,833	44.754%	10.9000%
Total Capitalization	$	384,508,372	100.000%	

In its base year update, Kentucky-American revised its forecasted capital structure to reflect: (1) the delay of Kentucky-American's issuance of $8 million of long-term debt from November 2012 to May 15, 2013; (2) the delay of Kentucky-American's issuance of $3 million of long-term debt from May 2013 to November 2013; (3) revisions in interest rates and issuance costs for the projected long-term debt issuance in May 2013, November 2013, and May 2014; (4) revisions in Kentucky-American's projection for the cost of short-term debt; and (5) the weighted average cost of capital to reflect the effect of the other revisions.[178] Kentucky-American's revised forecasted capital structure and assigned cost rates are shown in Table VI.

Table VI

Kentucky-American's Update				
Components		Capitalization	Ratio	Assigned Returns
Short-Term Debt	$	9,204,650	2.391%	0.5000%
Long-Term Debt		199,241,777	51.748%	6.0600%
Preferred Stock		4,489,938	1.166%	8.5200%
Common Equity		172,085,452	44.695%	10.9000%
Total Capitalization	$	385,021,817	100.000%	

Although he did not object to Kentucky-American's capital structure, the AG used the capital structure that appears in Table VII to develop his recommended weighted cost-of-capital.[179]

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[178] Rebuttal Testimony of Scott W. Rungren at 5.

[179] Direct Testimony of J. Randall Woolridge, Ex. JRW-1.

Table VII

AG's Capital Structure			
Components	Capitalization	Ratio	Assigned Returns
Short-Term Debt	$ 7,845,926	2.040%	0.8100%
Long-Term Debt	200,086,674	52.040%	6.0500%
Preferred Stock	4,489,964	1.170%	8.5200%
Common Equity	172,085,807	44.750%	8.5000%
Total Capitalization	$ 384,508,371	100.000%	

Upon review of the record, the Commission finds that Kentucky-American's revised capital structure accurately projects the test-year capitalization requirements, and should be used to develop the weighted cost-of-capital.

Short-Term and Long-Term Debt. Kentucky-American originally projected short-term and long-term interest rates of 0.81 percent and 6.14 percent, respectively.[180] In its base period update, Kentucky-American revised its original projections of short-term and long-term interest rates to 0.5 percent and 6.06 percent, respectively.[181] The AG proposed short-term and long-term interest rates of 0.5 percent and 6.05 percent, respectively.[182] Upon review of the supporting calculations, the Commission finds that Kentucky-American's revised projections result in a more current projection of the forecasted debt rates and that Kentucky-American's proposed cost of debt is reasonable and should be accepted.

[180] Application Ex. 37, Sch. J-1.1/J-2.1.

[181] Base Period Update Filing-Schedule J-1.1/J-2.1.

[182] Direct Testimony of J. Randall Woolridge at 16 - 17.

Preferred Stock. Kentucky-American proposed an embedded cost of preferred stock of 8.52 percent.[183] No party objected to this forecasted cost rate. We find that the proposed embedded cost of preferred stock is reasonable and should be accepted.

Return on Equity. Kentucky-American recommends a return on equity ("ROE") ranging from 10.4 percent to 11.4 percent and specifically requests an ROE of 10.9 percent based on its discounted cash flow model ("DCF"), the ex ante risk premium method, the ex post risk premium method, and Capital Asset Pricing Model ("CAPM").[184]

To perform its analysis, Kentucky-American Witness Vander Weide employed two comparable risk proxy groups in its analysis. The first proxy group consists of six water companies included in the *Value Line Investment Survey* ("*Value Line*") that: pay dividends; did not decrease dividends during any quarter for the past two years; have an analyst's long-term growth forecast; and are not part of an ongoing merger. All of these water companies have a *Value Line* Safety Rank of at 2 or 3, with 3 being the average of all *Value Line* companies.[185]

Dr. Vander Weide's second proxy group consisted of seven natural gas local distribution companies. Each company is in the natural gas distribution business; paid quarterly dividends over the last two years; had not decreased dividends over the last two years; was not involved in an ongoing merger; and had an available I/B/E/S long-

[183] Application Ex. 37, Sch. J-1.1/J-2.1.

[184] Direct Testimony of Gary M. VerDouw at 10; Direct Testimony of James H. Vander Weide at 3-4.

[185] Direct Testimony of James H. Vander Weide at 27.

term growth estimate.[186] Each also had a *Value Line* Safety Rank of 1, 2 or 3 and an investment grade bond rating.[187]

Dr. Vander Weide applied a quarterly DCF model to the water and gas proxy groups. He relied upon a comparable group of gas distribution utilities for the ex ante risk premium ROE estimation. He relied upon Standard & Poor's ("S&P") 500 stock portfolio and Moody's A-rated Utility Bonds to derive the ex post risk premium ROE estimation. He conducted a second study using stock data from the S&P Utilities rather than the S&P 500. Although Dr. Vander Weide performed CAPM analyses using both proxy groups, he did not rely upon the CAPM estimations in reaching his recommended ROE. He rejected the CAPM analyses because the average beta coefficient for the proxy companies was significantly below a value of 1 and because of the proxy group of water companies' small market capitalization.[188] As part of his ROE recommendations, Dr. Vander Weide also made adjustments for flotation costs.

AG Witness Woolridge takes issue with several aspects of Kentucky-American's methodology. First, he argues that Dr. Vander Weide's water proxy group is too small to estimate an equity cost rate and that Dr. Vander Weide erred in excluding the three smallest water companies from his proxy group. He also disagrees with the inclusion of NiSource in Dr. Vander Weide's gas proxy group due to its riskier operating and financial profile and its electric operations. Second, he states that Dr. Vander Weide's DCF approach included an excessive adjustment to the dividend yield to reflect

[186] *Id.* at 30. I/B/E/S, a division of Thomson Reuters, reports analysts' earnings per share ("EPS") growth forecasts for a broad group of companies. The I/B/E/S growth rates are widely circulated in the financial community, include the projections of reputable financial analysts who develop estimates of future EPS growth, are reported on a timely basis to investors, and are widely used by institutional and other investors. *Id.* at 22.

[187] *Id.* at 30.

[188] *Id* at 3 - 4, 45 - 48.

quarterly payment of dividends. Third, Dr. Woolridge asserts that the Kentucky-American study relies exclusively on the forecasted earnings per share ("EPS") growth rates of Wall Street analysts and *Value Line* to compute the equity cost rate, that the long-term earnings growth rates of Wall Street analysts are overly optimistic and upwardly-biased, and that the estimated long-term EPS growth rates of *Value Line* are overstated.

Fourth, Dr. Woolridge notes several problems associated with weighting the DCF results for the water and gas proxy groups by the market capitalization of the companies in computing the average DCF for each group. Fifth, he contends that both the risk premium and CAPM analyses performed by Kentucky-American contain excessive base interest rates and market risk premiums. Sixth, he observes that Dr. Vander Weide ignored his own CAPM equity cost rate results. Seventh, Dr. Woolridge states that flotation cost adjustments to the equity cost rate results are unwarranted.[189] Contending that the utility has failed to identify any actual floatation costs and questioning whether the necessary conditions that support the use of a floatation cost adjustment are present in the current case, Dr. Woolridge challenges the appropriateness of Dr. Vander Weide's use of floatation cost adjustment in his DCF analysis.[190]

Dr. Woolridge conducted his own analysis, applying the DCF model and the CAPM methods to a water proxy group and a gas proxy group and affording primary weight to the results of the DCF analysis. Based upon that analysis, he proposes an

[189] Direct Testimony of J. Randall Woodridge at 58.

[190] *Id.* at 68 - 70.

ROE range from 7.3 percent to 8.6 percent and recommends an awarded ROE of 8.5.[191]

To perform his analysis, Dr. Woolridge uses a proxy group of nine publicly-held water utility companies covered by *Value Line* and *AUS Utility Reports* and a second proxy group of nine natural gas distribution companies covered by the Standard Edition of *Value Line*. The water proxy group received 96 percent of its revenues from regulated water operations; has an 'A' bond rating and a common equity ratio of 46.5 percent; and an earned return on common equity of 9.8 percent. The gas proxy group consists of eight natural gas distribution companies listed as Natural Gas Distribution, Transmission, and/or Integrated Gas Companies in *AUS Utility Reports* and as Natural Gas Utility companies in the *Value Line* Standard Edition and having an investment grade bond rating by Moody's and S&P. The gas proxy group utilities received 69 percent of revenues from regulated gas operations, a common equity ratio of 47.7 percent, and an earned return on common equity of 10.5 percent.[192]

Dr. Woolridge argues that the use of natural gas distribution companies as a proxy for Kentucky-American is appropriate, since the financial data necessary to perform a DCF analysis on the members of the water proxy group, as well as analysts' coverage of water utilities, is limited. He also argues that the return requirements of gas companies and water companies should be similar, as both industries are capital intensive, heavily regulated, and provide essential commodity with rates and rates of return set by state regulatory commissions. Dr. Woolridge acknowledges, however, that

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[191] *Id.* at 2.

[192] *Id.* at 14 - 15.

water companies do not face the same risk of substitution that exists for gas distribution companies.[193]

Dr. Woolridge places significant emphasis on current economic conditions and concluded that capital costs for utilities are historically low and are likely to be so for some time.[194] He further states that the investment risk of utilities is very low and that the cost of equity for utilities is among the lowest of all industries in the U.S. as measured by their betas.[195]

In his rebuttal testimony, Dr. Vander Weide addresses the criticism of his analysis and critiques Dr. Woolridge's analysis. Countering criticism of his proxy group selections, he notes that his proxy group of water utilities has a higher S&P bond rating and a slighter higher average *Value Line* safety than AWWC, and that his proxy group of natural gas utilities has a higher average *Value Line* safety rating and slightly higher average S&P bond rating than AWWC.[196]

Dr. Vander Weide rejects criticism of his use of a quarterly DCF model. He testifies that all companies within his proxy groups paid quarterly dividends and noted the same applied for those companies in Dr. Woolridge's proxy group. He further testifies that, as the DCF model is based on the assumption that a company's stock price is equal to the expected future dividends associated with investing in the

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[193] *Id.* at 13 - 14.

[194] *Id.* at 12.

[195] *Id.* at 23 - 24.

[196] Rebuttal Testimony of James Vander Weide at 6 - 7.

company's stock, an annual DCF model cannot be based upon this assumption when dividends are paid quarterly.[197]

Dr. Vander Weide takes exception to Dr. Woolridge's internal growth method. He argues that this method is not only circular, but underestimates the expected growth of his proxy companies by neglecting the possibility that such companies can grow by issuing new equity at prices above book value. He notes that many of the proxy companies are currently engaging in this practice or are expected to do so in the future. This possibility is noteworthy, he asserts, because the water industry is expected to undertake substantial infrastructure investments in the near future and to finance those investments in part through this practice.[198]

As to his use of EPS growth rates in his DCF analysis, Dr. Vander Weide argues that his studies show that stock prices are more highly correlated with analysts' growth rates than with historical or internal growth rates that Dr. Woolridge considered. He states that, if Dr. Woolridge had used the average EPS share growth rates of Yahoo, Reuters, and Zacks in his DCF analysis, his DCF for the water utility proxy group would have been equal to 9.7 percent.[199] He further maintains that correctly using a full year of growth in the analysis would produce a 9.8 percent DCF result.[200] Dr. Vander Weide asserts that the proper application of the DCF model requires that matching of stock prices and investors' growth expectations. Moreover, he argues, historical growth rates are inherently inferior to analysts' forecasts because analysts' forecasts already incorporate all relevant information regarding historical growth rates and also

[197] *Id.* at 8 - 9.

[198] *Id.* at 11 - 12.

[199] According to Dr. Vander Weide, this result occurs even if a 1/2 g multiplier is used. *Id.* at 13.

[200] *Id.*

incorporate the analysts' knowledge about current conditions and expectations regarding the future. He refers to financial research that strongly supports the conclusion that analysts' growth forecasts are the best proxies for investor growth expectations.[201] Dr. Vander Weide concludes his discussion of the use of analysts' growth forecasts with his findings that analysts' EPS growth forecasts are not optimistic and that they are reasonable proxies for investor growth expectations, while Dr. Woolridge's historical and retention growth rates are not.[202]

Based upon our review of the record, we find that Kentucky-American's proposed ROE should be denied and that an ROE of 9.7 percent will continue to provide Kentucky-American with a fair and reasonable rate of return. In reaching our finding, we have focused upon the water utilities within the proposed proxy group. In Case No. 2010-00036, we found that Kentucky-American's use of natural gas distribution companies as proxies for water utilities to be inappropriate.[203] The water utility group consists of large and small publicly traded water utilities. While Kentucky-American is a relatively small water utility, it is part of a large, multi-state operation that has access to investment capital under conditions that few small water utilities could obtain. Accordingly, we are of the opinion that a proxy group consisting of water utilities is a more accurate indicator of risk and market expectations.

Our finding as to an ROE of 9.7 percent also continues to reflect Kentucky-American's regulatory history, with Kentucky-American's frequency of rate case

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[201] *Id.* at 21.

[202] *Id.* at 25.

[203] Case No. 2010-00036, Order of Dec. 14, 2010 at 70 ("[S]everal of the companies within the natural gas proxy group that Kentucky-American has used engage in exploration, production, transmission, and other non-regulated and non-distribution activities. These activities extend well beyond a distribution function and have greater risk.").

applications since 1992 clearly demonstrating management's focused efforts to minimize regulatory risk and the risk associated with the recovery of capital investments. Kentucky-American has applied for rate adjustments on a more frequent basis than other water utilities within the proxy group, using a forecasted test period with each rate application. Not only does the ability to use a forecasted test period tend to reduce the risk associated with the recovery of capital investments, it is also a mechanism that is unavailable to several of the utilities in Kentucky-American's proxy group and their subsidiaries.[204]

In reaching our finding, we have also excluded any flotation cost adjustment from our analysis and have placed much greater emphasis on the DCF and the CAPM model results of the water utility proxy groups compiled by Kentucky-American and the AG. While recognizing that historic data has some value for use in obtaining estimates, we have given considerable weight to analysts' projections regarding future growth. Finally, in assessing market expectations, we have given considerable weight to present economic conditions.

Weighted Cost of Capital. As shown in Table VIII, applying the rates of 6.06 percent for long-term debt, 8.52 percent for preferred stock, 0.5 percent for short-term debt, and 9.70 percent for common equity to the adjusted capital structure produces an overall cost of capital of 7.59 percent. We find this cost to be reasonable.

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[204] *See* Kentucky-American's Response to Commission Staff's Second Request for Information, Item 23 at 2.

Table VIII

Component	Capital Structure	Capital Ratios	Commision Returns	Commission Average Weighted Cost
Short-Term Debt	$ 9,204,650	2.391%	0.5000%	0.01%
Long-Term Debt	199,241,777	51.748%	6.0600%	3.140%
Preferred Stock	4,489,938	1.166%	8.5200%	0.10%
Common Equity	172,085,452	44.695%	9.7000%	4.34%
Total Capitalization	$ 385,021,817	100.000%		7.5900%

Authorized Increase

The Commission finds that Kentucky-American's net operating income for rate-making purposes is $29,200,937. We further find that this level of net operating income requires an increase in forecasted present rate revenues of $6,904,134.[205]

Cost of Service Study/Rate Design

For general water service, Kentucky-American currently charges a monthly service charge and a flat volumetric fee. The service charge is based in part on the customer's meter size. It is intended to recover the cost of customer facilities such as meters and services, and the cost of customer accounting, including billing and collecting and meter reading. The volumetric fee is intended to recover the cost of producing, transporting, and distributing the water.

Kentucky-American included with its application a cost-of-service allocation study that uses the base-extra capacity method.[206] This methodology is widely recognized

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Net Investment Rate Base	$ 384,729,083
Multiplied by: Rate of Return	x 7.5900%
Operating Income Requirement	$ 29,200,937
Less: Forecasted Net Operating Income	- 25,013,042
Operating Income Deficiency	$ 4,187,895
Multiplied by: Revenue Conversion Factor	x 1.64859300
Increase in Revenue Requirement	$ 6,904,134

[206] Application Ex. 36.

within the water industry as an acceptable methodology for allocating costs.[207] This Commission has previously accepted the use of this methodology for cost allocation and development of water service rates.[208] No party has objected to the findings of the cost-of-service study.

In developing its proposed rates, Kentucky-American chose not to implement fully the cost-of-service study's results. According to the study, Kentucky-American should assess a monthly service charge of $14.86 per month for 5/8-inch meters.[209] Monthly service charges for the larger-sized meters are established by multiplying the meter capacity ratios by the 5/8-inch monthly service charge.[210] Kentucky-American proposes a monthly service charge for 5/8-inch meters of $14.00. While the proposed charge does not completely recover customer costs, it recovers a greater percentage of customer costs than the present customer charge and moves the utility closer to - completely cost-based rates.[211]

CAC proposes a tiered rate design in which the first usage block is charged a lower rate and the remaining usage blocks are charged an increasing amount.[212] It contends that this rate design would benefit all customers, not only those on low or fixed

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[207] American Water Works Association, *Principles of Water Rates, Fees and Charges* (5th Ed. 2000) at 50.

[208] *See, e.g.*, Case No. 2002-00040, *An Investigation Into Butler County Water System, Inc.'s Rate Schedule for Services with Private Fire Protection Facilities* (Ky. PSC Mar. 29, 2005) at 12 ("While several different methods of allocating costs exist, the base-extra capacity method is one of the most widely used methods of allocating costs. It recognizes that the cost of serving customers depends not only on the total volume of water used but also on the rate of use. We have used this methodology in several rate proceedings and have found it an effective methodology.").

[209] Gannett Fleming, Inc., *Cost of Service Allocation Study as of July 31, 2014 and Proposed Customer Rates* (Harrisburg, Pa. Dec. 21, 2012) at 41.

[210] Direct Testimony of Paul R. Herbert at 10.

[211] *Id.* at 9.

[212] Direct Testimony of Jack E. Burch at 13.

incomes. Under this proposal, the initial block's volume would be equal to the minimum amount of life-sustaining water for household needs. The rate for the initial block would be at a free or substantially reduced rate. The rate for remaining usage blocks would progressively increase to reflect the actual cost of water. CAC failed to define the "minimum amount of life-sustaining water for a household" or provide a methodology for making such determination. It also failed to provide any analysis or supporting authority for its assumption that a correlation exists between income levels and water use levels.

Kentucky-American opposes CAC's proposal. Kentucky-American Witness Herbert testified that the CAC rate structure was not cost-based,[213] would provide a subsidy to all customers, including those with higher income levels, and would thus place an increased burden on customers who cannot maintain their water usage within the initial block, such as customers with home gardens or large families.[214] To provide some rate relief to low-income customers, Mr. Herbert recommended that the Customer Charge be discounted to low-income customers, with any lost revenue recovered from the remaining residential customers through an increased customer charge.[215] He also noted that an increasing block rate structure, such as CAC proposes, is mainly found in areas where water supplies are limited or drought conditions frequently occur.[216]

While the Commission agrees with CAC's goal of maintaining or improving the affordability of water service, we find its proposed rate design is neither practical nor suited for a water utility in an area with a plentiful water supply. Moreover, while intended to assist low-income customers, it will negatively affect those low-income

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[213] Rebuttal Testimony of Paul Herbert at 4.

[214] *Id.* at 5.

[215] *Id.*

[216] *Id.* at 5.

users who cannot reduce water consumption to the minimum block level. Given the prohibition against unreasonable preferences set forth in KRS 278.170 and the Commission's past rulings that customer income is not a reasonable classification,[217] the proposal for a discounted minimum charge for low-income customers is not currently a viable alternative.

The Commission has used Kentucky-American's cost-of-service study as a guide to develop the rates and charges set forth in the Appendix to this Order. We, however, have not strictly adhered to it, but have instead allocated some costs to volumetric rates rather than the monthly service charge to ensure that Kentucky-American's rates are equitable to all customer classes and send the appropriate price signal. We agree with AG/LFUCG Witness Brian Kalcic that a reduction in the volumetric rate would send the wrong pricing signal to Kentucky-American customers.[218] Recognizing that modifications to the Cost of Service Rates would require a reduction in volumetric rates, we find that maintaining those rates at existing levels is the more reasonable and prudent course of action.

<u>General Water Rates</u>

The rates and charges contained in the Appendix to this Order produce the required revenue requirement based upon the revised forecasted sales. For a residential customer who uses an average of 5,000 gallons per month, these rates will increase his or her monthly bill from $35.40 to $38.95, or approximately 10.03 percent.

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[217] *See, e.g.*, Case No. 2004-00103, Order of Feb. 28, 2005 at 80 - 83.

[218] Direct Testimony of Brian Kalcic at 11 ("a reduction in consumption charges would signal GMS customers that KAW's costs of supplying, treating and delivering 1,000 gallons of water are declining at a time when the Company claims such costs are increasing.").

Under Kentucky-American's proposed rates, the same customer would have seen his or her monthly bill increase 16.47 percent to $41.23.

Other Issues

Distribution System Improvement Charge. Kentucky-American proposes to implement a Distribution System Improvement Charge ("DSIC") to permit it to "accelerate the replacement of its aging infrastructure."[219] The DSIC is intended to encourage increased stockholder investment by eliminating the regulatory lag between the time when Kentucky-American makes an investment in plant and when it recovers the carrying cost in rates. Kentucky-American argues that the regulatory lag between investment and recovery in rates limits the amount of capital the stockholders are willing to make available to fund plant replacement.

The proposed DSIC would allow recovery through a separate billed charge of the cost of capital, depreciation, and property tax associated with qualified investment between rate case proceedings. The investment must be on plant that is non-revenue producing and was not included in rate base in a prior base rate case. The DSIC charge would be established on an annual basis using a 13-month average end-of-month UPIS balances and would reflect qualified plant additions constructed after the conclusion of the forecasted test year in the previous rate case. Qualified UPIS additions would be reduced by the projected UPIS retirements associated with the DSIC additions when calculating depreciation and property tax expense.[220]

An application for a DSIC would be filed 90 days prior to the effective date of each DSIC implementation. Each DSIC would include an annual reconciliation filing

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[219] Testimony of Gary M. Verdouw at 17.

[220] *Id.* at 22.

made not later than 60 days after the conclusion of each DSIC year. Each filing would contain a detailed listing of each qualifying DSIC project completed and placed in service during the immediate preceding year. The filing is subject to Commission review and adjustment. The DSIC would be cumulative and would re-established at zero at the conclusion of the next base rate proceeding at which time the DSIC costs would be included in base rates. The DSIC would be capped at 10 percent of the authorized revenue level established in Kentucky-American's most recent rate proceeding.[221]

Kentucky-American argues that a pressing need exists to replace the distribution infrastructure that has exceeded its life expectancy. It argues that the reliability of its service is dependent upon its ability to replace aging distribution infrastructure.[222] It further states that implementation of the DSIC will permit it to focus upon replacement of mains that are six inches or less in diameter. These mains, it argues, are responsible for the majority of the distribution system leaks and failures.[223]

Kentucky-American contends that the DSIC "has a host of attendant customer protection measures that dispel any suggestion that KAWC is seeking to push through costs without sufficient regulatory oversight."[224] It further contends that the DSIC is a well-accepted regulatory mechanism that has been used in several states to address

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[221] *Id. at 23.* In this case the proposed DSIC would be limited to $9,393,361 [$12,068,431(Kentucky-American's Revised Increase) + $81,865,176 (Revised Revenue from Water Sales) x 10%].

[222] *Id.* at 16.

[223] *Id.* at 19.

[224] Kentucky-American Brief at 24.

defined and significant infrastructure deficiency.[225] It compares the DSIC to the accelerated main replacement programs and gas line trackers the Commission has approved for other utilities.[226]

Kentucky-American explains that currently 82 miles of its six-inch or smaller water mains are 75 years old or older.[227] At the current annual investment rate of $3 million to $5 million, it will take approximately 41 years to replace the identified mains.[228] At the conclusion of this period, there will be an additional 947.77 miles of six-inch or smaller main with lives of greater than 75 years.[229] If a DSIC is approved, Kentucky-American intends to increase the capital available for the main replacement to a range of $5 million to $7 million, which Kentucky-American expects will shorten the replacement period to 16 to 27 years.[230]

The AG opposes the proposed DSIC tariff rider. He contends that the DSIC is ill-advised and unnecessary. The AG argues that Kentucky-American wants a solution for something that is not actually a problem.[231] Noting that since 1992 Kentucky-American has submitted a rate case with a forecasted test period every two years, the AG contends that the frequency of Kentucky-American's rate case applications "demonstrates management's focused efforts to minimize regulatory risk and the risk

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[225] Testimony of Gary M. Verdouw at 20 – 21.

[226] Kentucky-American Brief at 117.

[227] Direct Testimony of Lance Williams at 15.

[228] *Id.*

[229] *Id.*

[230] Kentucky-American Response to the Commission Staff's Second Information Request, Item 50.

[231] AG Brief at 8.

associated with the recovery of capital investments."[232] According to the AG, the DSIC offers no material, incremental benefit, and that its approval would throw aside twenty years of effective regulatory oversight.[233]

He points to Kentucky-American's admission that there is no certainty that the DSIC tariff rider will reduce the frequency of base rate filings or that it will result in any short-term savings in operation and maintenance expenses.[234] The AG further argues that Kentucky-American has not identified the specific projects that will be recovered through the DSIC, nor does it have written procedures or policies to rank or prioritize the replacement of aging mains.[235] The AG argues that the DSIC "stands to reverse all of the gains made during the last twenty years in KAWC's capital budgeting and construction practices."[236]

Kentucky-American counters that it has provided details of its infrastructure planning process, identified the amount of its system that has exceeded its useful life, provided its current replacement rates, and identified the number of years it will take to replace 6 inch and less mains that have been in service longer than 75 years.[237] Kentucky-American asserts that it has shown that the replacement rate for its system mains is inadequate and must be accelerated if the problem is to be addressed in a timely fashion.[238]

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[232] *Id.* at 7 - 8.

[233] *Id.* at 8.

[234] Direct Testimony of Stephen M. Rackers at 10.

[235] *Id.* at 8

[236] *Id.*

[237] Kentucky-American Brief at 26.

[238] *Id.*

Kentucky-American argues that the primary purpose of the DSIC tariff rider "is not to produce cost savings or delay rate cases, but to accelerate the needed remediation of aging water utility infrastructure on a proactive and sustained basis."[239] Incident to achieving this goal, are long-term cost reductions that may occur through reduced energy usage, pumping costs, reductions in unaccounted for water loss, reduced main breaks, and fewer customer calls about service interruptions.[240] Kentucky-American contends that its ratepayers will benefit from any of these cost reductions in the long term, and that the DSIC "will permit the Company to reduce the frequency of base rate cases."[241] These benefits are secondary to the principal benefit of Kentucky-American's DSIC.[242]

Kentucky-American is currently investing between $3 million to $5 million annually to replace its six-inch or smaller mains that have been in service 75 years or longer. Kentucky-American estimates that at this rate of investment, it will take 41 years to replace the identified mains. If it is granted a DSIC tariff rider, Kentucky-American will increase its annual investment to a range of $5 million to $7 million and estimates that it will take between 16 and 27 years to replace the mains. The annual replacement rate will increase from the current rate of two miles per year to a range of three miles to five miles.

Based upon our review of the evidence, the Commission finds that the proposed DSIC tariff should be denied. Given the minimal impact of Kentucky-American's increased investment on main replacement, the Commission is of the opinion that the

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[239] *Id.*at 27.

[240] *Id.*

[241] *Id.*

[242] *Id.*

effect of the DSIC tariff rider will be marginal. If Kentucky-American continues its current course of submitting rate cases approximately every two years, then its estimated impact of the accelerated replacement of the mains has been overstated. Further, Kentucky-American contradicts itself when it states that mains with a diameter of six inches or less are responsible for the majority of the distribution system leaks and failures,[243] but then claims that DSIC tariff rider will not result in any identifiable cost savings in the near term. Unlike the DSIC tariff rider, the accelerated gas main tariff riders were allowed for safety concerns and the main replacements were for a defined accelerated replacement period.

Purchased Power and Chemical Charge. Kentucky-American proposes to establish a Purchased Power and Chemical Charge ("PPACC") to reflect the incremental changes in purchased power and purchased chemical costs from the level authorized for recovery in a base rate case proceeding.[244] The PPACC would have the following features:

- In a base rate case proceeding, the Commission would establish the appropriate level of purchased power and chemical expenses to be included in base rates.

- Each month this base cost, which is established on a per unit basis (1,000 gallons of water), would be compared to current month actual purchased power and chemical costs.

- Annually, Kentucky-American would file with the Commission a report of its actual purchased power and chemical costs, as well as the reconciliation of any prior period PPACC Rider over or under-recoveries.

- The PPACC would be determined by dividing the cumulative annual incremental increase or decrease in purchased

[243] Rebuttal Testimony of Scott W. Rungren at 10.

[244] Direct Testimony of Gary M. Verdouw at 28; Application Ex. 2 at 23.

power and chemical costs, grossed-up for the associated impact of revenue taxes, by projected annual base rate revenue subject to the PPACC Rider.

- The PPACC Rider would be expressed as a percentage and would be applied to the amount billed to each customer. The PPACC Rider amount would be reflected as a separate line item on the bill of each customer.

- The PPACC Rider would be subject to an annual reconciliation to determine the amount of any prior period PPACC Rider over or under-recovery which amount would be deferred and included in the Company's next PPACC for return to or recovery from customers.[245]

Kentucky-American contends that the PPACC is necessary to address the unpredictability and lack of control over purchased power and chemical expenses.[246] It maintains that the combined cost of purchased power and chemicals is the largest non-labor related component of its operations and maintenance expenses[247] and that the cost of purchasing these commodities is generally beyond Kentucky-American's control and their pricing can be volatile.[248]

Kentucky-American's forecasted chemical expense accounts for 5.3 percent of its total forecasted operation and maintenance expenses and 1.85 percent of its total revised revenue requirement.[249] Purchased power expense accounts for 11.22 percent

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[245] Direct Testimony of Gary M. Verdouw at 31 – 31.

[246] *Id.* at 29 – 30.

[247] *Id.* at 30.

[248] *Id.* at 31.

[249] Base Period Update-Ex. 37 Sch. A and Sch. C-1. $1,779,872 (Chemical Expense Forecast) ÷ $33,587,569 (Total Operation and Maintenance Expense Forecast) = 5.3%. $1,779,872 (Chemical Expense Forecast) ÷ $96,208,414 (Revenue Requirement Revised Forecast) = 1.85%. *See also* Kentucky-American's Response to Hearing Data Requests, Item 31 ("chemical expense comprises 5.24% of Kentucky American's total operations and maintenance expenses from the Cost of Service Study ("COSS") and 2.16% of the Total Cost of Service").

of Kentucky-American's total operation and maintenance expenses and 3.92 percent of its total revised revenue requirement.[250]

The AG argues that these expenses do not, separately or combined, warrant deviation from traditional rate-making methodologies.[251] AG Witness Rackers testified that the use of PPACC effectively allows Kentucky-American to engage in single issue ratemaking. He contends that it allows Kentucky-American to receive additional revenue in rates due to an increase in a tracked expense or decrease in tracked revenue without any consideration of whether it would simultaneously be receiving offsetting decreases in expenses or offsetting increases in revenues for those expenses and revenues that are not being tracked.[252]

The AG also asserts that, given Kentucky-American's frequent rate applications, no certain incremental benefit associated with the use of a tariff tracker mechanism exists. He further asserts that the PPACC tracker may actually add regulatory burden and unnecessary complexity.[253] He warns that a tracker may serve as a disincentive for

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[250] Base Period Update-Ex. 37 Sch. A and Sch. C-1. \$3,768,292 (Fuel and Power Expense Forecast) ÷ \$33,587,569 (Total Operation and Maintenance Expense Forecast) = 11.22%. \$3,768,292 (Fuel and Power Expense Forecast) ÷ \$96,208,414 (Revenue Requirement Revised Forecast) = 3.92%. *See also* Kentucky-American's Response to Hearing Data Requests, Item 31 ("The purchased power expense comprises 9.16% of total operations and maintenance expenses, and 4.58% of Total Cost of Service.").

[251] AG Brief at 19 - 20.

[252] Direct Testimony of Stephen M. Rackers at 20.

[253] AG Brief at 20.

Kentucky-American to control or to minimize its expenses.[254] The AG concludes that, if Kentucky-American needs a deviation, then the deferred debit methodology is better-suited for this application.[255]

Based upon our review of the record, we find that the proposed PPACC tariff rider should be denied. We do not agree with the premise that chemical and purchased power are totally outside of utility control. A utility may enter into long-term contracts for the purchase of chemicals. It may invest in energy-efficient equipment and take advantage of time-of-day rates to lessen its power costs. Moreover, if it is greatly concerned about its power costs, it can intervene in regulatory proceedings to zealously protect its interest when electric power rate adjustments are sought. As Kentucky-American concedes that its customers' water usage is decreasing, corresponding decreases in chemical and power purchases are also likely.

Finally, given that purchased power and chemical expenses account for a relatively small percentage of total utility expenses, the Commission finds no compelling need for the proposed tariff rider. For Kentucky-American, neither expense is at a level that is comparable to the level of purchased gas expense for a natural gas distribution

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[254] AG Witness Rackers testified:

> [T]he use of a tracker eliminates the inherent incentive a utility has to minimize expenses and maximize revenues between base rate proceedings, which over time works to keep electric rates lower than they otherwise would be. When a utility is allowed to track an expense, it can become indifferent with regard to minimizing that expense since it knows it will not need to file a new base rate case in order to recover any increases in that expense. Similarly, when a utility is allowed to track a revenue, it can become indifferent with regard to maximizing that revenue since it knows that it will not need to file a base rate case in order to recover any shortfall in that revenue.

Direct Testimony of Stephen M. Rackers at 20.

[255] *Id.*

utility or purchased fuel expense for an electric utility. Other state commissions have reached the same conclusion.[256]

Tap Fees. Kentucky-American proposes to increase its tap fees based upon a five-year average of its actual cost of meter installation. Historically, Kentucky-American has used a three-year average to establish this fee, but since its last general rate adjustment application has used a five-year average. It has used the longer period to establish the fee due to the fewer number of connections caused by slower economic growth.[257] We find that the proposed tap fees will yield only enough revenue to pay the expenses incurred in rendering the service, are reasonable and should be approved.

Activation Fee. Kentucky-American proposes to increase its activation fee from \$26 to \$28. It has analyzed the costs incurred for service runs related to service activation, disconnection and reconnection. These analyses reflect that the current charge does not recover the full cost of the service activity. Ms. Bridwell testified that due to the utility's efforts in integrating technology and driving efficiencies, the costs of service trips have been very flat, but that the proposed adjustment is appropriate to bring the fee closer to the actual costs of providing the service.[258] We find that the proposed activation fee will yield only enough revenue to pay the expenses incurred in rendering the service, is reasonable, and should be approved.

Reconnection Fee. Kentucky-American proposes to increase its reconnection fee from \$26 to \$56. The proposed revision recognizes that the activity involved with a

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[256] *See, e.g., Re West Virginia-American Water Co.*, 290 PUR4th 125 (W.Va. PSC Apr. 18, 2011) (rejecting a request to establish an investigation into the establishment of a purchased power adjustment clause because purchased power was not a dominant part of the water utility's cost of service).

[257] Direct Testimony of Lance Williams at 2-3.

[258] Direct Testimony of Linda C. Bridwell at 13-14.

reconnection involves two service trips to the customer's premises. The first trip is necessary to disconnect service. The second trip concerns the reconnection of service. In Case No. 2007-00143,[259] when Kentucky-American requested a reconnection fee of $26, it recognized that the fee would not provide for full recovery of the costs to provide the service.[260] The utility now wishes to obtain full recovery of these costs. We find that the proposed reconnection fee will yield only enough revenue to pay the expenses incurred in rendering the service, is reasonable, and should be approved.

Elimination of Afterhours Charges. Kentucky-American proposes to eliminate its Afterhours Activation or Reconnection Fees. As it has streamlined its organization, responsibility for after-hours service activations and reconnections has shifted to senior field services employees who work during the day. In recent years, Kentucky-American has encouraged customers to use after-hours activations or reconnections only on an emergency basis. This action has reduced overtime expense and also reduced the administrative work for Kentucky-American call representatives who processed the requests. In lieu of assessing the charges, Kentucky-American will continue to encourage its customers to use after-hours activations or reconnections only on an emergency basis.[261] No party opposes the proposal. We find that Kentucky-American's proposal is reasonable and should be approved.

Fire Hydrant Charge. Kentucky-American proposes to increase its monthly public fire hydrant charge from $37.84 to $45.30. Noting that the proposal will increase

[259] Case No. 2007-00143, *Adjustment of Rates of Kentucky-American Water Company* (Ky. PSC filed Apr. 30, 2007).

[260] Case No. 2007-00143, Kentucky-American's Response to Commission Staff's First Request for Information, Item 1(a), W/P-2 at 89 (filed May 21, 2007).

[261] *Id.* at 15-16.

its cost by more than $600,000, LFUCG argues that such an increase to a single customer is "excessive and unjust and would result in rate shock to Lexington."[262] It further argues that principles of gradualism require a lower increase. While we differ with LFUCG on the definition of "rate shock" and gradualism, we find that, as a matter of fairness and equity, the increase in fees for private and public fire hydrants should be limited to the same percentage increase as the increase in the average residential customer's bill. This action will limit the increase in LFUCG's total cost for public fire hydrant rentals to approximately $300,000.

Unified Rate Structure/Surcharge for Northern Division Connection Project.

LFUCG states that none of the cost of the Northern Division Connection Project, which will permit Kentucky River Station II to serve as a water source for the Northern Division, should be assigned to Central Division customers. It argues that "the Company asks that the Central Division customers supplement the Northern Division while receiving no tangible benefit."[263] To permit Kentucky-American to recover the cost of the Northern Division Connection Project through rates and to accept LFUCG's position that no costs associated with the Project be recovered from Central Division customers is only possible if the present unified rate structure is abandoned or if a surcharge to recover the Project's costs is imposed solely on Northern Division customers.

Kentucky-American opposes the termination of its unified rate structure and the assessment of a surcharge. It argues that the Commission encouraged the use of a

[262] LFUCG's Brief at 5.

[263] LFUCG Brief at 8.

unified rate structure in Case No. 2005-00206,[264] approved such a pricing structure in Case No. 2007-00143, and has continued to approve such structure in subsequent rate case proceedings. It notes that LFUCG agreed to a unified rate structure in Case No. 2007-00143 as part of a settlement agreement. None of the parties objected to the continued use of a unified rate structure in Kentucky-American's next rate case proceeding.

Kentucky-American further advances the following arguments in support of the unified rate structure: (1) A unified rate structure spreads the cost of capital expenditures across a larger customer base, thereby decreasing the effect of a capital project on each customer; (2) It eliminates the administrative burden of maintaining multiple sets of books and records; (3) It creates economies of scale and maintains more affordable rates for customers by spreading costs over the entire base of customers; (4) It lowers administrative and regulatory costs; (5) It improves financial capital and capital deployment; (6) It achieves rate and revenue stability; and (7) It improves service affordability for very small systems.[265]

Kentucky-American states that its accounting system does not presently provide an accurate and precise allocation of costs between its two divisions and must be modified to permit the maintenance of separate cost records for the two divisions.[266] It asserts that establishing separate and distinct rate schedules for each division that

[264] Case No. 2005-00206, *Verified Joint Application of the City of Owenton and Kentucky-American Water Company for Approval of the Transfer of the Ownership of Water- and Wastewater-Related Assets of the City of Owenton to Kentucky-American Water Company* (Ky. PSC July 22, 2005).

[265] Kentucky-American Brief at 49; *see also* Janice A Beecher, Consolidated Water Rates: Issues and Practices in Single Tariff Pricing (Sept. 1999).

[266] Kentucky-American's Motion for Relief at 2 – 3 (filed Mar. 12, 2013).

accurately reflect the cost of service, therefore, would have to be deferred to Kentucky-American's next rate case proceeding.

As to the use of a surcharge on Northern District customers to recover the Northern Division Connector Project's costs, Kentucky-American argues that a surcharge conflicts with a unified rate structure and is generally inappropriate. It asserts that such a surcharge is contrary to water-industry practice that provides that surcharges should be used to recover costs arising from one-day events or emergencies.[267]

When questioned regarding the elimination of the uniform rate structure, the AG stated that he does not recommend any change to Kentucky-American's unified rate structure.[268] He also does not recommend the use of a surcharge on Northern Division customers to recover Northern Division Connection Project costs.[269]

Based upon our review of the record, we find that Kentucky-American's unified rate structure should remain in place. The Commission has consistently supported the concept of a unified rate structure to encourage consolidation of water systems and to improve the quality of water service in the Commonwealth. Reversal of this policy would discourage further water system consolidation.

Elimination of the unified rate structure is inconsistent with the integration of the Northern and Central Divisions. The two divisions have ceased to be separate water systems. With the construction of the Northern Division Connection Project, the divisions are interconnected and share the same water treatment source. Their

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[267] *Id.* at 52.

[268] AG's Response to Commission Staff's Request for Information, Item 31.

[269] *Id.* Item 30.

administrative, engineering, purchasing and operation functions are merged. These events have rendered moot the questions about the use and appropriateness of a unified rate structure.

We further find that the assessment of a surcharge on Northern Division customers to recover the costs of the Northern Division Connection Project is unwise and unreasonable. It is contrary to the concept of single tariff pricing. As the Northern Division Connection Project will allow for further integration of the two divisions and create cost savings for both divisions through the increased and more efficient use of Kentucky River Station II, its costs should be borne by all Kentucky-American customers.

A separate surcharge, moreover, would likely create a significant hardship for Northern Division customers. If a surcharge on Northern District customers is used to recover the Northern Division Connection Project's costs, a monthly surcharge of $32 must be assessed on each Northern Division customer for the next 30 years. In contrast, recovery of these costs through general rates will result in an increase of approximately $0.84 to the average Kentucky-American residential customer's monthly bill. Under these circumstances, recovery of the costs through general rates is the more reasonable and preferable method and is consistent with our prior directives regarding the consolidation of Kentucky-American's rates.[270]

[270] *See* Case No. 2004-00103, Order of Feb. 28, 2005 at 75 – 76; Case No. 2005-00206, Order of July 22, 2005 at 6.

Future Water System Acquisitions

LFUCG cautions the Commission to pay close attention to the manner in which the costs of Kentucky-American's system expansions are recovered. It expresses the concern that the Central Division customer base may be used as a funding mechanism for future water system expansions[271]

Kentucky-American's Northern Division perfectly illustrates this concern. In this case, Kentucky-American acquired three small water systems that were experiencing significant operation problems and required infrastructure improvements. Given the small customer base of these acquired water systems, the only economically feasible means of financing these infrastructure improvements was to spread those costs over Kentucky-American's entire customer base. To finance the cost of the improvements only through rates assessed to the acquired systems' customers would have resulted in unaffordable rates for those customers. Instead, Kentucky-American recovered these costs from all of its customers, without regard to whether those customers directly benefited from the infrastructure improvements. Because these costs were spread over a much larger customer base, the increase in customer rates was relatively small.

This practice of cost sharing or cost spreading is not uncommon. For example, the cost of serving customers who are located closer to a water treatment plant is likely less than cost of serving customers who are located farther from treatment plant in the outer reaches of a water utility's service area. This Commission has recognized that differences in customer locations do not necessarily require different rates. The consolidation of costs in a unified pricing structure ensures affordable rates and high quality service for the greatest number of customers.

[271] LFUCG Brief at 8.

Kentucky-American's acquisition of small water systems that are in need of infrastructure improvement presents a critical question: What is the obligation of Kentucky-American's existing customers to finance system improvements to these acquired systems through higher rates for service? The answer depends upon the circumstances of each system acquisition. We recognize, however, that limits exist and that Kentucky-American's existing ratepayers should not be considered a deep pocket that is available in all cases to finance the improvements of acquired small water systems.

Our review of the record of Case No. 2005-00206 indicates this question was not considered. The Commission failed to thoroughly examine the possible consequences of Kentucky-American's acquisition of the Owenton Water System, including the cost of necessary infrastructure improvements and its potential effect on Kentucky-American's rates. As there was no specific statutory requirement for prior Commission review of Kentucky-American's acquisition,[272] the lack of review may be explainable. As the Commission in that proceeding also directed the use of a unified rate structure, the Commission should have at least posed the question.

The Commission finds that in the future a review of any acquisition of a water system by Kentucky-American should be conducted prior to the completion of that acquisition and that such review should address the question of the acquisition's potential effects on rates. In those instances in which Kentucky-American is acquiring a jurisdictional utility, KRS 278.020 currently requires prior Commission approval of the

[272] Case No. 2005-00206, Order of July 22, 2005 at 2 - 3 ("We find, however, no statutory requirement for such approval. KRS 278.020(5) and 278.020(6) require prior Commission approval of the transfer of control or ownership of any "utility." As a city, Owenton is not within the statutory definition of "utility." *See* KRS 278.010(3). KRS 278.020 therefore does not require Commission approval of the proposed transaction.")

acquisition. To meet its statutory obligation of demonstrating that the proposed acquisition is in the public interest, Kentucky-American will be expected to provide a detailed assessment of the costs of serving the acquired system and any necessary or expected service improvements, a plan for financing the cost of such improvements, an estimate of effect on the rates of acquiring system customers, and the benefits that existing system customers will accrue as a result of the acquisition.

As KRS 278.020 does not require Commission approval of Kentucky-American's acquisition of a non-jurisdictional water system, such as a municipal water utility, we nonetheless find that Kentucky-American should notify the Commission of its intent to acquire such systems at least 90 days prior to the proposed acquisition date. This notice will enable the Commission to conduct an inquiry or investigation into the proposed acquisition and its potential effects on existing system ratepayers.

We place Kentucky-American on notice that the consolidation of an acquired system's rates with Kentucky-American's rates should not be presumed. Kentucky-American must demonstrate the appropriateness and reasonableness of consolidating the rates. It should expect to maintain a separate set of records for acquired water systems for a reasonable period of time after the acquisition to enable the Commission to assess the cost of service for the acquired and acquiring systems and to better assist the Commission in determining the appropriateness and reasonableness of a unified/consolidated schedule of rates.

The position that we state today does not represent a departure from past Commission precedent. In Case No. 9283, we declared:

> The record in this case, in Case No. 9360, and in Case No. 9359 indicates that Kentucky-American intends to expand its service area outside the Urban County. The Commission

> commends Kentucky-American for pursuing the goal of serving as a regional water supplier. The Commission encourages Kentucky-American to pursue supply contracts with the adjacent districts as a way of using its excess treatment capacity and as an efficient method of providing basic water service within the region. But as a leader in Kentucky in the development of a regional water supply system, Kentucky-American must also look at the accompanying issues that this objective raises for the Commission. These issues include equity in cost allocation of treatment plant capacity and distribution capacity among service areas. The Commission is also concerned about the appropriate rate design for customer classes outside the Urban County. **Kentucky-American should be aware that the cost allocation and rate design method approved for the Urban County will not automatically be considered appropriate by the Commission for service to other counties.**[273]

Today, we merely affirm that position.

Service to Low-Income Customers

In Case No. 2010-00036, the Commission found that a collaborative effort should be undertaken to study potential regulatory and legislative solutions to the increasing lack of affordability of water service for low-income customers.[274] We directed Kentucky-American to initiate the process by arranging a meeting of the interested parties, to file periodic reports of the group's progress, and to submit a final report of the group's efforts no later than November 1, 2011.

CAC contends that Kentucky-American failed to comply with our directive. It asserts that no effort was undertaken by Kentucky-American to consider the comments and positions of other interested parties.[275] It further asserts that, even after legislation

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[273] Case No. 9283, *Notice of Adjustment of the Rates of Kentucky-American Water Company* (Ky. PSC Oct. 1, 1985) at 14 (emphasis added).

[274] Case No. 2010-00036, Order of Dec. 14, 2010 at 75 – 76.

[275] CAC Brief at 9; VT 06/05/2013; 17:57:18 - 17:57:29.

was developed by the collaborative group, Kentucky-American failed to take the necessary efforts to garner support for the proposed legislation. It requests that Kentucky-American be directed to fund a study for solutions to the water-affordability problem in the Kentucky-American service area and that the Center on Poverty Research at the University of Kentucky conduct the study.

In a similar vein, the AG describes Kentucky-American's efforts as "feeble" and states that the Commission's "directions were not followed."[276] He rejects any suggestion that his office was an impediment to the group's work and states his willingness to work with Kentucky-American and other stakeholders on the issue of affordability.[277]

Kentucky-American insists that it has complied with the letter and the spirit of the Commission's directive. It organized the required meetings, filed required periodic reports, and timely submitted the required final report.[278] It notes that a legislative solution was developed, but that the other stakeholders failed to adequately support the agreed-upon solution. Kentucky-American insists that the most effective and most appropriate solution is a change in existing law to permit water utilities to use rate classifications based upon a customer's income level. It stated that it remained interested in enacting legislation to permit water utilities to assess a reduced meter charge to low-income customers.[279]

Based upon our review of the record, we find that Kentucky-American has complied with the letter of our Order, but not its spirit. For that matter, no collaborative

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[276] AG Brief at 27.

[277] *Id.*

[278] Kentucky-American Brief at 59 – 60.

[279] *Id.* at 60 – 61.

member has fully complied with the spirit of Order. Notwithstanding their public posturing, collaborative members made little investment of time or effort in the process. No attempt was made to solicit potential stakeholders from outside this proceeding to expand the view, to explore administrative or ratemaking alternatives, or to seek the assistance of outside governmental or non-governmental organizations to examine the problem. When problems with the process arose, no collaborative member attempted to inform the Commission of the alleged problems or request our intervention. As a result, the collaborative has not met our expectations or produced any meaningful ideas.

While CAC's suggestion to involve the Center on Poverty Research has merit, this Commission lacks the authority to require Kentucky-American to expend its monies to fund an independent study on the issue and cannot grant CAC's requested relief. We find the parties' failure to seek out the Center on Poverty Research's assistance when the collaborative process began to be both unfortunate and indicative of the lack of imagination and initiative that they have displayed throughout the process.

The Commission finds that the collaborative should not continue in its present form. We will continue to evaluate possible forums for exploring this issue, either through a formal proceeding or through some informal process that may include the greater involvement of Commission's Staff. For the time being, however, we will not take any action to continue the collaborative process.

SUMMARY

After consideration of the evidence of record and being otherwise sufficiently advised, the Commission finds that:

1. Kentucky-American's proposed rates would produce revenues in excess of those found reasonable herein and should be denied.

2. Kentucky-American's proposed DSIC tariff rider and PPACC charge are unreasonable and should be denied.

3. Kentucky-American's proposed non-recurring charges are reasonable and should be approved.

4. The rates in the Appendix to this Order are fair, just, and reasonable and should be charged by Kentucky-American for service rendered on and after July 26, 2013.

5. Kentucky-American should, within 60 days of the date of this Order, refund to its customers with interest all amounts collected from July 26, 2013 through the date of this Order that are in excess of the rates that are set forth in the Appendix to this Order. Interest should be based upon the average of the Three-Month Commercial Paper Rate as reported in the Federal Reserve Bulletin and the Federal Reserve Statistical Release on the date of this Order.

IT IS THEREFORE ORDERED that:

1. Kentucky-American's proposed rates, except for those directly related to non-recurring services, are denied.

2. The rates set forth in the Appendix to this Order are approved for service rendered on and after July 26, 2013.

3. Within 60 days of the date of this Order, Kentucky-American shall refund to its customers with interest all amounts collected for service rendered from July 26, 2013, through the date of this Order that are in excess of the rates that are set forth in the Appendix to this Order.

4. Kentucky-American shall pay interest on the refunded amounts at the average of the Three-Month Commercial Paper Rate as reported in the Federal Reserve Bulletin and the Federal Reserve Statistical Release on the date of this Order. Refunds shall be based on each customer's usage while the proposed rates were in effect and shall be made as a one-time credit to the bills of current customers and by check to customers that have discontinued service since July 26, 2013.

5. Within 75 days of the date of this Order, Kentucky-American shall submit a written report to the Commission in which it describes its efforts to refund all monies collected in excess of the rates that are set forth in the Appendix to this Order.

6. Within 20 days of the date of this Order, Kentucky-American shall file using the Commission's Electronic Tariff Filing System its revised tariff sheets containing the rates approved herein and signed by an officer of the utility authorized to issue tariffs.

7. Any documents filed with the Commission pursuant to Ordering Paragraph 5 shall reference this case number and shall be retained in the utility's general correspondence file.

8. At least 90 days prior to the execution of any agreement to acquire a water system that is not subject to Commission jurisdiction, Kentucky-American shall advise the Commission in writing of the pending transaction, to include the name and location of the water system and a brief description of the transaction.

By the Commission

ENTERED
OCT 25 2013
KENTUCKY PUBLIC
SERVICE COMMISSION

ATTEST:

Executive Director

Case No. 2012-00520

OCT 2 5 2013

APPENDIX

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 2012-00520 DATED

The following rates and charges are prescribed for the customers in the area served by Kentucky-American Water Company. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under authority of the Commission prior to the effective date of this Order.

Meter Charge Rates

Meter Size	
5/8-Inch	$ 12.45
3/4-Inch	18.68
1-Inch	31.13
1 1/2-Inch	62.25
2-Inch	96.60
3-Inch	186.75
4-Inch	311.25
6-Inch	622.50
8-Inch	996.00

Consumption Rates

Customer Category	Rate Per 100 Cubic Feet All Consumption	1,000 Gallons All Consumption
Residential	$3.9647	$5.30040
Commercial	3.6113	4.82800
Industrial	2.9132	3.89470
Municipal & Other Public Authority	3.1754	4.24520
Sales for Resale	3.1486	4.20930

Municipal or Private Fire Protection Service

Service Size	Rate Per Month	Rate Per Annum
2-Inch	$ 8.92	$ 107.04
4-Inch	35.90	430.80
6-Inch	80.74	968.88
8-Inch	143.54	1,722.48
10-Inch	224.34	2,692.08
12-Inch	323.50	3,882.00
14-Inch	439.89	5,278.68
16-Inch	574.42	6,893.04

Rates for Public or Private Fire Service

	Rate Per Month	Rate Per Annum
For each public fire hydrant contracted for or ordered by Urban County, County, State or Federal Governmental Agencies or Institutions	$ 41.60	$ 499.20
For each private fire hydrant contracted for by Industries or Private Institutions	79.77	957.24

Tapping (Connection) Fees

Meter Connection Size	
5/8-Inch	$1078.00
1-Inch	1,576.00
2-Inch	3,563.00
Service larger than 2-Inch	Actual Cost

Nonrecurring Charges

Activation Fee	$28.00
Reconnection Charge	56.00

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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	)	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN	)	
WATER COMPANY FOR A CERTIFICATE OF	)	**CASE NO. 2007-00134**
CONVENIENCE AND NECESSITY AUTHORIZING	)	
THE CONSTRUCTION OF KENTUCKY RIVER	)	
STATION II, ASSOCIATED FACILITIES AND	)	
TRANSMISSION MAIN	)	

ORDERING PARAGRAPH 9 REPORT

In accordance with Ordering Paragraph 9 of the Commission's April 25, 2008 Order, Kentucky-American Water Company ("KAW") provides the following monthly report on the status of the development and implementation of its water conservation, leak mitigation and demand-side management plans. KAW hereby incorporates all prior Ordering Paragraph 9 Reports it has filed in this matter.

As set forth in previous reports, KAW retained Gannett Fleming, Inc. to assist with the development of a leak mitigation plan and Strand Associates, Inc. to assist with the development of a conservation/demand management plan in accordance with Ordering Paragraph 8 of the Commission's April 25, 2008 Order. As for the leak mitigation plan, the consultant completed its final report and it has been submitted to the Commission. KAW formed a task force comprised of KAW personnel from various disciplines and job areas that implemented many of the recommendations in the report. A copy of the latest task force status report is attached.

As for the conservation/demand management plan, KAW formed a task force to assess the conservation study that has been submitted to the Commission. This task force is also comprised of KAW personnel from various disciplines and job areas. The task force determined the appropriateness, effectiveness, and best methods of implementing the conservation

AG EXH. NO 7

recommendations set forth in the conservation study. The task force also determined that a team needed to be assembled that focuses on raising customer awareness of existing conservation programs and on internal efforts recommended by the consultant. As a result of that process, in April 2019, KAW's conservation activities included: sharing conservation tips on social media, its website, at the customer payment lobby monitor at KAW's offices, and on the April customer bills; running conservation tips on iHeart and Cumulus radio stations; and handing out wise water use materials at the Arboretum's Arbor Day event and in the KAW payment lobby for Lex Gives Back week.

Respectfully submitted,

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Lindsey W. Ingram III

Counsel for Kentucky-American Water Company

CERTIFICATE OF SERVICE

This is to certify that the original and six (6) copies of the foregoing have been filed with the Public Service Commission this the 1st day of May, 2019 and a copy mailed to:

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NRW Status Report

1 May 2019

The Gannett Fleming (GF) study on Non Revenue Water (NRW) for Kentucky American Water (KAW) was supplied to the PSC in early September 2009. KAW has assembled a task force that includes a cross section of KAW personnel from various disciplines and job duties to assess each recommendation, and determine how to best integrate the recommendation into KAW operations.

The report's Executive Summary identifies 6 tasks and makes recommendations related to each. Only the tasks with pending actions in October 2010 are referenced in this report.

Under Task 1, GF recommended four actions. Four of the four recommended main replacement projects are complete.

Under Task 4, GF has recommended two metering studies that may offer value in ensuring metering accuracy. KAW conducted a detailed meter demand study to ensure that all large meters with bypass settings are metered at the bypass. As standard operating practice, Kentucky American Water will continue to monitor large meters as recommended in GF executive summary task 4.

Under Task 5, the GF study made three recommendations. The first and third recommendation, were addressed in prior reports and are complete. The second recommendation deals with property owners who do not address known leaks on private services. KAW continues to work with customers to address these issues.

Under Task 6, GF offers three recommendations, all involving adoption of the IWA/AWWA tracking methodology. KAW is already implementing both of the first two and continues to move forward on the third. The company's 12 month rolling NRW is 20.9% at March 31, 2019, as compared to 13.7% at the time of the GF study.

The IWA/AWWA methodology offers transparency into the various components of non-revenue water that may supplement information provided on the current PSC water loss reports.

U.S. DEPARTMENT OF THE TREASURY

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01/02/18	1.29	N/A	1.44	1.61	1.83	1.92	2.01	2.25	2.38	2.46	2.64	2.81
01/03/18	1.29	N/A	1.41	1.59	1.81	1.94	2.02	2.25	2.37	2.44	2.62	2.78
01/04/18	1.28	N/A	1.41	1.60	1.82	1.96	2.05	2.27	2.38	2.46	2.62	2.79
01/05/18	1.27	N/A	1.39	1.58	1.80	1.96	2.06	2.29	2.40	2.47	2.64	2.81
01/08/18	1.30	N/A	1.45	1.60	1.79	1.96	2.07	2.29	2.41	2.49	2.65	2.81
01/09/18	1.27	N/A	1.44	1.60	1.78	1.98	2.09	2.33	2.46	2.55	2.72	2.88
01/10/18	1.31	N/A	1.42	1.59	1.78	1.98	2.08	2.32	2.47	2.55	2.73	2.88
01/11/18	1.32	N/A	1.43	1.58	1.77	1.98	2.09	2.32	2.46	2.54	2.72	2.91
01/12/18	1.31	N/A	1.43	1.59	1.78	1.99	2.12	2.35	2.48	2.55	2.71	2.85
01/16/18	1.33	N/A	1.45	1.63	1.79	2.03	2.12	2.36	2.48	2.54	2.69	2.83
01/17/18	1.31	N/A	1.44	1.63	1.79	2.05	2.15	2.39	2.51	2.57	2.71	2.84
01/18/18	1.29	N/A	1.45	1.63	1.79	2.05	2.17	2.43	2.55	2.62	2.77	2.90
01/19/18	1.28	N/A	1.44	1.62	1.79	2.06	2.20	2.45	2.57	2.64	2.78	2.91
01/22/18	1.27	N/A	1.44	1.65	1.79	2.08	2.21	2.46	2.59	2.66	2.79	2.93
01/23/18	1.26	N/A	1.44	1.63	1.78	2.06	2.18	2.43	2.55	2.63	2.77	2.90
01/24/18	1.25	N/A	1.43	1.63	1.79	2.08	2.20	2.43	2.57	2.65	2.80	2.93
01/25/18	1.23	N/A	1.42	1.64	1.80	2.08	2.20	2.41	2.55	2.63	2.76	2.89
01/26/18	1.24	N/A	1.41	1.64	1.80	2.13	2.24	2.47	2.60	2.66	2.79	2.91
01/29/18	1.28	N/A	1.44	1.66	1.80	2.11	2.26	2.49	2.63	2.70	2.82	2.94
01/30/18	1.49	N/A	1.44	1.66	1.88	2.13	2.27	2.51	2.65	2.73	2.86	2.98
01/31/18	1.43	N/A	1.46	1.66	1.90	2.14	2.29	2.52	2.66	2.72	2.83	2.95
02/01/18	1.41	N/A	1.48	1.64	1.89	2.16	2.33	2.56	2.72	2.78	2.90	3.01
02/02/18	1.40	N/A	1.48	1.65	1.88	2.15	2.33	2.58	2.76	2.84	2.97	3.08
02/05/18	1.40	N/A	1.51	1.67	1.85	2.08	2.25	2.50	2.68	2.77	2.92	3.04
02/06/18	1.48	N/A	1.52	1.69	1.87	2.10	2.30	2.52	2.70	2.79	2.94	3.06
02/07/18	1.36	N/A	1.55	1.73	1.91	2.15	2.33	2.57	2.75	2.84	3.01	3.12
02/08/18	1.32	N/A	1.55	1.73	1.91	2.13	2.32	2.57	2.76	2.85	3.03	3.14
02/09/18	1.31	N/A	1.55	1.73	1.89	2.05	2.26	2.52	2.72	2.83	3.02	3.14
02/12/18	1.35	N/A	1.62	1.82	1.93	2.09	2.30	2.56	2.77	2.86	3.02	3.14
02/13/18	1.34	N/A	1.59	1.80	1.95	2.10	2.30	2.54	2.74	2.83	2.99	3.11
02/14/18	1.32	N/A	1.58	1.81	1.98	2.17	2.40	2.65	2.84	2.91	3.07	3.18
02/15/18	1.30	N/A	1.58	1.82	1.99	2.19	2.40	2.65	2.83	2.90	3.04	3.15

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02/16/18	1.35	N/A	1.62	1.83	2.00	2.21	2.38	2.63	2.81	2.87	3.02	3.13
02/20/18	1.39	N/A	1.66	1.87	2.01	2.25	2.40	2.65	2.81	2.88	3.04	3.15
02/21/18	1.40	N/A	1.64	1.85	2.03	2.26	2.44	2.69	2.86	2.94	3.11	3.22
02/22/18	1.34	N/A	1.63	1.84	2.02	2.25	2.42	2.66	2.84	2.92	3.09	3.21
02/23/18	1.38	N/A	1.64	1.85	2.02	2.25	2.39	2.62	2.79	2.88	3.04	3.16
02/26/18	1.39	N/A	1.66	1.87	2.03	2.22	2.37	2.60	2.77	2.86	3.03	3.15
02/27/18	1.49	N/A	1.66	1.87	2.08	2.27	2.43	2.67	2.83	2.90	3.06	3.17
02/28/18	1.50	N/A	1.65	1.86	2.07	2.25	2.42	2.65	2.80	2.87	3.02	3.13
03/01/18	1.50	N/A	1.63	1.85	2.05	2.22	2.36	2.58	2.74	2.81	2.97	3.09
03/02/18	1.50	N/A	1.65	1.86	2.06	2.25	2.40	2.63	2.79	2.86	3.02	3.14
03/05/18	1.53	N/A	1.70	1.86	2.06	2.24	2.41	2.65	2.81	2.88	3.04	3.16
03/06/18	1.56	N/A	1.68	1.87	2.06	2.25	2.42	2.65	2.81	2.88	3.03	3.14
03/07/18	1.57	N/A	1.68	1.87	2.05	2.25	2.42	2.65	2.81	2.89	3.04	3.15
03/08/18	1.57	N/A	1.67	1.89	2.05	2.25	2.42	2.63	2.79	2.86	3.01	3.13
03/09/18	1.57	N/A	1.67	1.89	2.03	2.27	2.45	2.65	2.82	2.90	3.04	3.16
03/12/18	1.60	N/A	1.71	1.89	2.05	2.27	2.43	2.64	2.79	2.87	3.00	3.13
03/13/18	1.64	N/A	1.73	1.90	2.03	2.26	2.41	2.62	2.77	2.84	2.98	3.10
03/14/18	1.71	N/A	1.76	1.94	2.05	2.26	2.41	2.61	2.75	2.81	2.94	3.05
03/15/18	1.70	N/A	1.77	1.95	2.07	2.29	2.42	2.62	2.76	2.82	2.94	3.05
03/16/18	1.71	N/A	1.78	1.96	2.08	2.31	2.44	2.65	2.78	2.85	2.96	3.08
03/19/18	1.70	N/A	1.80	1.99	2.08	2.31	2.45	2.65	2.78	2.85	2.97	3.09
03/20/18	1.76	N/A	1.81	1.97	2.08	2.34	2.49	2.69	2.82	2.89	3.01	3.12
03/21/18	1.71	N/A	1.74	1.95	2.06	2.31	2.46	2.69	2.82	2.89	3.01	3.12
03/22/18	1.67	N/A	1.72	1.95	2.05	2.29	2.43	2.63	2.76	2.83	2.94	3.06
03/23/18	1.69	N/A	1.74	1.92	2.04	2.28	2.41	2.61	2.74	2.82	2.94	3.06
03/26/18	1.71	N/A	1.79	1.94	2.06	2.33	2.44	2.64	2.78	2.85	2.96	3.08
03/27/18	1.69	N/A	1.77	1.93	2.10	2.26	2.39	2.58	2.70	2.78	2.90	3.03
03/28/18	1.65	N/A	1.73	1.95	2.12	2.28	2.41	2.59	2.72	2.77	2.89	3.01
03/29/18	1.63	N/A	1.73	1.93	2.09	2.27	2.39	2.56	2.68	2.74	2.85	2.97
04/02/18	1.68	N/A	1.77	1.92	2.08	2.25	2.37	2.55	2.67	2.73	2.85	2.97
04/03/18	1.70	N/A	1.75	1.92	2.09	2.28	2.41	2.60	2.73	2.79	2.90	3.02
04/04/18	1.67	N/A	1.71	1.90	2.07	2.28	2.42	2.61	2.73	2.79	2.91	3.03
04/05/18	1.67	N/A	1.72	1.93	2.07	2.30	2.45	2.64	2.76	2.83	2.95	3.07
04/06/18	1.68	N/A	1.73	1.91	2.06	2.27	2.40	2.58	2.70	2.77	2.89	3.01
04/09/18	1.67	N/A	1.76	1.93	2.08	2.29	2.43	2.60	2.72	2.78	2.89	3.02
04/10/18	1.63	N/A	1.74	1.93	2.09	2.32	2.45	2.62	2.74	2.80	2.89	3.02
04/11/18	1.64	N/A	1.73	1.95	2.09	2.32	2.45	2.62	2.72	2.79	2.87	2.99
04/12/18	1.65	N/A	1.75	1.95	2.11	2.34	2.49	2.67	2.78	2.83	2.92	3.05
04/13/18	1.64	N/A	1.76	1.97	2.12	2.37	2.51	2.67	2.77	2.82	2.91	3.03
04/16/18	1.64	N/A	1.79	1.98	2.12	2.39	2.52	2.69	2.78	2.83	2.91	3.03
04/17/18	1.68	N/A	1.80	2.02	2.16	2.41	2.52	2.68	2.77	2.82	2.89	3.00
04/18/18	1.67	N/A	1.81	2.01	2.17	2.42	2.57	2.73	2.83	2.87	2.95	3.06
04/19/18	1.67	N/A	1.82	2.01	2.21	2.44	2.58	2.77	2.87	2.92	3.01	3.11
04/20/18	1.65	N/A	1.81	2.01	2.22	2.46	2.62	2.80	2.91	2.96	3.04	3.14
04/23/18	1.69	N/A	1.87	2.04	2.25	2.49	2.64	2.83	2.94	2.98	3.05	3.15
04/24/18	1.70	N/A	1.87	2.05	2.25	2.48	2.63	2.83	2.95	3.00	3.08	3.18
04/25/18	1.65	N/A	1.85	2.03	2.26	2.49	2.64	2.84	2.97	3.03	3.12	3.21
04/26/18	1.62	N/A	1.82	2.02	2.25	2.49	2.63	2.82	2.95	3.00	3.08	3.18
04/27/18	1.62	N/A	1.82	2.02	2.24	2.49	2.62	2.80	2.92	2.96	3.03	3.13

04/30/18	1.65	N/A	1.87	2.04	2.24	2.49	2.62	2.79	2.91	2.95	3.01	3.11
05/01/18	1.68	N/A	1.85	2.05	2.26	2.50	2.66	2.82	2.93	2.97	3.03	3.13
05/02/18	1.69	N/A	1.84	2.03	2.24	2.49	2.64	2.80	2.92	2.97	3.04	3.14
05/03/18	1.68	N/A	1.84	2.02	2.24	2.49	2.62	2.78	2.90	2.94	3.02	3.12
05/04/18	1.67	N/A	1.84	2.03	2.24	2.51	2.63	2.78	2.90	2.95	3.02	3.12
05/07/18	1.69	N/A	1.86	2.05	2.25	2.49	2.64	2.78	2.90	2.95	3.02	3.12
05/08/18	1.69	N/A	1.87	2.05	2.26	2.51	2.66	2.81	2.93	2.97	3.04	3.13
05/09/18	1.68	N/A	1.88	2.05	2.27	2.54	2.68	2.84	2.96	3.00	3.07	3.16
05/10/18	1.69	N/A	1.90	2.05	2.27	2.54	2.69	2.83	2.94	2.97	3.04	3.12
05/11/18	1.68	N/A	1.92	2.06	2.28	2.54	2.69	2.84	2.94	2.97	3.03	3.10
05/14/18	1.70	N/A	1.93	2.09	2.28	2.55	2.70	2.85	2.96	3.00	3.06	3.13
05/15/18	1.69	N/A	1.92	2.09	2.31	2.58	2.75	2.92	3.04	3.08	3.14	3.20
05/16/18	1.69	N/A	1.92	2.09	2.32	2.58	2.76	2.94	3.05	3.09	3.16	3.21
05/17/18	1.70	N/A	1.92	2.10	2.32	2.57	2.75	2.94	3.07	3.11	3.19	3.25
05/18/18	1.68	N/A	1.91	2.09	2.32	2.55	2.71	2.90	3.02	3.06	3.14	3.20
05/21/18	1.71	N/A	1.93	2.14	2.35	2.58	2.73	2.90	3.02	3.06	3.13	3.20
05/22/18	1.73	N/A	1.93	2.13	2.34	2.59	2.73	2.90	3.02	3.06	3.14	3.21
05/23/18	1.76	N/A	1.92	2.11	2.29	2.53	2.67	2.83	2.95	3.01	3.09	3.17
05/24/18	1.74	N/A	1.91	2.09	2.28	2.50	2.65	2.82	2.93	2.98	3.06	3.13
05/25/18	1.70	N/A	1.90	2.07	2.27	2.48	2.60	2.76	2.88	2.93	3.01	3.09
05/29/18	1.77	N/A	1.93	2.06	2.17	2.32	2.43	2.58	2.71	2.77	2.87	2.96
05/30/18	1.77	N/A	1.94	2.08	2.23	2.42	2.53	2.67	2.79	2.84	2.93	3.01
05/31/18	1.76	N/A	1.93	2.08	2.23	2.40	2.54	2.68	2.78	2.83	2.91	3.00
06/01/18	1.74	N/A	1.92	2.10	2.28	2.47	2.61	2.74	2.85	2.89	2.96	3.04
06/04/18	1.77	N/A	1.94	2.13	2.30	2.52	2.64	2.78	2.89	2.94	3.00	3.08
06/05/18	1.82	N/A	1.94	2.13	2.32	2.49	2.62	2.76	2.87	2.92	2.99	3.07
06/06/18	1.81	N/A	1.95	2.13	2.32	2.52	2.65	2.81	2.93	2.97	3.05	3.13
06/07/18	1.78	N/A	1.94	2.12	2.31	2.50	2.63	2.77	2.88	2.93	3.00	3.08
06/08/18	1.78	N/A	1.93	2.12	2.30	2.50	2.63	2.77	2.88	2.93	3.00	3.08
06/11/18	1.82	N/A	1.94	2.11	2.32	2.52	2.66	2.80	2.91	2.96	3.02	3.10
06/12/18	1.81	N/A	1.92	2.10	2.31	2.54	2.67	2.81	2.91	2.96	3.02	3.09
06/13/18	1.82	N/A	1.94	2.09	2.35	2.59	2.71	2.85	2.95	2.98	3.04	3.10
06/14/18	1.81	N/A	1.94	2.07	2.35	2.59	2.69	2.81	2.90	2.94	2.99	3.05
06/15/18	1.82	N/A	1.94	2.07	2.35	2.55	2.68	2.81	2.89	2.93	2.98	3.05
06/18/18	1.84	N/A	1.94	2.13	2.35	2.56	2.67	2.80	2.89	2.92	2.98	3.05
06/19/18	1.85	N/A	1.94	2.13	2.34	2.54	2.64	2.77	2.84	2.89	2.95	3.02
06/20/18	1.85	N/A	1.94	2.14	2.36	2.56	2.67	2.80	2.89	2.93	2.99	3.06
06/21/18	1.85	N/A	1.94	2.12	2.34	2.56	2.65	2.77	2.86	2.90	2.97	3.04
06/22/18	1.83	N/A	1.93	2.11	2.33	2.56	2.65	2.77	2.86	2.90	2.97	3.04
06/25/18	1.80	N/A	1.93	2.13	2.34	2.54	2.63	2.75	2.83	2.87	2.95	3.02
06/26/18	1.79	N/A	1.93	2.14	2.33	2.53	2.63	2.75	2.84	2.88	2.95	3.03
06/27/18	1.79	N/A	1.93	2.10	2.33	2.52	2.59	2.71	2.79	2.83	2.90	2.97
06/28/18	1.76	N/A	1.93	2.11	2.33	2.52	2.60	2.73	2.81	2.84	2.91	2.97
06/29/18	1.77	N/A	1.93	2.11	2.33	2.52	2.63	2.73	2.81	2.85	2.91	2.98
07/02/18	1.90	N/A	1.98	2.14	2.34	2.57	2.65	2.75	2.83	2.87	2.92	2.99
07/03/18	1.91	N/A	1.98	2.12	2.33	2.53	2.63	2.72	2.79	2.83	2.89	2.96
07/05/18	1.87	N/A	1.96	2.11	2.32	2.55	2.65	2.74	2.80	2.84	2.88	2.95
07/06/18	1.86	N/A	1.97	2.13	2.34	2.53	2.64	2.71	2.78	2.82	2.87	2.94
07/09/18	1.87	N/A	1.98	2.15	2.34	2.57	2.66	2.75	2.82	2.86	2.90	2.96

07/10/18	1.88	N/A	1.99	2.15	2.36	2.59	2.69	2.77	2.83	2.87	2.91	2.97
07/11/18	1.89	N/A	1.97	2.14	2.36	2.58	2.67	2.74	2.82	2.85	2.89	2.95
07/12/18	1.89	N/A	1.98	2.17	2.39	2.60	2.68	2.75	2.83	2.85	2.89	2.95
07/13/18	1.87	N/A	1.98	2.16	2.37	2.59	2.66	2.73	2.80	2.83	2.87	2.94
07/16/18	1.90	N/A	2.01	2.19	2.39	2.59	2.67	2.75	2.82	2.85	2.90	2.96
07/17/18	1.93	N/A	2.02	2.19	2.39	2.62	2.69	2.76	2.83	2.86	2.91	2.97
07/18/18	1.90	N/A	2.00	2.17	2.43	2.60	2.69	2.77	2.84	2.88	2.93	2.99
07/19/18	1.89	N/A	2.00	2.16	2.40	2.60	2.67	2.74	2.81	2.84	2.90	2.96
07/20/18	1.86	N/A	1.99	2.16	2.41	2.60	2.68	2.77	2.85	2.89	2.96	3.03
07/23/18	1.88	N/A	1.99	2.19	2.42	2.64	2.72	2.83	2.92	2.96	3.04	3.10
07/24/18	1.92	N/A	2.02	2.19	2.42	2.63	2.74	2.83	2.91	2.95	3.02	3.08
07/25/18	1.90	N/A	2.01	2.20	2.42	2.66	2.74	2.82	2.90	2.94	3.00	3.06
07/26/18	1.89	N/A	1.99	2.19	2.41	2.69	2.78	2.86	2.95	2.98	3.05	3.10
07/27/18	1.90	N/A	2.00	2.20	2.43	2.67	2.76	2.84	2.92	2.96	3.03	3.09
07/30/18	1.91	N/A	2.04	2.21	2.43	2.66	2.77	2.85	2.94	2.98	3.05	3.11
07/31/18	1.94	N/A	2.03	2.21	2.44	2.67	2.77	2.85	2.92	2.96	3.03	3.08
08/01/18	1.93	N/A	2.03	2.22	2.45	2.67	2.78	2.87	2.96	3.00	3.07	3.13
08/02/18	1.89	N/A	2.02	2.22	2.45	2.66	2.76	2.85	2.93	2.98	3.06	3.12
08/03/18	1.90	N/A	2.01	2.23	2.43	2.63	2.74	2.82	2.91	2.95	3.03	3.09
08/06/18	1.92	N/A	2.05	2.23	2.44	2.64	2.73	2.80	2.89	2.94	3.02	3.08
08/07/18	1.96	N/A	2.06	2.23	2.45	2.68	2.76	2.84	2.92	2.98	3.06	3.12
08/08/18	1.93	N/A	2.06	2.24	2.44	2.68	2.77	2.83	2.92	2.96	3.05	3.12
08/09/18	1.91	N/A	2.06	2.25	2.44	2.64	2.74	2.80	2.89	2.93	3.01	3.08
08/10/18	1.92	N/A	2.05	2.23	2.42	2.61	2.68	2.75	2.82	2.87	2.96	3.03
08/13/18	1.93	N/A	2.06	2.22	2.42	2.61	2.68	2.75	2.82	2.88	2.97	3.05
08/14/18	1.96	N/A	2.08	2.25	2.44	2.63	2.71	2.77	2.84	2.89	2.98	3.06
08/15/18	1.96	N/A	2.07	2.23	2.45	2.61	2.68	2.73	2.81	2.86	2.95	3.03
08/16/18	1.96	N/A	2.07	2.24	2.45	2.63	2.70	2.75	2.82	2.87	2.95	3.03
08/17/18	1.95	N/A	2.05	2.24	2.44	2.61	2.68	2.75	2.82	2.87	2.95	3.03
08/20/18	1.93	N/A	2.06	2.25	2.43	2.60	2.65	2.70	2.77	2.82	2.91	2.99
08/21/18	1.94	N/A	2.08	2.25	2.45	2.61	2.67	2.73	2.80	2.85	2.93	3.00
08/22/18	1.95	N/A	2.09	2.24	2.43	2.60	2.65	2.70	2.77	2.82	2.91	2.99
08/23/18	1.94	N/A	2.08	2.23	2.43	2.61	2.66	2.72	2.78	2.82	2.90	2.97
08/24/18	1.95	N/A	2.09	2.25	2.44	2.63	2.68	2.72	2.78	2.82	2.89	2.97
08/27/18	1.96	N/A	2.12	2.25	2.47	2.67	2.70	2.74	2.81	2.85	2.92	3.00
08/28/18	1.96	N/A	2.13	2.28	2.47	2.67	2.73	2.77	2.84	2.88	2.96	3.03
08/29/18	1.97	N/A	2.13	2.28	2.48	2.67	2.75	2.78	2.85	2.89	2.96	3.02
08/30/18	1.97	N/A	2.11	2.28	2.47	2.64	2.72	2.75	2.82	2.86	2.93	3.00
08/31/18	1.95	N/A	2.11	2.28	2.46	2.62	2.70	2.74	2.81	2.86	2.95	3.02
09/04/18	2.00	N/A	2.13	2.29	2.49	2.66	2.73	2.78	2.85	2.90	2.99	3.07
09/05/18	2.00	N/A	2.14	2.30	2.49	2.66	2.72	2.77	2.85	2.90	3.00	3.08
09/06/18	1.98	N/A	2.13	2.30	2.50	2.64	2.71	2.76	2.83	2.88	2.98	3.06
09/07/18	1.98	N/A	2.14	2.30	2.53	2.71	2.78	2.82	2.89	2.94	3.03	3.11
09/10/18	1.98	N/A	2.14	2.32	2.54	2.73	2.78	2.83	2.89	2.94	3.02	3.09
09/11/18	2.02	N/A	2.15	2.31	2.55	2.76	2.83	2.87	2.94	2.98	3.06	3.13
09/12/18	2.01	N/A	2.16	2.33	2.56	2.74	2.82	2.87	2.93	2.97	3.04	3.11
09/13/18	2.01	N/A	2.15	2.33	2.55	2.76	2.83	2.87	2.93	2.97	3.04	3.11
09/14/18	2.02	N/A	2.16	2.33	2.56	2.78	2.85	2.90	2.96	2.99	3.07	3.13
09/17/18	2.02	N/A	2.16	2.35	2.57	2.78	2.85	2.89	2.96	2.99	3.07	3.13

09/18/18	2.05	N/A	2.17	2.36	2.58	2.81	2.88	2.94	3.01	3.05	3.14	3.20
09/19/18	2.03	N/A	2.16	2.36	2.58	2.81	2.89	2.96	3.04	3.08	3.16	3.23
09/20/18	2.03	N/A	2.17	2.37	2.58	2.81	2.89	2.96	3.03	3.07	3.15	3.21
09/21/18	2.05	N/A	2.18	2.38	2.58	2.81	2.89	2.95	3.03	3.07	3.14	3.20
09/24/18	2.07	N/A	2.22	2.38	2.60	2.83	2.89	2.96	3.04	3.08	3.15	3.21
09/25/18	2.12	N/A	2.21	2.38	2.59	2.83	2.91	2.99	3.06	3.10	3.17	3.23
09/26/18	2.11	N/A	2.20	2.37	2.58	2.83	2.89	2.96	3.02	3.06	3.14	3.19
09/27/18	2.10	N/A	2.18	2.37	2.58	2.83	2.89	2.96	3.02	3.06	3.13	3.19
09/28/18	2.12	N/A	2.19	2.36	2.59	2.81	2.88	2.94	3.01	3.05	3.13	3.19
10/01/18	2.13	N/A	2.23	2.40	2.60	2.82	2.90	2.96	3.04	3.09	3.18	3.24
10/02/18	2.14	N/A	2.23	2.41	2.61	2.82	2.88	2.94	3.01	3.05	3.14	3.20
10/03/18	2.15	N/A	2.23	2.41	2.62	2.85	2.94	3.02	3.10	3.15	3.24	3.30
10/04/18	2.16	N/A	2.22	2.42	2.63	2.87	2.97	3.05	3.14	3.19	3.29	3.35
10/05/18	2.15	N/A	2.23	2.41	2.64	2.88	2.99	3.07	3.18	3.23	3.34	3.40
10/09/18	2.17	N/A	2.25	2.46	2.65	2.88	2.98	3.05	3.15	3.21	3.30	3.37
10/10/18	2.18	N/A	2.27	2.45	2.67	2.88	2.97	3.05	3.15	3.22	3.33	3.39
10/11/18	2.14	N/A	2.27	2.44	2.66	2.85	2.94	3.00	3.09	3.14	3.25	3.32
10/12/18	2.14	N/A	2.28	2.44	2.66	2.85	2.93	3.00	3.09	3.15	3.25	3.32
10/15/18	2.17	N/A	2.31	2.47	2.67	2.85	2.94	3.01	3.10	3.16	3.27	3.34
10/16/18	2.19	2.22	2.30	2.46	2.66	2.87	2.95	3.02	3.10	3.16	3.26	3.32
10/17/18	2.20	2.23	2.31	2.47	2.66	2.89	2.97	3.04	3.13	3.19	3.29	3.35
10/18/18	2.19	2.23	2.32	2.47	2.67	2.87	2.95	3.03	3.11	3.17	3.28	3.36
10/19/18	2.19	2.23	2.31	2.48	2.67	2.92	2.99	3.05	3.14	3.20	3.31	3.38
10/22/18	2.18	2.25	2.34	2.49	2.68	2.92	2.99	3.05	3.13	3.20	3.31	3.38
10/23/18	2.21	2.23	2.33	2.48	2.67	2.89	2.95	3.01	3.10	3.17	3.29	3.37
10/24/18	2.20	2.23	2.34	2.47	2.64	2.84	2.89	2.94	3.02	3.10	3.24	3.33
10/25/18	2.19	2.24	2.34	2.47	2.66	2.86	2.92	2.98	3.07	3.14	3.27	3.35
10/26/18	2.16	2.21	2.33	2.47	2.63	2.81	2.85	2.91	3.00	3.08	3.23	3.32
10/29/18	2.17	2.21	2.34	2.49	2.64	2.81	2.86	2.91	3.00	3.08	3.23	3.33
10/30/18	2.21	2.26	2.33	2.48	2.66	2.84	2.90	2.94	3.03	3.12	3.26	3.36
10/31/18	2.20	2.26	2.34	2.49	2.69	2.87	2.93	2.98	3.07	3.15	3.30	3.39
11/01/18	2.21	2.28	2.32	2.49	2.67	2.84	2.91	2.96	3.06	3.14	3.29	3.38
11/02/18	2.19	2.28	2.33	2.50	2.70	2.91	2.98	3.04	3.13	3.22	3.37	3.46
11/05/18	2.20	2.29	2.36	2.51	2.71	2.91	2.99	3.03	3.12	3.20	3.34	3.43
11/06/18	2.23	2.29	2.35	2.52	2.72	2.93	3.01	3.05	3.14	3.22	3.35	3.43
11/07/18	2.23	2.29	2.37	2.51	2.74	2.96	3.03	3.07	3.15	3.22	3.35	3.43
11/08/18	2.21	2.29	2.35	2.52	2.74	2.98	3.05	3.09	3.17	3.24	3.36	3.43
11/09/18	2.21	2.30	2.36	2.52	2.73	2.94	3.01	3.05	3.13	3.19	3.32	3.40
11/13/18	2.24	2.32	2.38	2.53	2.72	2.89	2.95	2.99	3.07	3.14	3.28	3.36
11/14/18	2.24	2.33	2.38	2.52	2.71	2.86	2.92	2.95	3.04	3.12	3.26	3.35
11/15/18	2.20	2.32	2.37	2.51	2.70	2.86	2.91	2.94	3.02	3.11	3.27	3.36
11/16/18	2.21	2.31	2.36	2.50	2.68	2.81	2.85	2.90	2.99	3.08	3.23	3.33
11/19/18	2.23	2.32	2.38	2.52	2.66	2.79	2.82	2.87	2.97	3.06	3.22	3.32
11/20/18	2.23	2.35	2.39	2.51	2.67	2.79	2.83	2.88	2.97	3.06	3.22	3.31
11/21/18	2.25	2.34	2.41	2.52	2.67	2.81	2.84	2.89	2.98	3.06	3.22	3.31
11/23/18	2.25	2.35	2.41	2.52	2.67	2.81	2.83	2.88	2.97	3.05	3.21	3.31
11/26/18	2.24	2.35	2.41	2.54	2.70	2.84	2.86	2.90	2.98	3.07	3.22	3.32
11/27/18	2.31	2.37	2.41	2.53	2.70	2.83	2.86	2.89	2.98	3.06	3.22	3.32
11/28/18	2.31	2.37	2.40	2.53	2.69	2.81	2.84	2.87	2.97	3.06	3.23	3.34

11/29/18	2.31	2.34	2.37	2.52	2.69	2.81	2.83	2.85	2.94	3.03	3.21	3.33
11/30/18	2.31	2.33	2.37	2.52	2.70	2.80	2.83	2.84	2.92	3.01	3.19	3.30
12/03/18	2.30	2.35	2.38	2.56	2.72	2.83	2.84	2.83	2.90	2.98	3.15	3.27
12/04/18	2.37	2.42	2.42	2.58	2.71	2.80	2.81	2.79	2.84	2.91	3.05	3.16
12/06/18	2.36	2.42	2.41	2.56	2.70	2.75	2.76	2.75	2.80	2.87	3.01	3.14
12/07/18	2.32	2.40	2.40	2.54	2.68	2.72	2.72	2.70	2.77	2.85	3.01	3.14
12/10/18	2.32	2.39	2.41	2.54	2.69	2.72	2.73	2.71	2.77	2.85	3.00	3.13
12/11/18	2.28	2.36	2.41	2.55	2.70	2.78	2.78	2.75	2.81	2.89	3.02	3.13
12/12/18	2.30	2.38	2.43	2.56	2.70	2.77	2.78	2.77	2.84	2.91	3.04	3.15
12/13/18	2.36	2.40	2.43	2.56	2.69	2.75	2.76	2.75	2.83	2.91	3.05	3.16
12/14/18	2.36	2.41	2.42	2.56	2.68	2.73	2.72	2.73	2.81	2.89	3.03	3.14
12/17/18	2.36	2.39	2.40	2.54	2.66	2.70	2.68	2.69	2.77	2.86	3.00	3.11
12/18/18	2.35	2.39	2.39	2.53	2.64	2.65	2.64	2.65	2.74	2.82	2.96	3.07
12/19/18	2.35	2.39	2.40	2.54	2.62	2.63	2.61	2.62	2.69	2.77	2.89	3.00
12/20/18	2.42	2.42	2.39	2.55	2.64	2.67	2.65	2.65	2.72	2.79	2.92	3.02
12/21/18	2.41	2.42	2.39	2.54	2.62	2.63	2.61	2.64	2.72	2.79	2.92	3.03
12/24/18	2.42	2.43	2.45	2.52	2.61	2.55	2.56	2.58	2.66	2.74	2.88	3.00
12/26/18	2.41	2.43	2.44	2.54	2.61	2.61	2.60	2.67	2.74	2.81	2.94	3.06
12/27/18	2.43	2.46	2.41	2.49	2.58	2.56	2.55	2.60	2.68	2.77	2.92	3.05
12/28/18	2.39	2.47	2.40	2.48	2.57	2.52	2.50	2.56	2.63	2.72	2.89	3.04
12/31/18	2.44	2.45	2.45	2.56	2.63	2.48	2.46	2.51	2.59	2.69	2.87	3.02

* The 2-month constant maturity series begins on October 16, 2018, with the first auction of the 8-week Treasury bill.

30-year Treasury constant maturity series was discontinued on February 18, 2002 and reintroduced on February 9, 2006. From February 18, 2002 to February 8, 2006, Treasury published alternatives to a 30-year rate. See Long-Term Average Rate for more information.

Treasury discontinued the 20-year constant maturity series at the end of calendar year 1986 and reinstated that series on October 1, 1993. As a result, there are no 20-year rates available for the time period January 1, 1987 through September 30, 1993.

Treasury Yield Curve Rates: These rates are commonly referred to as "Constant Maturity Treasury" rates, or CMTs. Yields are interpolated by the Treasury from the daily yield curve. This curve, which relates the yield on a security to its time to maturity is based on the closing market bid yields on actively traded Treasury securities in the over-the-counter market. These market yields are calculated from composites of indicative, bid-side market quotations (not actual transactions) obtained by the Federal Reserve Bank of New York at or near 3:30 PM each trading day. The CMT yield values are read from the yield curve at fixed maturities, currently 1, 2, 3 and 6 months and 1, 2, 3, 5, 7, 10, 20, and 30 years. This method provides a yield for a 10 year maturity, for example, even if no outstanding security has exactly 10 years remaining to maturity.

Treasury Yield Curve Methodology: The Treasury yield curve is estimated daily using a cubic spline model. Inputs to the model are primarily indicative bid-side yields for on-the-run Treasury securities. Treasury reserves the option to make changes to the yield curve as appropriate and in its sole discretion. See our Treasury Yield Curve Methodology page for details.

Negative Yields and Nominal Constant Maturity Treasury Series Rates (CMTs): At times, financial market conditions, in conjunction with extraordinary low levels of interest rates, may result in negative yields for some Treasury securities trading in the secondary market. Negative yields for Treasury securities most often reflect highly technical factors in Treasury markets related to the cash and repurchase agreement markets, and are at times unrelated to the time value of money.

At such times, Treasury will restrict the use of negative input yields for securities used in deriving interest rates for the Treasury nominal Constant Maturity Treasury series (CMTs). Any CMT input points with negative yields will be reset to zero percent prior to use as inputs in the CMT derivation. This decision is consistent with Treasury not accepting negative yields in Treasury nominal security auctions.

In addition, given that CMTs are used in many statutorily and regulatory determined loan and credit programs as well as for setting interest rates on non-marketable government securities, establishing a floor of zero more accurately reflects borrowing costs related to various programs.

For more information regarding these statistics contact the Office of Debt Management by email at debt.management@do.treas.gov.

For other Public Debt information contact (202) 504-3550

U.S. DEPARTMENT OF THE TREASURY

Resource Center

Daily Treasury Yield Curve Rates

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Date	1 Mo	2 Mo	3 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
05/01/19	2.42	2.41	2.43	2.44	2.39	2.31	2.28	2.31	2.41	2.52	2.74	2.92
05/02/19	2.44	2.46	2.47	2.46	2.41	2.35	2.32	2.34	2.44	2.55	2.77	2.94
05/03/19	2.42	2.44	2.43	2.46	2.41	2.33	2.30	2.33	2.43	2.54	2.75	2.93
05/06/19	2.43	2.44	2.44	2.46	2.39	2.31	2.27	2.30	2.40	2.51	2.73	2.91
05/07/19	2.44	2.44	2.43	2.46	2.37	2.28	2.24	2.25	2.35	2.45	2.68	2.86
05/08/19	2.42	2.43	2.43	2.45	2.37	2.30	2.26	2.28	2.38	2.49	2.71	2.89
[illegible]9/19	2.43	2.43	2.43	2.46	2.36	2.26	2.22	2.25	2.34	2.45	2.69	2.87
[illegible]10/19	2.42	2.43	2.43	2.45	2.36	2.26	2.23	2.26	2.37	2.47	2.70	2.89

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Treasury Yield Curve Methodology: The Treasury yield curve is estimated daily using a cubic spline model. Inputs to the model are primarily indicative bid-side yields for on-the-run Treasury securities. Treasury reserves the option to make changes to the yield curve as appropriate and in its sole discretion. See our Treasury Yield Curve Methodology page for details.

Negative Yields and Nominal Constant Maturity Treasury Series Rates (CMTs): At times, financial market conditions, in conjunction with extraordinary low levels of interest rates, may result in negative yields for some Treasury securities trading in the secondary market. Negative yields for Treasury securities most often reflect highly technical factors in Treasury markets related to the cash and repurchase agreement markets, and are at times unrelated to the time value of money.

Such times, Treasury will restrict the use of negative input yields for securities used in deriving interest rates for the Treasury nominal Constant Maturity Treasury series (CMTs). Any CMT input points with negative yields will be reset to zero percent prior to use as inputs in the CMT derivation. This decision is consistent with Treasury not accepting negative yields in Treasury nominal security auctions.

In addition, given that CMTs are used in many statutorily and regulatory determined loan and credit programs as well as for setting interest rates on non-marketable government securities, establishing a floor of zero more accurately reflects borrowir

AG EXH. NO 9

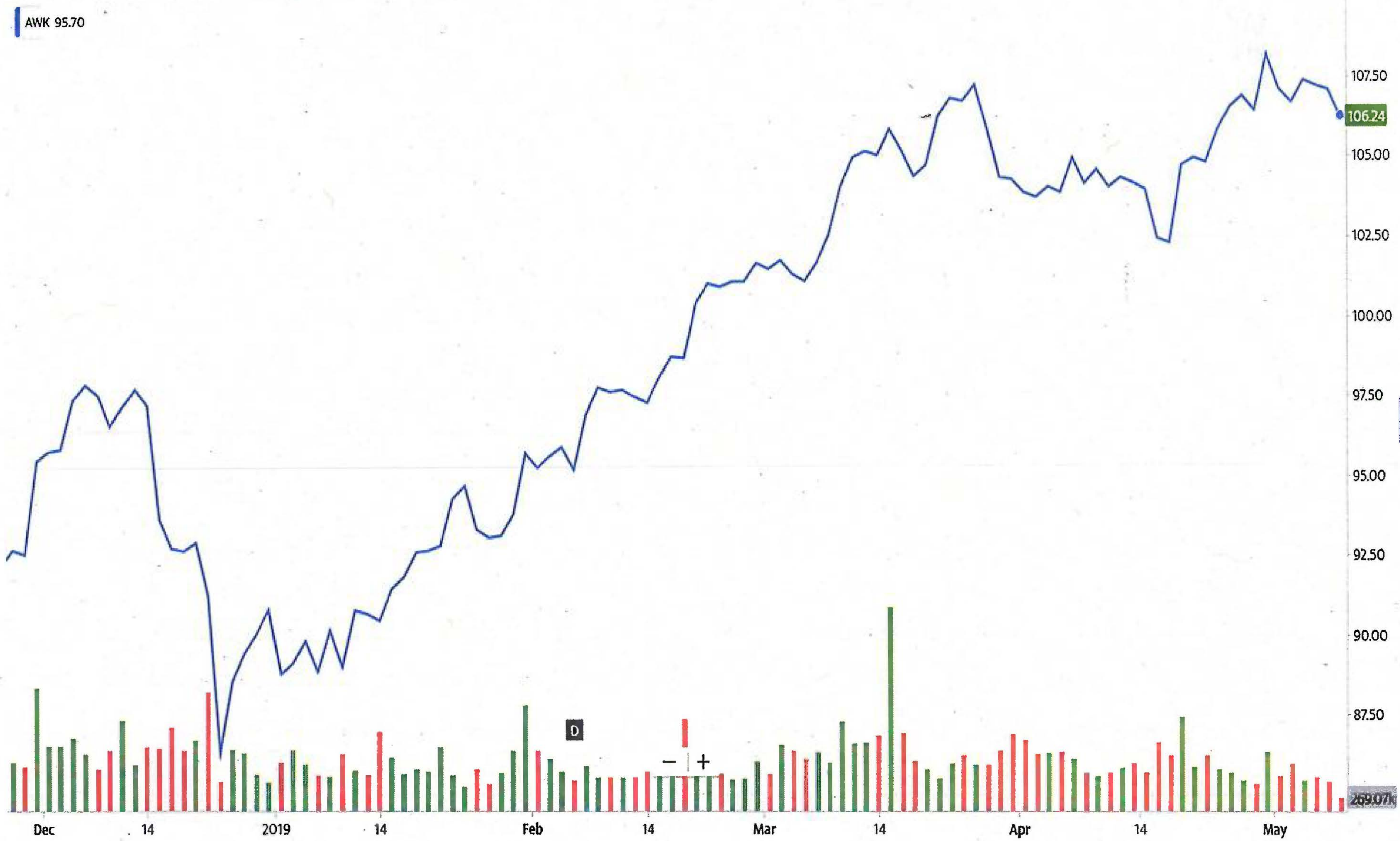
American Water Works Company, Inc. (AWK)

NYSE - Nasdaq Real Time Price. Currency in USD

106.24 -0.84 (-0.78%)

As of 1:43PM EDT. Market open.

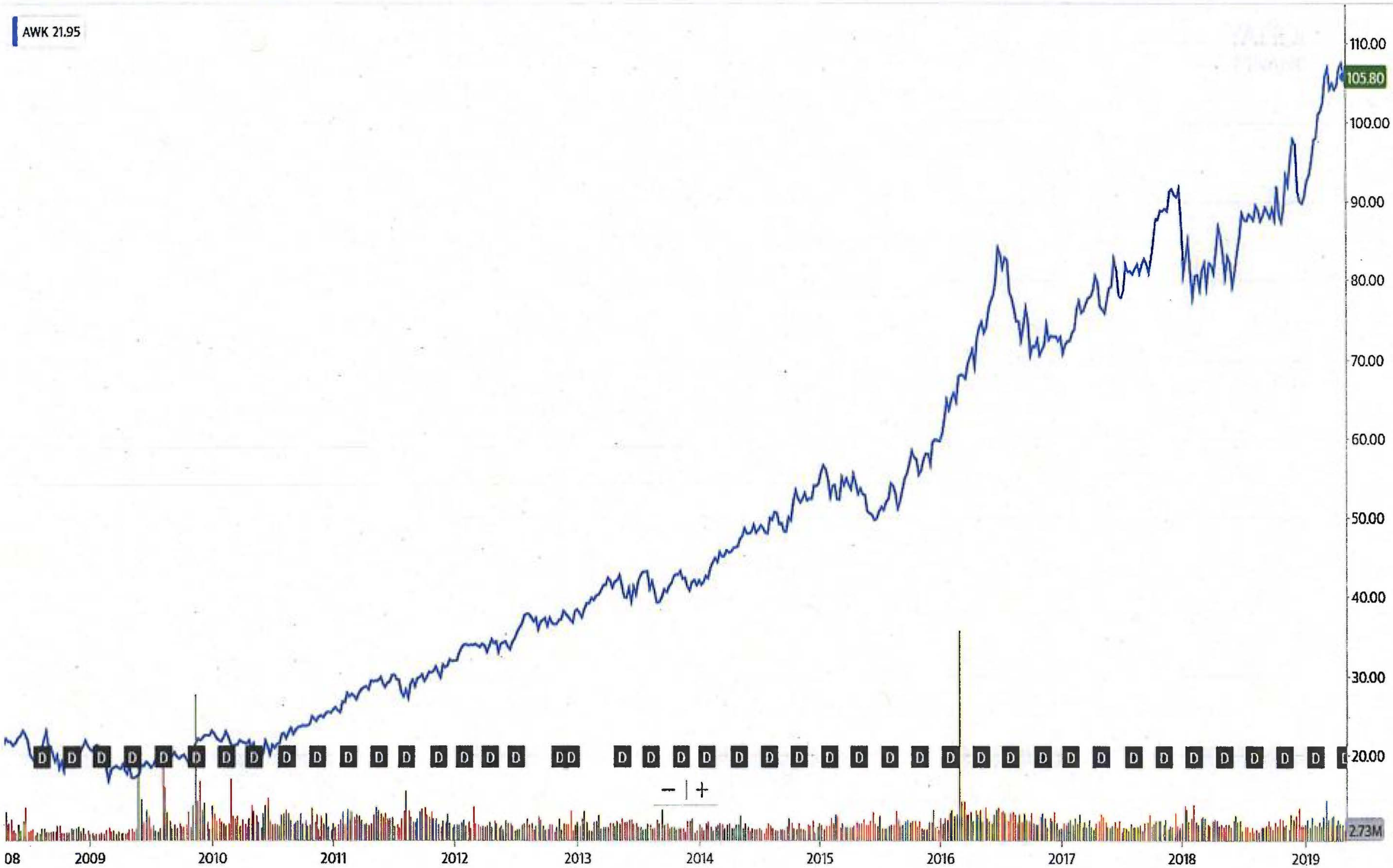
Indicators | Comparison | Events | Nov 28, 2018 - May 07, 2019 | 1D | 5D | 1M | 3M | 6M | YTD | 1Y | 2Y | 5Y | Max | Interval 1D | Line | Draw | Set



AG EXH. NO 10

American Water Works Company, Inc. (AWK)
NYSE - Nasdaq Real Time Price. Currency in USD
105.80 +0.02 (+0.02%)
As of 10:49AM EDT. Market open.

Indicators | Comparison | Events | Date Range 1D 5D 1M 3M 6M YTD 1Y 2Y 5Y Max | Interval 1W | Line | Draw | Set



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AG EXH. NO 11

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
GARY PIERCE- CHAIRMAN
BOB STUMP
SANDRA D. KENNEDY
PAUL NEWMAN
BRENDA BURNS

IN THE MATTER OF THE APPLICATION OF UNS ELECTRIC, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS ELECTRIC, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA AND FOR RELATED APPROVALS.	DOCKET NO. E-04204A-12

Direct Testimony of

Ann E. Bulkley

on Behalf of

UNS Electric, Inc.

December 31, 2012

AG EXH. NO 12

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I. INTRODUCTION.

Q. Please state your name and business address.

A. My name is Ann E. Bulkley. My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752.

Q. What is your position with Concentric Energy Advisors, Inc. ("Concentric")?

A. I am employed by Concentric as a Vice President.

Q. On whose behalf are you submitting this Direct Testimony?

A. I am submitting this Direct Testimony on behalf of UNS Electric, Inc. ("UNS Electric" or the "Company"). UNS Electric is a wholly-owned subsidiary of UNS Energy Corporation.

Q. Please describe your education and experience.

A. I have approximately 15 years of experience consulting to the energy industry. I have advised numerous energy and utility clients on a wide range of financial and economic issues with primary concentrations in valuation and utility rate matters. Many of these assignments have included the determination of the cost of capital for valuation purposes. I have included my resume and a summary of testimony that I have filed in other proceedings as Attachment A.

Q. Please describe Concentric's activities in energy and utility engagements.

A. Concentric provides financial and economic advisory services to many and various energy and utility clients across North America. Our regulatory, economic, and market analysis services include utility ratemaking and regulatory advisory services; energy market assessments; market entry and exit analysis; corporate and business unit strategy development; demand forecasting; resource planning; and energy contract negotiations. Our financial advisory activities include both buy and sell-side merger, acquisition and divestiture assignments; due diligence and valuation assignments; project and corporate finance services; and transaction support services. In addition, we provide litigation support services on a wide range of financial and economic issues on behalf of clients throughout North America.

II. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY.

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to present evidence and provide a recommendation regarding the Company's return on equity ("ROE")[1] and to provide an assessment of the capital structure to be used for ratemaking purposes as proposed in the Direct Testimony of Company witness Kentton C. Grant. My Direct Testimony also provides evidence and a recommendation as to the appropriate fair value rate of return ("FVROR") and to the reasonableness of the Company's proposed fair value rate base ("FVRB"). My analyses and recommendations are supported by the data presented in **Exhibit AEB-1** through **Exhibit AEB-12**, which were prepared by me or under my supervision.

Q. What are your conclusions regarding the appropriate cost of equity for the Company?

A. My analyses indicate that the Company's cost of equity is currently within the range of 10.30 percent to 10.75 percent. I agree with the position that the Arizona Corporation Commission ("Commission") has previously stated that considering the DCF results alone would not result in an appropriate cost of equity under current circumstances.[2]

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1 Throughout my Direct Testimony, I interchangeably use the terms "ROE" and "cost of equity".
2 *See* Decision No. 69663 (June 28, 2007), at 49.

Therefore, I base my recommendation on the results of several quantitative methodologies and qualitative analyses discussed throughout my Direct Testimony. Considering the results of those analyses, I believe that a reasonable ROE for UNS Electric is 10.50 percent.

Q. **Please provide a brief overview of the analysis that led to your ROE recommendation.**

A. As discussed in more detail in Section VI, in developing my ROE recommendation, I applied the Constant Growth and Multi-Stage forms of the Discounted Cash Flow ("DCF") model, the Capital Asset Pricing Model ("CAPM"), and the Risk Premium approach.

In addition to the analyses discussed above, my recommendation also takes into consideration: (1) the regulatory environment in which the Company operates; (2) the Company's capital expenditure plan; (3) the Company's small size relative to the proxy group; and (4) the Lost Fixed Cost Recovery ("LFCR") and Transmission Cost Adjustment ("TCA") mechanisms proposed by UNS Electric. Finally, I considered the Company's proposed capital structure as compared to the capital structures of the proxy companies. While I did not make any specific adjustments to my ROE estimates for any of those factors, I did take them into consideration in aggregate when determining where the Company's ROE falls within the range of analytical results.

Q. **How is the remainder of your Direct Testimony organized?**

A. The remainder of my Direct Testimony is organized in eleven sections. Section III provides a summary of my analysis and conclusions. Section IV reviews the regulatory guidelines and financial considerations pertinent to the development of the cost of capital. Section V explains my selection of a proxy group of electric utilities. Section

VI describes my analyses and the analytical basis for the recommendation of the appropriate ROE for UNS Electric. Section VII provides a discussion of specific regulatory, business, and financial risks that have a direct bearing on the ROE to be authorized for the Company in this case. Section VIII discusses the capital structure of the Company as compared with the proxy group. Section IX discusses the effect of the Company's proposed LFCR and TCA mechanisms on the ROE. Section X discusses the current capital market conditions and the effect of those conditions on the Company's cost of equity. Section XI presents my conclusions and recommendation for the market cost of equity. Section XII discusses my analysis of the Company's proposed FVRB, and Section XIII discusses the estimation of the FVROR.

III. SUMMARY OF ANALYSIS AND CONCLUSIONS.

Q. Please summarize the key factors considered in your analyses and upon which you base your recommended ROE.

A. My analyses and recommendations considered the following:

- The *Hope* and *Bluefield* decisions[3] that established the standards for determining a fair and reasonable allowed ROE including consistency of the allowed return with other businesses having similar risk, adequacy of the return to provide access to capital and support credit quality, and that the end result must lead to just and reasonable rates.
- The effect of current capital market conditions on investors' return requirements.
- The Company's regulatory, business, and financial risks relative to the proxy group of comparable companies and the implications of those risks in arriving at the appropriate ROE.

[3] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

Q. Please summarize the ROE estimation models that you considered to establish the range of ROEs for UNS Electric.

A. I considered the results of two forms of the DCF model: the Constant Growth and the Multi-Stage forms of the model. In addition, I considered two risk premium approaches, the CAPM and a Bond Yield Plus Risk Premium methodology. Finally, I considered the level of regulatory, business, and financial risk faced by the Company relative to the proxy group. The results of my analyses are summarized in Table 1 below.

Table 1: Summary of Analytical Results

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average Price	9.00%	10.55%	12.81%
90-Day Average Price	8.97%	10.51%	12.78%
180-Day Average Price	9.06%	10.61%	12.88%
	Median Low	Median	Median High
30-Day Average Price	9.47%	10.57%	11.54%
90-Day Average Price	9.42%	10.53%	11.53%
180-Day Average Price	9.52%	10.63%	11.64%
Multi-Stage DCF			
	Mean Low	Mean	Mean High
30-Day Average Price	9.93%	10.38%	11.19%
90-Day Average Price	9.89%	10.35%	11.15%
180-Day Average Price	9.99%	10.45%	11.28%
	Median Low	Median	Median High
30-Day Average Price	9.93%	10.21%	10.81%
90-Day Average Price	9.84%	10.15%	10.74%
180-Day Average Price	9.92%	10.26%	10.81%
Capital Asset Pricing Model			
	Current Risk-Free Rate (2.87%)	2012-2014 Projected Risk-Free Rate (3.15%)	2014-2018 Projected Risk-Free Rate (5.10%)
Bloomberg Beta	9.87%	9.95%	10.53%
Value Line Beta	10.03%	10.11%	10.66%
Bond Yield Plus Risk Premium			
	Current Risk-Free Rate (2.87%)	2012-2014 Projected Risk-Free Rate (3.15%)	2014-2018 Projected Risk-Free Rate (5.10%)
Bond Yield Plus Risk Premium	10.01%	10.12%	10.86%

Q. What is your recommended ROE for UNS Electric?

A. The analytical results presented in Table 1 provide the range of results for the proxy group companies. Based on the analytical results presented in Table 1, I believe a reasonable range of ROE estimates for UNS Electric is from 10.30 percent to 10.75 percent, and within that range, 10.50 percent is a reasonable and appropriate estimate of the Company's ROE.

Q. Did you consider the effect of the Company's proposed LFCR and TCA mechanisms on the ROE?

A. Yes, I did. As with each of the other regulatory, business, and financial risks discussed below, I considered the Company's proposed LFCR and TCA mechanisms as compared with the revenue stabilization mechanisms that have been implemented by the proxy companies. I concluded that over 60.0 percent of my proxy group companies have some form of decoupling mechanism while nearly 80.0 percent have rate mechanisms in place to recover certain specific capital expenditures, like transmission costs. Since the risk-reducing effect of these rate mechanisms is included in the ROE estimates produced by my proxy group, I have not made any adjustment to the ROE for UNS Electric to reflect those mechanisms.

Q. Please summarize the analysis that you conducted to validate the FVRB for UNS Electric.

A. Consistent with Commission precedent, the Company has estimated the FVRB by weighting equally its Original Cost Rate Base ("OCRB") and an estimate of the Replacement Cost New, Depreciated ("RCND") of those assets. I relied on a Comparable Transactions analysis to test the FVRB that is being relied on in the FVROR analysis.

I estimated the market value of UNS Electric's assets by comparing the Company's proposed FVRB to the market value of comparable companies in recent arms-length transactions. To create a consistent basis of comparison among the transactions (which took place amid different market conditions), I normalized the transaction values using the corporate value of the acquired company, which incorporates the book value of debt and equity, resulting in a premium to corporate value resulting from the transactions. I estimated the market value of UNS Electric's assets by applying the median premium of 39.70 percent to the Company's OCRB. That analysis resulted in an estimated market value for UNS Electric's assets of $302.6 million.

Q. What do you conclude from that analysis?

A. Based on the results of the Comparable Transactions analysis, I conclude that the Company's proposed FVRB of $286.3 million is conservative relative to the higher estimate of market value discussed above.

Q. How did you estimate the FVROR?

A. I estimated the FVROR using the approach relied on by the Commission in several recent rate cases. In applying that method, I also conclude that the minimum rate of return that should be applied to the fair value "increment" of rate base is the real risk-free rate of return, which I estimate to be 3.23 percent. Notwithstanding the market expectation that the risk-free rate should represent the floor on investments that are not risk-free, the Company has conservatively proposed the use of 50.0 percent of the risk-free rate in the estimate of the FVROR calculation. As shown in Table 2 below, the result of that analysis is a FVROR of 6.71 percent.

Table 2: Estimation of the FVROR

Capital	$ Millions	Percent	Cost Rate	Weighted Cost Rate
OCRB	$216.6			
RCND	$356.1			
FVRB	$286.3			
Long-Term Debt	$102.7	35.85%	5.97%	2.14%
Common Equity	$113.9	39.79%	10.50%	4.18%
Fair Value Increment	$69.8	24.36%	1.61%	0.39%
Total	$286.3	100.00%		6.71%

IV. REGULATORY GUIDELINES AND FINANCIAL CONSIDERATIONS.

Q. Please describe the guiding principles to be used in establishing the cost of capital for a regulated utility.

A. The United States Supreme Court's precedent-setting *Hope* and *Bluefield* cases established the standards for determining the fairness or reasonableness of a utility's allowed ROE. Among the standards established by the Court in those cases are: (1) consistency with other businesses having similar or comparable risks; (2) adequacy of the return to support credit quality and access to capital; and (3) that the end result, as opposed to the methodology employed, is the controlling factor in arriving at just and reasonable rates.[4]

Based on those widely recognized standards, the Commission's decision in this case should provide the Company with the opportunity to earn an ROE that is:

- Adequate to attract capital on favorable terms, thereby enabling the Company to provide safe, reliable service;
- Sufficient to ensure the financial soundness of the Company's operations; and

[4] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

- Commensurate with returns on investments in enterprises having comparable risks.

The allowed ROE, therefore, should enable the Company to finance its operations on reasonable terms and optimize financial flexibility over the period during which rates are expected to remain in effect.

Q. Has the Commission provided similar guidance in establishing the appropriate return on common equity?

A. Yes, it has. The Commission has noted that under the Arizona Constitution, a public utility is entitled to a fair return on the fair value of its property devoted to public uses. The Commission is required to find the fair value of the utility's property and to use that value to establish just and reasonable rates.[5]

Q. Why is it important for a utility to be allowed the opportunity to earn an ROE that is adequate to attract capital at reasonable terms?

A. An ROE that is adequate to attract capital at reasonable terms enables the Company to provide safe, reliable electric service while maintaining its financial integrity. To the extent the Company is provided the opportunity to earn its market-based cost of capital, neither customers nor shareholders are disadvantaged. While the "capital attraction" and "financial integrity" standards are important principles in normal economic conditions, the practical implications of those standards are even more pronounced when considered in the context of the recent financial market environment.

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[5] *See, e.g., Arizona Corp. Comm'n v. Ariz. Water Co.*, 85 Ariz. 198, 203, 335 P.2d 412, 415 (1959).

Q. What are your conclusions regarding regulatory guidelines and capital market expectations?

A. It is important for the ROE authorized in this proceeding to take into consideration the capital market conditions in which the Company must contend, as well as investors' expectations and requirements for both risks and returns. Further, in light of recent capital market conditions, the Company's capital investment plans, and upcoming debt maturities at UNS Electric, it is important that the Company be afforded the opportunity to maintain a financial profile that will enable it to access the capital markets at reasonable rates.

V. PROXY GROUP SELECTION.

Q. Why have you used a group of proxy companies to determine the cost of equity for UNS Electric?

A. Given that the Company is not publicly traded and that the cost of equity is a market-based concept, it is necessary to establish a group of companies that are both publicly traded and comparable to UNS Electric in certain fundamental business and financial respects to serve as its "proxy" in the ROE estimation process. The proxy companies used in my analyses all possess a set of operating and risk characteristics that are substantially comparable to the Company, and thus provide a reasonable basis to derive and estimate the appropriate ROE for UNS Electric.

Q. Please provide a brief profile of UNS Electric.

A. UNS Electric generates, transmits and distributes electricity to approximately 91,000 retail customers in non-contiguous service territories in the Mohave and Santa Cruz counties of Arizona.[6] As of December 31, 2011, UNS Electric represented

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[6] UNS Energy Corporation, SEC Form 10-K for the fiscal year ended December 31, 2011, at K-17.

approximately 9.0 percent of UNS Energy Corporation's total assets.[7] UNS Electric currently has an investment grade long-term rating of Baa2 from Moody's, which was upgraded from Baa3 on May 23, 2012. Similarly, the Company's senior unsecured rating from Moody's is investment grade at Baa2.[8]

Q. How did you select the companies included in your proxy group?

A. I began with the group of 49 companies that Value Line classifies as electric utilities and I simultaneously applied the following screening criteria:

- I excluded companies that do not pay consistent quarterly cash dividends because such companies cannot be analyzed using the Constant Growth DCF model.
- I excluded companies that do not have positive long-term earnings growth forecasts from at least two equity analysts.
- I excluded companies that did not have investment grade long-term issuer ratings from both S&P and Moody's.
- I excluded companies that derive less than 60.0 percent of their total operating income from regulated operations.
- I excluded companies that derive less than 90.0 percent of their total regulated operating income from regulated electric operations.
- Finally, I excluded companies that were party to a merger or transformative transaction during the analytical period considered.

Q. How many companies met your screening criteria?

A. The criteria discussed above resulted in an initial proxy group of the following 16 companies.

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7 UNS Energy Corporation, SEC Form 10-K for the fiscal year ended December 31, 2011, at K-108.
8 SNL Financial

Table 3: Initial Proxy Group

Company	Ticker
ALLETE, Inc.	ALE
American Electric Power Company, Inc.	AEP
Cleco Corporation	CNL
Edison International	EIX
Empire District Electric Company	EDE
FirstEnergy Corporation	FE
Great Plains Energy Inc.	GXP
Hawaiian Electric Industries, Inc.	HE
IDACORP, Inc.	IDA
Integrys Energy Group, Inc.	TEG
Otter Tail Corporation	OTTR
Pepco Holdings, Inc.	POM
Pinnacle West Capital Corporation	PNW
Portland General Electric Company	POR
Southern Company	SO
Westar Energy, Inc.	WR

Q. Is this your final proxy group?

A. No, it is not. Edison International operates in two primary business segments: electric utility and nonutility power generation. The company experienced significant losses in its nonutility power generation segment in 2009 and 2011. In 2009, the nonutility power generation segment produced an operating income loss of $491 million after a settlement between Edison International and the Internal Revenue Service resolved federal tax disputes related to the company's cross-border, leveraged leases through 2009, and all other outstanding federal tax disputes and affirmative claims for tax years 1986 through 2002.[9] In 2011, Edison International recorded a loss of $1.09 billion in its competitive power generation business segment, Edison Mission Energy ("EME"), which was related to the impairment of several power plants, wind-related charges and

[9] Edison International, SEC Form 10-K for the fiscal year ended December 31, 2011, at v.

other expenses.[10] Furthermore, on November 1, 2012, Edison International reported to investors that EME will not be able to repay $500 million in bonds that mature in June 2013 and will likely not be able to make the interest payments on 2017, 2019, and 2027 unsecured bonds, which were due November 15, 2012. Failure to meet the interest payments will likely result in EME filing for bankruptcy protection under Chapter 11 of the bankruptcy code.[11] Due to the magnitude of the losses, and the likely bankruptcy of EME, it is not reasonable to include Edison International in the proxy group at this time.

In addition, Integrys Energy Group, Inc. recorded a noncash goodwill impairment loss of $291.1 million ($248.8 million after tax) in the first quarter of 2009, all within the natural gas utility segment.[12] This impairment charge distorts the three-year average of total regulated operating income derived from regulated electric operations and produces a result that is not representative of the company's ongoing operations. For example, the three-year average of total regulated operating income derived from regulated electric operations is 126 percent while regulated electric operations contributed only 52 percent and 49 percent of total regulated operating income for 2010 and 2011, respectively. Given that Integrys Energy Group, Inc. is evenly split between regulated electric and natural gas operations in more normal years, I did not include the company in my final proxy group.

Q. **What is the composition of your final proxy group?**

A. My final proxy group consists of the following 14 companies.

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10 Edison International, SEC Form 10-K for the fiscal year ended December 31, 2011, at 54.

11 Edison International, SEC Form 8-K, November 1, 2012.

12 Integrys Energy Group, Inc., SEC Form 10-K for the fiscal year ended December 31, 2011, at 77.

Table 4: Final Proxy Group

Company	Ticker
ALLETE, Inc.	ALE
American Electric Power Company, Inc.	AEP
Cleco Corporation	CNL
Empire District Electric Company	EDE
FirstEnergy Corporation	FE
Great Plains Energy Inc.	GXP
Hawaiian Electric Industries, Inc.	HE
IDACORP, Inc.	IDA
Otter Tail Corporation	OTTR
Pepco Holdings, Inc.	POM
Pinnacle West Capital Corporation	PNW
Portland General Electric Company	POR
Southern Company	SO
Westar Energy, Inc.	WR

VI. COST OF EQUITY ESTIMATION.

Q. Please briefly discuss the ROE in the context of the regulated rate of return.

A. Regulated utilities primarily use common stock and long-term debt to finance their permanent property, plant, and equipment. The overall rate of return for a regulated utility is based on its weighted average cost of capital, in which the cost rates of the individual sources of capital are weighted by their respective book values. While the costs of debt and preferred stock can be directly observed, the cost of equity is market-based and, therefore, must be estimated based on observable market information.

Q. How is the required ROE determined?

A. The required ROE is estimated by using one or more analytical techniques that rely on market-based data to quantify investor expectations regarding required equity returns, adjusted for certain incremental costs and risks. Informed judgment is applied, based on the results of those analyses, to determine where the Company's cost of equity falls within the range of results. The resulting adjusted cost of equity serves as the recommended ROE for ratemaking purposes. The key consideration in determining the cost of equity is to ensure that the methodologies employed reasonably reflect investors' views of the financial markets as well as the subject company's common stock.

Q. What methods did you use to determine the Company's ROE?

A. As discussed below, I relied primarily on the results of the Constant Growth and Multi-Stage DCF models corroborated by the results of the CAPM and Risk Premium methodology.

A. Constant Growth DCF Model.

Q. Are DCF models widely used to determine the ROE for regulated utilities?

A. Yes, they are. DCF models are widely used in regulatory proceedings and have sound theoretical bases, although neither the DCF model nor any other model can be applied without considerable judgment in the selection of data and the interpretation of results. In a prior rate order, the Commission stated that the:

> [u]se of the DCF as the primary basis for determining the Company's reasonable estimated cost of equity capital is a methodology that has been used for many years by this Commission, as well as other regulatory commissions across the country.[13]

Q. Please describe the DCF approach.

A. The DCF approach is based on the theory that a stock's current price represents the present value of all expected future cash flows. In its most general form, the DCF model is expressed as follows:

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[13] Decision No. 68487 (February 23, 2006), at 29.

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \ldots + \frac{D_\infty}{(1+k)^\infty} \quad [1]$$

Where P_0 represents the current stock price, $D_1 \ldots D_\infty$ are all expected future dividends, and k is the discount rate, or required ROE. Equation [1] is a standard present value calculation that can be simplified and rearranged into the following form:

$$k = \frac{D_0(1+g)}{P_0} + g \qquad [2]$$

Equation [2] is often referred to as the Constant Growth DCF model in which the first term is the expected dividend yield and the second term is the expected long-term growth rate.

Q. What assumptions are required for the Constant Growth DCF model?

A. The DCF model requires the following assumptions: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings ratio; and (4) a discount rate greater than the expected growth rate. To the extent that any of these assumptions are violated, considered judgment and/or specific adjustments should be applied to the results.

Q. What market data did you use to calculate the dividend yield in your Constant Growth DCF model?

A. The dividend yield in my Constant Growth DCF model is based on the proxy companies' current annualized dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended November 16, 2012.

Q. Why did you use 30-, 90-, and 180-day averaging periods?

A. It is important to use an average of recent trading days to calculate the term P_0 in the DCF model to ensure that the calculated ROE is not skewed by anomalous events that may affect stock prices on any given trading day. The averaging period should also be reasonably representative of expected capital market conditions over the long-term. At the same time, it is important to reflect the volatile conditions present in the financial markets over the recent past. In my view, the use of the 30-, 90-, and 180-day averaging periods reasonably balances those concerns.

Q. **Did you make any adjustments to the dividend yield to account for periodic growth in dividends?**

A. Yes, I did. Since utility companies tend to increase their quarterly dividends at different times throughout the year, it is reasonable to assume that dividend increases will be evenly distributed over calendar quarters. Given that assumption, it is reasonable to apply one-half of the expected annual dividend growth rate for purposes of calculating the expected dividend yield component of the DCF model. This adjustment ensures that the expected first year dividend yield is, on average, representative of the coming 12-month period, and does not overstate the aggregated dividends to be paid during that time.

Q. **Is it important to select appropriate measures of long-term growth in applying the DCF model?**

A. Yes, it is. In its Constant Growth form, the DCF model (*i.e.*, Equation [2]) assumes a single growth estimate in perpetuity. In order to reduce the long-term growth rate to a single measure, one must assume a constant payout ratio, and that earnings per share, dividends per share and book value per share all grow at the same constant rate. Over the long run, however, dividend growth can only be sustained by earnings growth. It is therefore important to incorporate a variety of sources of long-term earnings growth rates into the Constant Growth DCF model.

Q. Which sources of long-term earnings growth rates did you use?

A. My Constant Growth DCF model incorporates three sources of long-term earnings growth rates: (1) Zacks; (2) Thomson First Call (provided by Yahoo! Finance); and (3) Value Line.

B. Multi-Stage DCF Model.

Q. What other forms of the DCF model did you consider?

A. In order to address some of the limiting assumptions underlying the Constant Growth form of the DCF model, I also considered the results of a Multi-Stage DCF model. The Multi-Stage model, which is an extension of the Constant Growth form, enables the analyst to specify growth rates over multiple stages. As with the Constant Growth form of the DCF model, the Multi-Stage form defines the cost of equity as the discount rate that sets the current price equal to the discounted value of future cash flows.

Q. What are the benefits of a three-stage model?

A. The three-stage model allows for a gradual transition from the first stage growth rate to the long-term growth rate, thereby avoiding the often-unrealistic assumption that growth will change abruptly between the first and final stages.

Q. Please generally describe the structure of your Multi-Stage DCF model.

A. The Multi-Stage DCF model sets the subject company's current stock price equal to the present value of future cash flows received over three "stages". In all three stages, cash flows are equal to the annual dividend payments that stockholders receive. Stage one is a short-term growth period that consists of the first five years; stage two is a transition period from the short-term growth rate to the long-term growth rate which occurs over five years (*i.e.*, years six through 10); and stage three is a long-term growth period that begins in year 11 and continues through perpetuity (*i.e.*, year 200). The ROE is then calculated as the rate of return that results from the initial stock investment and the dividend payments over the analytical period.

Q. Please summarize the earnings per share growth rates used in your multi-stage DCF model.

A. I began with the current annualized dividend as of November 16, 2012 for each proxy group company. In the first stage of the model, the current annualized dividend is escalated based on the average of the three- to five-year earnings growth estimates reported by First Call, Zacks, and Value Line. For the third stage of the model, I relied on long-term projected growth in Gross Domestic Product ("GDP"). The second stage growth rate is a transition from the first stage growth rate to the long-term growth rate on a geometric average basis.

Q. How did you calculate the long-term GDP growth rate?

A. As shown on **Exhibit AEB-3**, the long-term growth rate of 5.55 percent is based on the real GDP growth rate of 3.24 percent from 1929 through 2011,[14] and a projected inflation rate of 2.24 percent. The rate of inflation of 2.24 percent is based on three measures: (1) the average long-term projected growth rate in the Consumer Price Index ("CPI") of 2.40 percent, as reported by Blue Chip Financial Forecasts;[15] (2) the compound annual growth rate of the CPI for all urban consumers for 2022-2035 of 2.27 percent as projected by the Energy Information Administration ("EIA") in the Annual Energy Outlook 2012; and (3) the compound annual growth rate of the GDP chain-type

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[14] U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Tables, Table 1.1.1, October 27, 2012.

[15] Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14.

price index for 2022-2035 of 2.06 percent, also reported by the EIA in the Annual Energy Outlook 2012.[16]

C. Discounted Cash Flow Model Results.

Q. Please summarize the results of your DCF analyses.

A. Table 5 below (*see* also **Exhibit AEB-1** and **Exhibit AEB-2**) presents the results of the Constant Growth and Multi-Stage DCF models. The Constant Growth DCF model produces a range of mean results from 10.51 percent to 10.61 percent and a range of median results from 10.53 percent to 10.63 percent. The Multi-Stage DCF analysis produces a range of mean results from 10.35 percent to 10.45 percent and a range of median results from 10.15 percent to 10.26 percent.

16 U.S. Energy Information Administration, Annual Energy Outlook 2012, Table 20, Macroeconomic Indicators.

Table 5: Discounted Cash Flow Analyses Results

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average Price	9.00%	10.55%	12.81%
90-Day Average Price	8.97%	10.51%	12.78%
180-Day Average Price	9.06%	10.61%	12.88%
	Median Low	Median	Median High
30-Day Average Price	9.47%	10.57%	11.54%
90-Day Average Price	9.42%	10.53%	11.53%
180-Day Average Price	9.52%	10.63%	11.64%
Multi-Stage DCF			
	Mean Low	Mean	Mean High
30-Day Average Price	9.93%	10.38%	11.19%
90-Day Average Price	9.89%	10.35%	11.15%
180-Day Average Price	9.99%	10.45%	11.28%
	Median Low	Median	Median High
30-Day Average Price	9.93%	10.21%	10.81%
90-Day Average Price	9.84%	10.15%	10.74%
180-Day Average Price	9.92%	10.26%	10.81%

Q. How did you calculate the range of results for the Constant Growth and Multi-Stage DCF Models?

A. I calculated the low result for both DCF models using the minimum growth rate (*i.e.*, the lowest of the First Call, Zacks, and Value Line earnings growth rates) for each of the proxy group companies. Thus, the low result reflects the minimum DCF result for the proxy group. I used a similar approach to calculate the high results, using the highest growth rate for each proxy group company. The mean and median results were calculated using the average of all three sources' growth rates.

Q. Did you undertake any additional analyses to support your DCF model results?

A. Yes, I did. As noted earlier, I also used the CAPM and the Risk Premium approach as a means of assessing the reasonableness of my Constant Growth and Multi-Stage DCF results.

D. CAPM Analysis.

Q. Please briefly describe the Capital Asset Pricing Model.

A. The CAPM is a risk premium approach that estimates the cost of equity for a given security as a function of a risk-free return plus a risk premium to compensate investors for the non-diversifiable or "systematic" risk of that security. This second component is the product of the market risk premium times the Beta coefficient, which measures the relative riskiness of the security being evaluated.

The CAPM is defined by four components, each of which must theoretically be a forward-looking estimate:

$$K_e = r_f + \beta(r_m - r_f) \quad [3]$$

Where:

K_e = the required market ROE;

β = Beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market as a whole.

In this specification, the term $(r_m - r_f)$ represents the market risk premium. According to the theory underlying the CAPM, since unsystematic risk can be diversified away, investors should only be concerned with systematic or non-diversifiable risk. Non-diversifiable risk is measured by Beta, which is defined as:

$$\beta = \frac{Covariance(r_e, r_m)}{Variance(r_m)} \quad [4]$$

The variance of the market return (*i.e.*, $Variance(r_m)$) is a measure of the uncertainty of the general market, and the covariance between the return on a specific security and the general market (*i.e.*, $Covariance(r_e, r_m)$) reflects the extent to which the return on that security will respond to a given change in the general market return. Thus, Beta represents the risk of the security relative to the general market.

Q. What risk-free rate did you use in your CAPM analysis?

A. I relied on three estimates of the yield on U.S. Treasury bonds as my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year U.S. Treasury bonds (*i.e.*, 2.87 percent);[17] (2) the projected 30-year U.S. Treasury bond yield for 2012 through 2014 of 3.15 percent;[18] and (3) the projected 30-year U.S. Treasury bond yield for 2014 through 2018 of 5.10 percent.[19]

Q. How did you estimate the market risk premium in the CAPM?

A. I estimated the market risk premium based on the expected return on the S&P 500 Index, less the 30-year U.S. Treasury bond yield. The expected return on the S&P 500 Index is calculated using the Constant Growth DCF model discussed earlier in my Direct Testimony for the companies in the S&P 500 Index for which long-term earnings projections are available. Based on an estimated market capitalization-weighted dividend yield of 2.37 percent and a weighted long-term growth rate of 10.35 percent, the estimated required market return for the S&P 500 Index is 12.85 percent. The implied market risk premium over the current 30-day average of the 30-year U.S.

17 Bloomberg Professional
18 Blue Chip Financial Forecasts, Vol. 31, No. 11, November 1, 2012, at 2.
19 Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14.

Treasury bond yield, and the short- and longer-term projected yields on the 30-year U.S. Treasury bond, range from 7.75 percent to 9.98 percent.

Q. What is the next step in the CAPM analysis?

A. I considered the average Beta coefficients for the proxy group companies as reported by Bloomberg and Value Line (*see* **Exhibit AEB-4**). Bloomberg calculates Beta coefficients based on two years of weekly returns relative to the S&P 500 Index. Value Line's calculation is based on five years of weekly returns relative to the New York Stock Exchange Composite Index.

Q. What are the results of your CAPM analyses?

A. As shown in Table 6 below (*see* also **Exhibit AEB-5**), the results of my CAPM analysis using the average Bloomberg Beta coefficient suggest a mean ROE of 10.12 percent based on a range of returns from 9.87 percent to 10.53 percent. My CAPM analysis using the average Value Line Beta coefficient produces a range of returns from 10.03 percent to 10.66 percent and a mean of 10.27 percent.

Table 6: Forward-Looking CAPM Results

	Current Risk-Free Rate (2.90%)	2012-2014 Projected Risk-Free Rate (3.15%)	2014-2018 Projected Risk-Free Rate (5.10%)	Mean Result
Bloomberg Beta	9.87%	9.95%	10.53%	10.12%
Value Line Beta	10.03%	10.11%	10.66%	10.27%

E. Bond Yield Plus Risk Premium Analysis.

Q. Please describe the Bond Yield Plus Risk Premium approach you employed.

A. In general terms, this approach is based on the fundamental principle that equity investors bear the residual risk associated with equity ownership and therefore require a premium over the return they would have earned as a bondholder. That is, since returns to equity holders are more risky than returns to bondholders, equity investors must be compensated to bear that risk. Risk premium approaches, therefore, estimate the cost of equity as the sum of the equity risk premium and the yield on a particular class of bonds. In my analysis, I used actual authorized returns for electric utilities as the historical measure of the cost of equity to determine the risk premium.

Q. **Are there other considerations that should be addressed in conducting this analysis?**

A. Yes, there are. It is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates. That is, as interest rates increase (decrease), the equity risk premium decreases (increases). Consequently, it is important to develop an analysis that: (1) reflects the inverse relationship between interest rates and the equity risk premium; and (2) relies on more recent and expected market conditions. Such an analysis can be developed based on a regression of the risk premium as a function of U.S. Treasury bond yields. If we let authorized ROEs for electric utilities serve as the measure of required equity returns and define the yield on the long-term U.S. Treasury bond as the relevant measure of interest rates, the risk premium simply would be the difference between those two points.[20]

Q. **What did your Bond Yield Plus Risk Premium analysis reveal?**

A. As shown on Chart 1, from 1992 through 2012, there was a strong negative relationship between risk premia and interest rates. To estimate that relationship, I conducted a regression analysis using the following equation:

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20 *See e.g.*, S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, Managerial and Decision Economics, Vol. 19, No. 2 (March, 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. *See also* Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return*, Financial Management, Spring 1986, at 66.

$$RP = a + b(T) \quad [5]$$

Where:

RP = Risk Premium (difference between allowed ROEs and the yield on 30-year U.S. Treasury bonds)

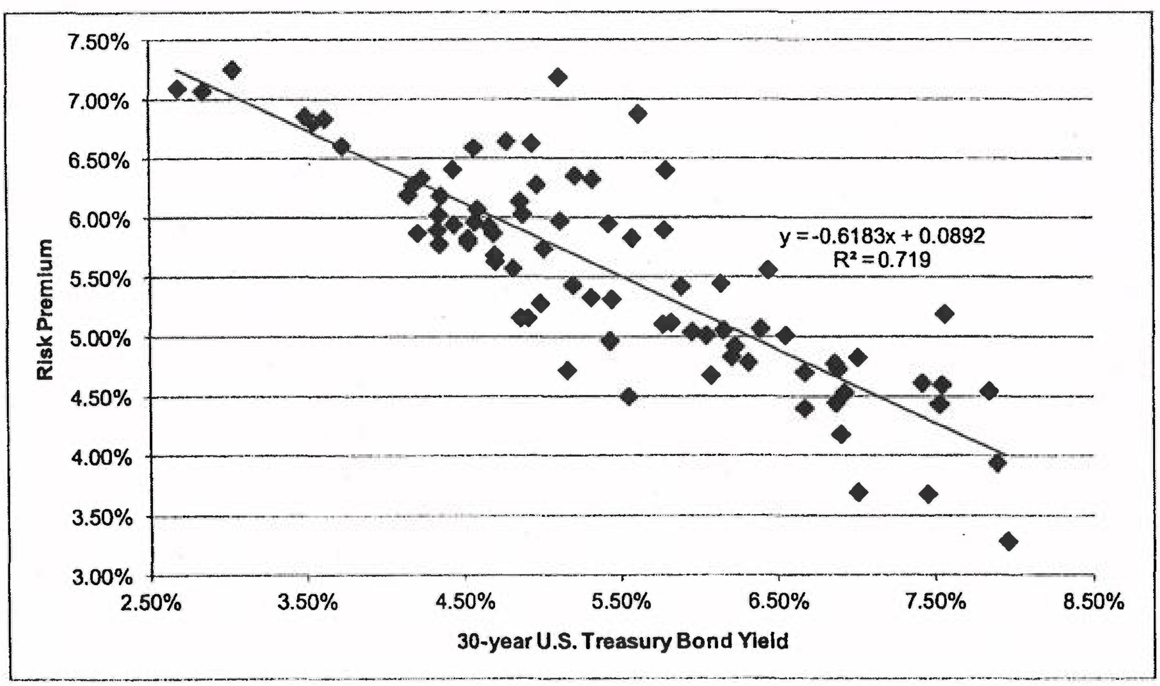
a = intercept term

b = slope term

T = 30-year U.S. Treasury bond yield

Data regarding allowed ROEs were derived from 553 rate cases from 1992 through September 30, 2012 as reported by Regulatory Research Associates. This equation's coefficients were statistically significant at the 99.0 percent level.

Chart 1: Risk Premium Results



As shown on **Exhibit AEB-6**, based on the current 30-day average of the 30-year U.S. Treasury bond yield (*i.e.*, 2.87 percent), the risk premium would be 7.14 percent, resulting in an estimated ROE of 10.01 percent. Based on the near-term (2012-2014) projections of the 30-year U.S. Treasury bond yield (*i.e.*, 3.15 percent), the risk premium would be 6.97 percent, resulting in an estimated ROE of 10.12 percent. Based on longer-term (2014-2018) projections of the 30-year U.S. Treasury bond yield (*i.e.*, 5.10 percent), the risk premium would be 5.76 percent, resulting in an estimated ROE of 10.86 percent.

VII. REGULATORY AND BUSINESS RISKS.

Q. Do the mean and median DCF, CAPM, and Risk Premium results for the proxy group provide an appropriate estimate of the cost of equity for UNS Electric?

A. These results provide only a range of the appropriate estimate of the Company's cost of equity. In my view, there are several additional factors that must be taken into consideration when determining where the Company's cost of equity falls within the range of results. These risk factors include: (1) Regulatory Environment; (2) Capital Expenditure Plan; and (3) the Size of the Utility. These factors, which are discussed below, should be considered with respect to their overall effect on the Company's risk profile.

A. UNS Electric's Regulatory Environment.

Q. Please explain how the regulatory environment affects investors' risk assessments.

A. The ratemaking process is premised on the principle that, in order for investors and companies to commit the capital needed to provide safe and reliable utility services, the subject utility must have the opportunity to recover the return of, and the market-required return on, invested capital. Regulatory commissions recognize that because utility operations are capital intensive, regulatory decisions should enable the utility to attract capital at reasonable terms; doing so balances the long-term interests of investors and customers. UNS Electric faces the same challenge in financing its operations and requires the opportunity to earn a reasonable return on its invested capital in order to maintain its financial profile. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' risk assessments.

From the perspective of debt investors, the authorized return should enable the Company to generate the cash flow needed to meet its near-term financial obligations, make the capital investments needed to maintain and expand its system, and maintain sufficient levels of liquidity to fund unexpected events. This financial liquidity must be derived not only from internally generated funds, but also by efficient access to capital markets. Moreover, because fixed income investors have many investment alternatives, even within a given market sector, the Company's financial profile must be adequate on a relative basis to ensure its ability to attract capital under a variety of economic and financial market conditions.

From the perspective of equity investors, the authorized return must be adequate to provide a risk-comparable return on the equity portion of the Company's capital investments. Because equity investors are the residual claimants on the Company's cash flows (which is to say that the equity return is subordinate to interest payments), they are particularly concerned with the strength of regulatory support and its effect on future cash flows.

Further, the financial community monitors not only the regulatory environment in which utility companies operate, but also the current and expected conditions of the capital markets from which utilities must attract long-term capital. As such, it is important to consider the capital market conditions with which UNS Electric must contend, as well as investors' expectations and requirements relating to both risks and returns in the estimation of the Company's required ROE. UNS Electric must also be afforded the opportunity to maintain (or enhance) its financial integrity and to earn a reasonable return, taking into consideration the current market conditions and the Company's specific business risk profile.

Q. Please explain how credit rating agencies consider regulatory risk in establishing a company's credit rating.

A. While both S&P and Moody's consider regulatory risk in establishing credit ratings, Moody's has published a report quantifying the importance of this metric. Moody's establishes credit ratings based on four key factors: (1) regulatory framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4) financial strength, liquidity, and key financial metrics. Of these criteria, regulatory framework and the ability to recover costs and earn returns are each given a broad rating factor of 25.0 percent. Therefore, Moody's assigns regulatory risk a 50.0 percent weighting in the overall assessment of business and financial risk for regulated utilities.[21]

Standard & Poor's has also identified regulatory risk as an important factor. In its assessment of U.S. utility regulatory environments, S&P stated, "we believe the fundamental regulatory environment in the jurisdictions in which a utility operates often influence credit quality the most."[22]

Q. How does the regulatory environment in which a utility operates affect its access to and cost of capital?

A. The regulatory environment can significantly affect both the access to, and cost of capital in several ways. First, the proportion and cost of debt capital available to utility companies are influenced by the rating agencies' assessment of the regulatory

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21 Moody's Global Infrastructure Finance, *Rating Methodology: Regulated Electric and Gas Utilities*, August 2009, at 4.

22 Standard & Poor's, *Assessing U.S. Utility Regulatory Environments*, March 11, 2010, at 2.

environment. As noted by Moody's, "the predictability and supportiveness of the regulatory framework in which a regulated utility operates is a key credit consideration and the one that differentiates the industry from most other corporate sectors."[23] Moody's further highlighted the relevance of a stable and predictable regulatory environment to a utility's credit quality, noting:

> For a regulated utility company, we consider the characteristics of the regulatory environment in which it operates. These include how developed the regulatory framework is; its track record for predictability and stability in terms of decision making; and the strength of the regulator's authority over utility regulatory issues. A utility operating in a stable, reliable, and highly predictable regulatory environment will be scored higher on this factor than a utility operating in a regulatory environment that exhibits a high degree of uncertainty or unpredictability. Those utilities operating in a less developed regulatory framework or one that is characterized by a high degree of political intervention in the regulatory process will receive the lowest scores on this factor.[24]

Q. Is regulatory risk an important consideration for UNS Electric?

A. Yes, it is. In a recent credit opinion, Moody's noted the improved regulatory environment in Arizona and recovery mechanisms that are supportive of credit quality.[25] Moody's also stated that its conclusion regarding the improved regulatory environment in Arizona is based on the Commission finalizing three recent rate cases within 13 months and its more supportive rate treatment, approving full or partial decoupling mechanisms for UNS Gas, Inc., Southwest Gas Corporation, and Arizona Public Service Company. Therefore, supportive regulatory treatment in this case will be an important factor in Moody's rating of UNS Electric.

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23 Moody's Global Infrastructure Finance, *Rating Methodology: Regulated Electric and Gas Utilities*, August 2009, at 6.

24 *Ibid.*

25 Moody's Investors Service, *Credit Opinion: UNS Electric, Inc.*, May 25, 2012.

B. UNS Electric's Capital Expenditure Plan.

Q. Please summarize the Company's capital expenditure plan.

A. The Company's current projections include approximately $182.0 million in capital investments for the period from 2013 through 2017.[26] The Company's capital expenditure plan includes approximately: (1) $35.7 million for new distribution plant; (2) $54.8 million for distribution replacements and betterments; (3) $40.8 million for transmission plant; (4) $19.9 million for general plant; (5) $4.0 million for generation plant; and (6) $26.9 million for renewable generation plant.[27] Given that the Company's net utility plant as of December 31, 2011 was approximately $280.7 million,[28] the $182.0 million anticipated capital expenditures represent 64.85 percent of UNS Electric's net utility plant as of December 31, 2011.

Q. How is the Company's risk profile affected by the substantial increase in its planned capital expenditures?

A. As with any utility faced with a substantial capital expenditure plan, the Company's risk profile is adversely affected in two significant and related ways: (1) the heightened level of investment increases the risk of under recovery, or the delayed recovery of the invested capital; and (2) an inadequate return would put downward pressure on key credit metrics.

Q. Do credit rating agencies recognize the risks associated with increased capital expenditures?

A. Yes, they do. From a credit perspective, the additional pressure on cash flows associated with high levels of capital expenditures exerts corresponding pressure on

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26 Company projection of capital spending as of December 2012.

27 The specific capital investment programs are discussed in greater detail in the Direct Testimony of Mr. Michael J. DeConcini.

28 UNS Electric, Inc., FERC Form 1 for the year ended December 31, 2011, at 110.

credit metrics and, therefore, credit ratings. In a recent report, S&P noted the importance of timely cost recovery:

> As companies spend on investments, a significant consideration for regulated utilities will be how quickly regulators allow them to fully recover these costs. If the costs are significant, any delays or denials in the recovery could hurt a utility's credit quality. Thus, regulatory support is necessary to successfully implement such projects. Cost recovery through base rates and rate mechanisms that provide for predictable and timely cash flow could offset the costs of a company's capital spending. These mechanisms help provide timely and consistent recovery of costs and bolster financial measures by limiting cash-flow drains and reducing the amount of debt needed during construction. Ultimately, the dollar amount of the costs and the timeliness in recovering them will be important factors affecting our view of a utility's credit quality.[29]

Q. Will the Company need continued access to the capital markets in order to finance its capital expenditure plan?

A. UNS Electric has indicated that it expects to have only a modest need for new long-term debt capital in order to finance its current capital expenditure plan. The Company expects to issue additional long-term debt in 2015 in conjunction with the refinancing of $80 million of maturing long-term debt.

Q. Have you conducted an analysis of the Company's projected capital expenditures relative to the proxy companies?

A. Yes, I have. I compared the ratio of projected capital expenditures from 2013 through 2017 to net utility plant as of December 31, 2011, for UNS Electric and each of the proxy group companies. As shown on **Exhibit AEB-7**, the Company's percentage of projected capital expenditures to net utility plant is 1.27 times the median ratio for the proxy group companies. Chart 2 below demonstrates that UNS Electric's projected

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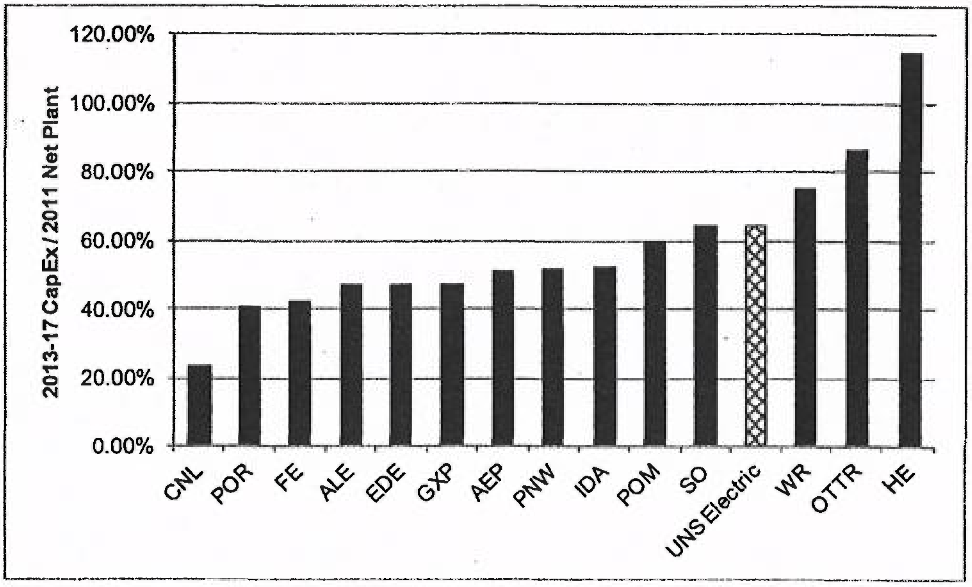
[29] Standard & Poor's, *U.S. Utilities' Capital Spending Is Rising, And Cost-Recovery Is Vital*, May 14, 2012, at 7.

capital spending as a percentage of net utility plant is higher than the majority of the proxy group companies over this time period.

Chart 2: Comparison of Capital Expenditures (2013-2017)[30]



Q. What are your conclusions regarding the effect of the Company's capital spending plans on its risk profile and cost of capital?

A. It is clear that, on a relative basis, the Company's capital expenditure program is significant because of its high ratio relative to net utility plant, which would likely materially dilute the Company's current earnings and cash flows, absent rate relief. It also is clear that the credit rating agencies recognize the additional risks associated with substantial capital expenditures and that those risks are reflected in credit ratings. Taking into consideration the projected level of capital spending, the additional long-term debt projected to be issued in 2015, and the $80 million of long-term debt maturing in 2015, it is important that the authorized ROE in this proceeding provide the Company with the opportunity to maintain and potentially improve its financial integrity.

30 Capital expenditures for UNSE reflect an updated budget period of 2013 through 2017, while the analysis of the proxy companies is based on publicly available data for the same period.

C. UNS Electric's Small Size.

Q. Please explain the risk associated with small size.

A. Both the financial and academic communities have long accepted the proposition that the cost of equity for small firms is subject to a "size effect". While empirical evidence of the size effect often is based on studies of industries beyond regulated utilities, utility analysts also have noted the risk associated with small market capitalizations. Specifically, an analyst for Ibbotson Associates noted:

> For small utilities, investors face additional obstacles, such as a smaller customer base, limited financial resources, and a lack of diversification across customers, energy sources, and geography. These obstacles imply a higher investor return.[31]

Small size, therefore, leads to two categories of increased risk for investors: (1) liquidity risk (*i.e.*, the risk of not being able to sell one's shares in a timely manner due to the relatively thin market for the securities); and (2) fundamental business risks.

Q. How does UNS Electric compare in size to the proxy companies?

A. UNS Electric is substantially smaller than the median for the proxy group companies both in terms of number of customers and market capitalization. **Exhibit AEB-8** provides the actual market capitalization for the proxy group companies and estimates the implied market capitalization for UNS Electric (*i.e.*, the implied market capitalization if UNS Electric were a stand-alone publicly-traded entity). To do so, I relied on the proposed equity component of the Company's rate base, or $113.9 million (*i.e.*, 52.60% x $216.6 million). I then applied the median market-to-book ratio for the proxy group of 1.38 to UNS Electric's implied common equity balance and arrived at an implied market capitalization of $156.7 million. That implied market capitalization is approximately 5.33 percent of the median market capitalization for the proxy group.

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[31] Michael Annin, *Equity and the Small-Stock Effect*, Public Utilities Fortnightly, October 15, 1995.

Q. How does the smaller size of UNS Electric affect its business risk relative to the proxy group?

A. In general, smaller companies are less able to withstand adverse events that affect their revenues and expenses. The impact of weather variability, the loss of large customers to bypass opportunities, or the destruction of demand as a result of general macroeconomic conditions or fuel price volatility will have a proportionately greater impact on the earnings and cash flow volatility of smaller utilities. Similarly, capital expenditures for non-revenue producing investments, such as system maintenance and replacements, will put proportionately greater pressure on customer costs, potentially leading to customer attrition or demand reduction. Taken together, these risks affect the return required by investors for smaller companies.

Q. How did you estimate the size premium for UNS Electric?

A. In its *Ibbotson SBBI 2012 Valuation Yearbook*, Morningstar, Inc. presents its calculation of the size premium for the New York Stock Exchange, American Stock Exchange, and NASDAQ[32] broken down into market capitalization deciles.[33] As shown in **Exhibit AEB-8**, according to recent market data, the median market capitalization of the proxy group was approximately $2.9 billion, which corresponds to the fourth decile of the Morningstar, Inc. market capitalization data. Based on Morningstar, Inc.'s analysis, that decile corresponds to a size premium of 1.17 percent (*i.e.*, 117 basis points). UNS Electric's implied market capitalization of $156.7 million falls within the tenth decile, which comprises market capitalization levels of $1.0 million to $206.8 million and corresponds to a size premium of 6.10 percent (*i.e.*, 610 basis points). The difference between those size premia is 493 basis points (*i.e.*, 6.10 percent minus 1.17 percent).

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[32] National Association of Securities Dealers Automated Quotation System

[33] Morningstar, Inc., Ibbotson SBBI 2012 Valuation Yearbook, at 202.

Q. Have you considered the smaller size of UNS Electric in your recommended ROE?

A. While I have estimated the small size effect, I am not proposing a specific adjustment for this factor. Rather, I have considered the small size of UNS Electric in my assessment of business risks in order to determine where, within a reasonable range of returns, UNS Electric's required ROE falls.

VIII. CAPITAL STRUCTURE.

Q. What is UNS Electric's proposed capital structure?

A. As described in the Direct Testimony of Mr. Grant, the Company's proposed capital structure consists of 52.60 percent common equity and 47.40 percent long-term debt.

Q. Please discuss your analysis of the capital structures of the proxy group companies.

A. My analysis of the proxy group companies' actual capital structures is provided in **Exhibit AEB-9**. As shown in that exhibit, I calculated the mean and median proportions of common equity and long-term debt over the most recent eight quarters[34] for each of the proxy group companies at the operating company level. The Company's proposed equity ratio of 52.60 percent is well within the range established by the proxy companies of 46.32 percent to 60.00 percent.

Q. What is your conclusion regarding an appropriate capital structure for UNS Electric?

A. Considering the actual capital structures of the proxy group's operating companies I believe that UNS Electric's proposed common equity ratio of 52.60 percent is reasonable.

[34] The source data for this analysis is the operating company data provided in the FERC Form 1. Due to the timing of those filings, my average capital structure analysis uses the quarterly capital structures reported for the proxy group companies for the period from October 2010 through September 2012, which is the most recent eight quarters of data available at the operating company level.

IX. EFFECT OF UNS ELECTRIC'S PROPOSED LFCR AND TCA MECHANISMS ON THE COST OF EQUITY.

Q. Please summarize the Company's proposed LFCR mechanism.

A. As discussed in greater detail in the Direct Testimony of Mr. Craig A. Jones, the Company is proposing an LFCR mechanism that would recover lost revenue that is the direct result of the Commission's Electric Energy Efficiency rules and Renewable Energy Standard Tariff ("REST") rules. As discussed by Mr. Jones, the Company's proposal is not a full decoupling mechanism, but rather is designed to recover only the losses attributable to quantifiable results through the Company's energy efficiency efforts and promotion of distributed generation. [35]

Q. Please summarize the Company's proposed TCA mechanism.

A. As discussed in greater detail in the Direct Testimony of UNS Electric witness Mr. Michael J. DeConcini, UNS Electric is proposing base rates that include a transmission cost element based on the current Federal Energy Regulatory Commission ("FERC") Open Access Transmission Tariff ("OATT"). The TCA will reflect future changes to the OATT, as either a charge or credit, relative to the current OATT rate. Thus, as the OATT changes over time, the TCA will provide timely recognition of those changes in the Company's retail rates.

Q. How do rating agencies view the implementation of revenue stabilization mechanisms, like the LFCR and TCA mechanisms?

A. Ratings agencies generally view these mechanisms favorably. For example, S&P recently commented on revenue stabilization mechanisms and their relationship to a utility's creditworthiness:

[35] *See* Direct Testimony of Mr. Craig A. Jones, at Section VIII.A.

> Regulatory jurisdictions apply a host of other rate mechanisms or special tariffs to allow timely recovery of costs, including those associated with electricity transmission, bad debt, extraordinary storm damage costs, property taxes, pensions, infrastructure replacement, and legislatively mandated energy efficiency and renewable resource projects. Finally, the greater the percentage of a utility's rates that they recover through fixed charges rather than volume-based charges, the greater the support for credit quality.[36]

Q. If the Commission were to adopt the Company's proposed LFCR and TCA mechanisms, what is the appropriate standard to consider in establishing the Company's ROE?

A. Under the comparable earnings standard, the allowed ROE should represent a return commensurate with the returns on investments of similar risk. In this case, the proxy group companies would constitute the comparable earnings standard for UNS Electric. Therefore, the issue is not whether the Company's revenues would be less volatile with the LFCR and TCA mechanisms than without them; rather the relevant question is whether the Company would be more or less risky with its LFCR and TCA mechanisms as compared to the proxy group.

Q. Did you examine the rate mechanisms in place at the proxy group companies?

Yes, I did. I reviewed the rate mechanisms employed in each jurisdiction by the 40 operating companies represented by my proxy group. Given UNS Electric's request to implement the LFCR and TCA mechanisms, my review focused on decoupling and capital cost recovery mechanisms. The Company's requested TCA mechanism is an example of a broader group of capital cost tracking mechanisms. Because each proxy group company is investing in various types of assets (*e.g.*, generation, transmission, and distribution), rather than narrowly focusing on transmission cost recovery mechanisms, I expanded my review to include any form of capital cost tracker. **Exhibit**

[36] Standard & Poor's, *How Regulated U.S. Utilities Weather A Slow Economy*, May 15, 2012, at 4.

AEB-10 provides a summary of the decoupling and capital cost recovery mechanisms used by the proxy group companies. As shown in that exhibit, I calculated the percent of my proxy group companies that have some form of decoupling and capital cost recovery. I weighted the results based on the number of electric customers in each of the jurisdictions served by the proxy group companies. My analysis shows that 62.6 percent of my proxy group companies have some form of decoupling while 79.5 percent have at least one capital cost recovery mechanism in place. I note that eight of the jurisdictions served by my proxy group companies have implemented full decoupling mechanisms, all of which provide for greater revenue certainty than the Company's proposed LFCR mechanism.

Q. **What do you conclude about UNS Electric's risk relative to the proxy group if the Company's LFCR and TCA mechanisms are approved?**

A. As discussed above, a large percentage of my proxy group companies utilize similar forms of decoupling and capital cost recovery mechanisms. Therefore, implementation of the proposed LFCR and TCA mechanisms would not make UNS Electric less risky than the proxy group companies, but rather would make the Company more comparable to the proxy group because the proposed LFCR and TCA mechanisms provide for similar revenue stability to the structures that have been implemented by the proxy group companies.

Q. **Should the implementation of the Company's proposed LFCR and TCA mechanisms have an effect on the Company's ROE?**

A. No. My viewpoint is that the required ROE derived from my proxy group analysis already reflects the risk of a utility with significant revenue stabilization. As noted previously, the Company's proposed LFCR mechanism is designed to eliminate disincentives to achieving the Commission's energy efficiency and renewable energy standards, and the proposed TCA mechanism is intended to provide for the more timely recovery of transmission costs subject to regulation by the FERC. As noted earlier, a comparison of the proxy group companies' rate structures to the Company's LFCR and TCA mechanisms demonstrates that the proposed mechanisms provide similar revenue stabilization as the mechanisms that have been implemented by the proxy group companies. Therefore, the Company would have a risk profile that is more like the proxy group if the LFCR and TCA mechanisms were to be implemented. Furthermore, there is no conclusive evidence of which I am aware indicating that companies that have implemented such structures either have lower required ROEs or have significantly different market valuations. Based on the comparability of the company's proposed LFCR and TCA mechanisms to the rate structures implemented by the proxy group companies, I conclude that approval of the Company's LFCR and TCA mechanisms should not cause any adjustment to my required ROE analysis, which was derived from data for proxy companies that already have such mechanisms in place.

Q. **What would be the effect on the Company's relative risk profile if the Company were not proposing the LFCR and TCA mechanisms or if the Commission does not approve these mechanisms?**

A. It is important to recall that the estimation of the cost of equity is a comparative analysis, and that for several years, rating agencies (*e.g.*, Moody's, in particular) have identified revenue stabilization mechanisms as an increasingly common ratemaking mechanism. Absent such a structure, UNS Electric would be susceptible to incrementally greater risks than the proxy group. Consequently, while the Commission's acceptance of the Company's proposed LFCR and TCA mechanisms would not result in a reduced cost of equity relative to UNS Electric's proxy group, the denial of such a structure would render the Company even more risky than its peers. As previously discussed, approval of the proposed LFCR and TCA mechanisms by the

Commission in this proceeding should make the Company more comparable to the proxy group companies.

X. CAPITAL MARKET ENVIRONMENT.

Q. How do economic conditions influence the required cost of capital and required ROE?

A. The required cost of capital, including the ROE, is a function of prevailing and expected economic and capital market conditions. During times of capital market uncertainty, risk aversion increases; this causes investors to seek the relative safety of U.S. Treasury debt, resulting in lower U.S. Treasury bond yields. To the extent that observable measures of risk aversion, such as credit spreads and dividend yield spreads, remain elevated relative to historical norms, it would be incorrect to conclude that the cost of equity has materially decreased.

Q. How should current economic conditions be taken into consideration in determining the appropriate ROE for UNS Electric?

A. First, based on the continuing capital market uncertainty, it is important to assess the reasonableness of any financial model's results in the context of observable market data. To the extent that certain ROE estimates are incompatible with such metrics or inconsistent with basic financial principles, it is appropriate to consider whether alternative estimation techniques are likely to provide more meaningful and reliable results.

Second, in my view, the authorized rate of return in this proceeding will provide a signal to the financial community concerning UNS Electric's ability to meet its capital needs during a period in which its capital investments are increasing. If investors perceive a supportive regulatory environment, as evidenced by an allowed rate of return that compensates UNS Electric at a level commensurate with its risk, UNS Electric should be able to attract equity capital at a reasonable cost. Conversely, if investors perceive a lack of connection between the allowed rate of return and current economic conditions, the regulatory environment would be seen as less supportive.

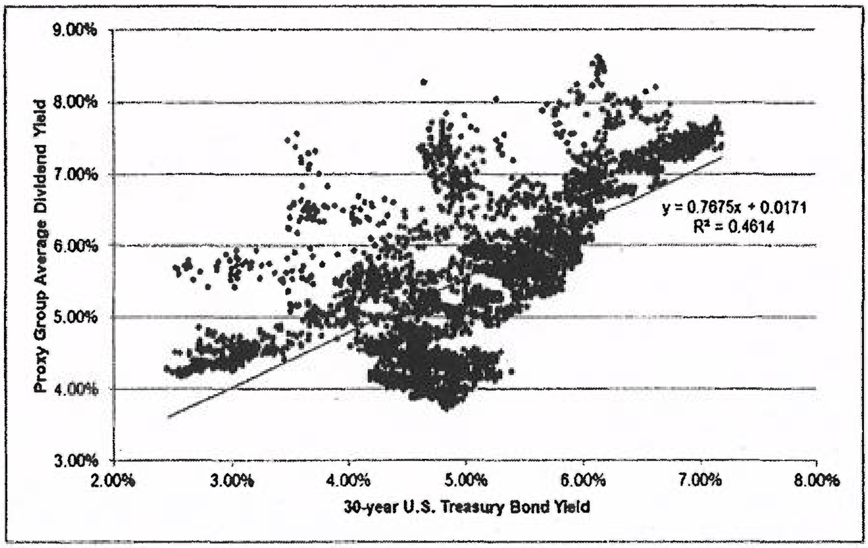
Q. Please describe the current interest rate environment.

A. Long-term Government Treasury interest rates are near the lowest level in the past 35 years. Consequently, the absolute level of utility bond yields are at their lowest levels in the past four business cycles. At the same time, however, credit spreads, or the difference between U.S. Treasury Bond yields and utility bond yields, have increased. Further, as discussed below, long-term interest rates on government bonds are projected to substantially increase over the next few years.

Q. Does the current level of interest rates have implications for the DCF and CAPM analyses?

A. Yes. The level of long-term interest rates has an effect on both the DCF and CAPM analyses. As such, the current level of interest rates and utility stock valuations could have a meaningful effect on the estimated ROE. In the case of the DCF model, for example, high stock valuations (associated with unusually low long-term interest rates) will tend to reduce dividend yields and, therefore, the estimated ROE. This relationship is demonstrated in Chart 3, below, which shows that higher U.S. Treasury bond yields have generally corresponded with lower proxy group company dividend yields over the 1996 to 2012 time period.

Chart 3: Relationship between 30-Year U.S. Treasury Bond Yields and Proxy Group Average Dividend Yields (1996-2012)



Similarly, unusually low long-term U.S. Treasury Bond yields will reduce the risk-free rate component of the CAPM, again reducing the ROE result. In an economy with increasing interest rates, the prices for utility stocks would tend to decrease, thereby increasing dividend yields from current levels. Assuming constant growth, the result would be an increase in the ROE.

Q. Is there a reasonable basis to conclude that interest rates will be increasing?

A. Yes, there is. As noted earlier, the 30-day average yield on a 30-year U.S. Treasury bond is currently 2.87 percent. The consensus estimate provided by Blue Chip Financial Forecasts for the yield on the 30-year U.S. Treasury bond is 3.15 percent through the end of 2013,[37] increasing to an average of 5.10 percent for the period from 2014 through 2018.[38] Thus, the consensus forecasts project a substantial increase in U.S. Treasury bond yields over the next several years.

[37] Blue Chip Financial Forecasts, Vol. 31, No. 11, November 1, 2012, at 2.
[38] Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14.

Q. What effect do rising interest rates have on the cost of equity?

A. The potential for rising interest rates would indicate that the calculated cost of equity for the proxy companies using current market data is likely to be conservative. Consequently, rising interest rates would support selection of a return toward the upper end of a reasonable range of equity cost rate estimates.

Q. What additional analysis have you conducted to assess current capital market conditions?

A. I considered two widely-recognized measures of investor risk sentiment: (1) incremental credit spreads; and (2) the relationship between the dividend yields of the proxy group companies and U.S. Treasury bond yields. I compared current market conditions to the two-year period prior to the 2007-2009 recession (*i.e.*, January 2006 through November 2007), and to the capital market contraction period of 2002-2003. As shown in Table 7, those metrics indicate that current levels of risk aversion are significantly higher than the levels observed prior to the recent recession and the levels experienced during the 2002-2003 capital market contraction.

Table 7: Risk Sentiment Indicators[39]

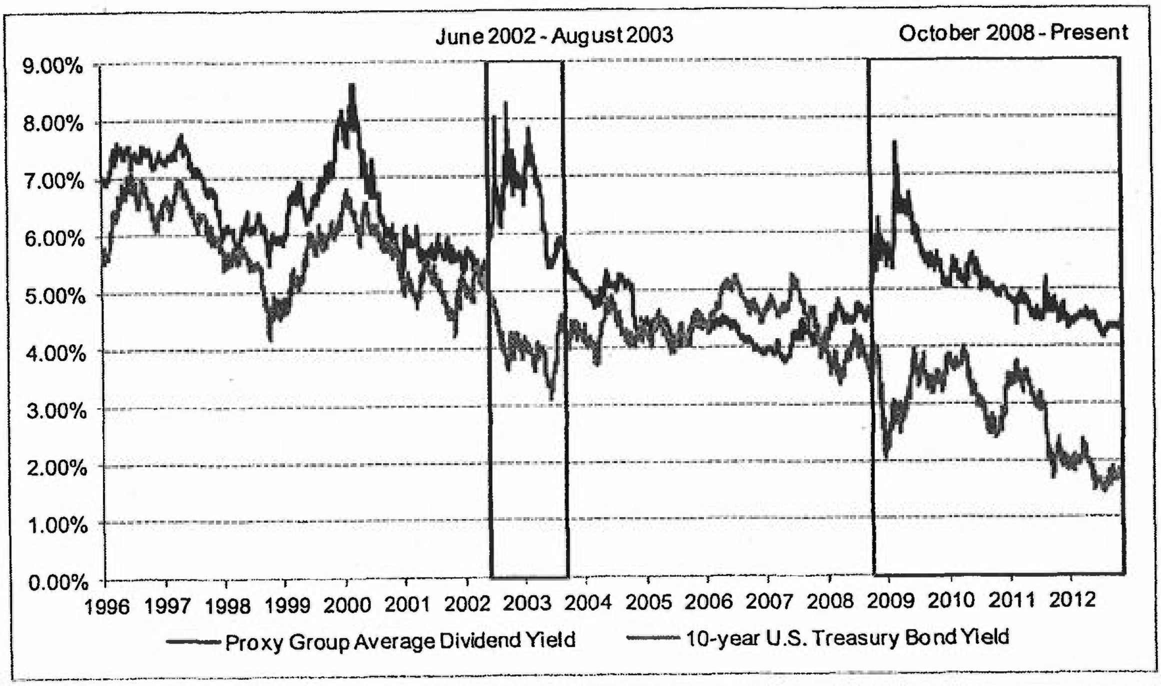
	Current (Nov. 16, 2012)[40]	Pre-recession (Jan-2006 through Nov-2007)	Contraction (Jan-2002 through Dec-2003)
Credit Spreads (Moody's Utility Bond Index)			
Baa-rated bond to A-rated bond	0.77%	0.25%	0.46%
Dividend Yield Spreads			
10-year U.S. Treasury Bond to Proxy Group Average Dividend Yield	-2.66%	0.58%	-1.81%

Chart 4 (below) demonstrates that the average dividend yield for the proxy group has continued to exceed the ten-year U.S. Treasury bond yield since the beginning of the financial crisis in late 2008.

[39] Bloomberg Professional Service

[40] 90-trading day average as of November 16, 2012.

Chart 4: Ten-year U.S. Treasury Bond Yield vs. Proxy Group Average Dividend Yield Inversion



Q. **What conclusions do you draw from those analyses?**

A. Those analyses clearly demonstrate that risk aversion, as measured by credit spreads and dividend yield spreads, is higher today than during either the pre-recession period or the 2002-2003 market dislocation that affected all market segments, including utilities. One outcome of the 2002-2003 market dislocation was a renewed emphasis on capital market access and the importance of maintaining a strong financial profile, both of which are equally important in the current market environment. The result of market uncertainty and risk aversion, of course, is an increased, not a decreased, cost of equity.

XI. CONCLUSIONS AND RECOMMENDATION.

Q. What is your conclusion regarding a fair ROE for UNS Electric?

A. Based on the various quantitative and qualitative analyses presented in my Direct Testimony, I believe that the proxy group produces a reasonable range of results from approximately 10.30 percent to 10.75 percent. Further, in light of the regulatory, business, and financial risks of UNS Electric compared to the proxy group, it is my view that an ROE of 10.50 percent is reasonable. It is my view, that a 10.50 percent ROE would reasonably balance the interests of customers and shareholders by enabling the Company to maintain its financial integrity and therefore its ability to attract capital at reasonable rates under a variety of different economic and financial market conditions.

Table 8: Summary of Analytical Results

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average Price	9.00%	10.55%	12.81%
90-Day Average Price	8.97%	10.51%	12.78%
180-Day Average Price	9.06%	10.61%	12.88%
	Median Low	Median	Median High
30-Day Average Price	9.47%	10.57%	11.54%
90-Day Average Price	9.42%	10.53%	11.53%
180-Day Average Price	9.52%	10.63%	11.64%
Multi-Stage DCF			
	Mean Low	Mean	Mean High
30-Day Average Price	9.93%	10.38%	11.19%
90-Day Average Price	9.89%	10.35%	11.15%
180-Day Average Price	9.99%	10.45%	11.28%
	Median Low	Median	Median High
30-Day Average Price	9.93%	10.21%	10.81%
90-Day Average Price	9.84%	10.15%	10.74%
180-Day Average Price	9.92%	10.26%	10.81%
Capital Asset Pricing Model			
	Current Risk-Free Rate (2.87%)	2012-2014 Projected Risk-Free Rate (3.15%)	2014-2018 Projected Risk-Free Rate (5.10%)
Bloomberg Beta	9.87%	9.95%	10.53%
Value Line Beta	10.03%	10.11%	10.66%
Bond Yield Plus Risk Premium			
	Current Risk-Free Rate (2.87%)	2012-2014 Projected Risk-Free Rate (3.15%)	2014-2018 Projected Risk-Free Rate (5.10%)
Bond Yield Plus Risk Premium	10.01%	10.12%	10.86%

XII. FAIR VALUE RATE BASE.

Q. What is the fair value standard in Arizona?

A. As the Commission noted in its decision regarding *Chaparral City Water Company*,[41] the Arizona Constitution requires the use of a fair value rate base in establishing rates. Article XV, Section 14 of the Arizona Constitution states:

> The corporation commission shall, to aid it in the proper discharge of its duties, ascertain the fair value of the property within the state of every public service corporation doing business therein; and every public service corporation doing business within the state shall furnish to the commission all evidence in its possession, and all assistance in its power, requested by the commission in aid of the determination of the value of the property within the state of such public service corporation.[42]

As interpreted by the Arizona Court of Appeals, this paragraph requires the Commission to find the fair value of a public service corporation's property and to use that value to set just and reasonable rates.[43]

Q. How has the Commission applied the fair value standard in prior cases?

A. The fair value standard, as applied by the Commission in recent rate cases, includes the estimation of two components: (1) the FVRB; and (2) the FVROR on the FVRB.[44]

Q. How has the Commission estimated the FVRB?

A. In several recent cases, the Commission has determined that it was appropriate to estimate the FVRB by weighing equally the OCRB and the RCND. The RCND estimates the current replacement cost value of the utility system by escalating the

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[41] Decision No. 70441 (July 28, 2008), at 20-21.
[42] Arizona Constitution, Article XV, Section 14.
[43] Decision No. 70441 (July 28, 2008), at 20-21.
[44] Decision No. 71914 (September 30, 2010), at 51.

utility's original investments in rate base assets by inflation, since the installation year of the asset. In order to recognize physical and functional depreciation of the assets, the replacement cost is then adjusted for the accounting depreciation of the assets based on the expected useful life of the asset, as determined through the company's depreciation study.

Q. How do you define "fair value"?

A. Used in the regulatory context of determining a just and reasonable rate of return, "fair value" is the price at which a property would change hands between a willing buyer and a willing seller, when neither party is under any compulsion to enter into a transaction, and when both parties have reasonable knowledge of relevant facts.[45] That definition is consistent with the Internal Revenue Code and Revenue Ruling 59-60 ("Ruling 59-60"), which notes that court decisions regarding fair value further assume that the buyer and seller are "able, as well as willing, to trade and to be well informed about the property and concerning the market for such property."[46]

Q. Do you have any concerns with the methodology that the Commission has used to estimate the FVRB?

A. Yes, I do. Applying a 50.0 percent weight to the OCRB to estimate the FVRB is inconsistent with valuation theory that is relied upon by investors. Valuation theory identifies three traditional approaches that are used to estimate the value of an asset: (1) the Income Approach; (2) the Cost Approach; and (3) the Comparable Transactions Approach. The Income Approach establishes the value of the asset based on the present discounted value of the expected income from the asset. Using the Cost Approach, an investor estimates the value of the asset based on the current cost of a reasonably comparable replacement asset, adjusted to reflect all forms of depreciation that are

[45] *See* Shannon P. Pratt, Valuing a Business, 5th ed. McGraw Hill, 2008, at 41-42
[46] IRS Revenue Ruling 59-60, 1959-1 CB 237-IRC Sec. 2031.

present in the subject asset. Finally, using the Comparable Transactions or Market Multiples Approach the investor relies on the use of market data on the sale of comparable assets to estimate the value of the assets.

While different circumstances of the asset or the investor can affect whether or not all three approaches are considered or how much emphasis should be placed on any given approach, the objective of each approach is to use available market data to derive a market-based value of an asset. An approach which places a 50.0 percent weight on the depreciated original cost of the assets at the time those assets were installed suggests that the accounting value of an investment has a relationship to the current market value of the asset. This is not the case, as is recognized both in the market place and in academia.[47]

Q. Have you conducted any analysis to assess the reasonableness of using the RCND as the FVRB for UNS Electric?

A. Yes, I have. As noted above, there are three main approaches to valuation typically relied upon by investors and analysts: (1) the Income Approach; (2) the Cost Approach; and (3) the Comparable Transactions Approach. The Income Approach is not appropriate in circumstances such as this where the value of the assets is used to determine the income of the assets. The RCND is the Company's estimate of the current value of the assets using the Cost Approach. As shown in **Exhibit AEB-11,**

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[47] *See* Pratt, Reilly, Schweihs, Valuing a Business, 4th ed. Irwin, 2000, at 308, which states: Under any standard of value, the true economic value of a business enterprise equals the company's accounting book value only by coincidence. More likely than not, the true economic value of a company will be either higher or lower than its accounting book value. There is no theoretical support, conceptual reasoning, or empirical data to suggest that the value of a business enterprise (under any standard of value) will necessarily equal the company's accounting book value. From a valuation perspective, the terms *book value* or *net book value* are merely accounting jargon. This is because book value is not related to economic value, or to the valuation process, at all...In any event, accounting book value is not a recommended business valuation method.

page 1, the FVRB of $286.3 million is calculated by weighting equally the Company's OCRB of $216.6 million and the Company's estimated RCND of $356.1 million.

In order to determine the reasonableness of the Company's proposed FVRB, which includes a 50.0 percent weight on original cost rate base, I relied on the Comparable Transactions Approach to estimate the market value of the Company's OCRB.

Q. Please explain how you applied the Comparable Transactions Approach to determine the reasonableness of the Company's FVRB.

A. I compared the Company's FVRB estimate to the market value of comparable companies in recent arms-length transactions. I normalized the transaction values using the percentage premium over the corporate value of the acquired company, which incorporates the book value of debt and equity, resulting in a premium to corporate value resulting from the transactions to create a consistent basis of comparison among the transactions (which took place amid different market conditions). I then estimated the market value of UNS Electric's assets by applying the median premium of 39.70 percent to the Company's OCRB. That analysis resulted in an estimated market value for UNS Electric's assets of $302.6 million.

Q. How did you establish the universe of transactions that were analyzed for comparability to the UNS Electric system?

A. I began by developing a database of announced and executed transactions involving the sale of electric and diversified utility companies and assets. Those data were compiled using the SNL Financial utility merger-screening tool. I also reviewed publicly-available information such as press releases, investor presentations, SEC filings, and regulatory commission filings. Once that preliminary list of transactions was developed, I then applied the following screening criteria to establish a final group of transactions for which I calculated the transaction premium.

1. I included transactions that involved the sale of state-regulated investor-owned electric and diversified utilities;
2. I included transactions that resulted in the sale of the entire company, excluding partial system or asset sales; and
3. I included transactions with a value of between $100 million and $10 billion.

There were 36 transactions that met my screening criteria.

Q. What period of time did you consider in developing your list of comparable transactions?

A. My Comparable Transactions analysis was performed on utility transmission and distribution asset transactions that were announced within the past 16 years (*i.e.*, from January 1, 1997 through November 16, 2012). In my view, that period is sufficiently long to avoid the bias that could result from limiting the analysis to a shorter period, yet produces a sufficient number of observations.

Q. Please summarize the result of that analysis.

A. Table 9 (below) summarizes the range of acquisition premiums for the comparable transactions. As shown in Table 9 below and in **Exhibit AEB-12**, the median acquisition premium was 39.70 percent. Applying that premium to UNS Electric's OCRB of $216.6 million indicates an implied market value for UNS Electric's assets of $302.6 million.

Table 9: Comparable Transaction Multiples

	Transaction Premium	Implied Valuation ($M)
Minimum	-1.75%	$212.8
Maximum	116.90%	$469.7
Mean	45.59%	$315.3
Median	**39.70%**	**$302.6**
Standard Deviation	30.22%	$65.4

Q. What do you conclude from the Comparable Transactions Approach discussed above?

A. The results of the Comparable Transactions Approach demonstrate that the Company's proposed FVRB is conservative relative to the estimated fair market value of the Company's assets.

XIII. FAIR VALUE RATE OF RETURN.

Q. Does the fair value standard also require consideration of the fair return on the fair value of the Company's assets?

A. Yes. As noted above, the Arizona Constitution requires that the Commission establish just and reasonable rates using the fair value of the Company's property. In establishing the revenue requirement, the Commission would also need to establish the appropriate ROE to apply to the equity component of the FVRB.

Q. How has the Commission estimated the FVROR on the FVRB?

A. In several recent cases, the Commission has determined the FVROR by applying the market ROE and the cost of debt to the Company's OCRB based on the percent of equity and debt in the Company's proposed capital structure. The Commission then applies a different rate, traditionally one half of the risk-free rate, to what has been commonly referred to as the "fair value increment."[48] The fair value increment is the difference between the OCRB and the Company's proposed FVRB. The FVROR is then the sum of the returns on each of the three components: (1) equity capital; (2) debt capital; and (3) the fair value increment, with all components weighted by the percentage of each in the FVRB.

Q. What does the fair value increment represent?

A. As described in the Commission's Decision No. 70665, the fair value increment represents the appreciation in the value of the assets to their current value from the value at which they entered service. Therefore, the sum of the OCRB and the fair value increment is meant to represent the total fair value of the utility's property.[49]

Q. What rate of return should be applied to the fair value increment?

A. Based on the risk differential between equity and debt investments, equity holders will require a greater return than the risk-free rate. As such, the range of returns on the fair value increment should be between the risk-free rate and the cost of equity established by the results of the proxy group analysis. By contrast, there is no basis whatsoever for reducing this return component to one-half of the risk-free rate.

Q. How does your recommended range compare with the range of returns considered by the Commission in prior cases?

A. In UNS Electric's last rate case, Staff recommended applying a return to the fair value increment ranging between zero and the real risk-free rate.[50]

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48 Decision No. 70665 (December 24, 2008), at 32.
49 *Ibid.*
50 Decision No. 71914 (September 30, 2010), at 47.

Q. Do you agree with this methodology of determining the rate of return to be applied to the fair value increment?

A. No, I do not. Since equity investors are the residual claimants after bondholders and preferred stockholders, it is inconceivable to me that an investor would accept a rate of return that is less than the cost of debt for an equity position in any investment. At the very least, the market expectation is that investments that are not risk-free should earn a rate of return that exceeds the risk-free rate. Furthermore, the application of 50.0 percent of the risk-free rate as a measure of the cost of equity on the fair value increment is subjective and has no basis in financial theory. The risk-free rate, which was used by the staff to establish the range of returns applied to the fair value increment, sets the low-end of the range of returns that I believe would be appropriate to apply to the fair value increment.

Q. How have you estimated the FVROR in this case?

A. While I do not agree with all aspects of the Commission's approach, as shown on page 1 of Exhibit AEB-11, I have estimated the FVROR using the methodology the Commission has approved in recent cases.

Q. How did you estimate the risk-free rate of return?

A. As shown on page 2 of Exhibit AEB-11, my estimate of the nominal risk-free rate of return is the average of the 2014-2018 projected yield on 30-year U.S. Treasury bonds of 5.10 percent and the 2019-2023 projected yield on 30-year U.S. Treasury bonds of 5.50 percent as reported in the Blue Chip Financial Forecasts.[51] I then adjusted the nominal risk-free rate of 5.30 percent by the rate of inflation, which I estimated to be 2.01 percent over the period from 2012-2023 (*see*, Exhibit AEB-11). The resulting real risk-free rate is then 3.23 percent.[52]

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[51] Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14.

[52] $3.23\% = (5.30\% + 1) / (1 + 2.01\%) - 1$.

Q. Please explain how you estimated the rate of inflation?

A. The rate of inflation of 2.01 percent is based on three measures: (1) the average 2014-2018 and 2019-2023 projected growth rate in the CPI of 2.40 percent, as reported by Blue Chip Financial Forecasts;[53] (2) the compound annual growth rate of the CPI for all urban consumers for 2012-2023 of 1.98 percent as projected by the EIA in the Annual Energy Outlook 2012; and (3) the compound annual growth rate of the GDP chain-type price index for 2012-2023 of 1.64 percent, also reported by the EIA in the Annual Energy Outlook 2012.[54]

Q. How does this rate of inflation differ from the inflation rate used in your calculation of the long-term growth rate for the Multi-Stage DCF model?

A. While both rates of inflation depend on identical sources, the rate of inflation used to calculate the FVROR is based on the near-term (*i.e.*, 2012-2023) because the company is entitled to earn a return on its FVRB immediately and throughout the period in which rates will be in effect. The third stage of the Multi-Stage DCF model, on the other hand, does not begin until 10 years from now and continues into perpetuity so the long-term GDP growth rate is based on long-term inflation forecasts (*i.e.*, 2022-2035).

Q. Please explain how you applied the Commission's methodology to estimate the FVROR.

A. As shown on page 1 of Exhibit AEB-11 and in Table 10 below, I calculated the difference between the Company's OCRB and the Company's proposed FVRB, which includes a 50.0 percent weight on original cost. That difference represents the appreciation in the value of the assets based on the "market value" of the OCRB, and has

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53 Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14.

54 U.S. Energy Information Administration, Annual Energy Outlook 2012, Table 20, Macroeconomic Indicators.

been commonly referred to as the "fair value increment."[55] The weighted average cost of debt and the market cost of equity were applied to the OCRB.

Q. Please explain how you estimated the rate of return that you applied to the fair value increment.

A. As discussed above, I believe that the appropriate range of returns that could be applied to the fair value increment ranges from the low-end measured by the risk-free rate to the high-end measured by the results of the returns on rate base for the proxy group discussed in Section VI of my Direct Testimony. Nevertheless, the Company has requested that I estimate the FVROR by applying 50.0 percent of the risk-free rate or approximately 1.61 percent, to the fair value increment.

Table 10: Estimated FVROR

Capital	$ Millions	Percent	Cost Rate	Weighted Cost Rate
OCRB	$216.6			
RCND	$356.1			
FVRB	$286.3			
Long-Term Debt	$102.7	35.85%	5.97%	2.14%
Common Equity	$113.9	39.79%	10.50%	4.18%
Fair Value Increment	$69.8	24.36%	1.61%	0.39%
Total	$286.3	100.00%		6.71%

Q. What is the resulting FVROR?

A. As shown in Table 10 above (*see also*, Exhibit AEB-11) based on the calculation discussed previously, the FVROR that would be applied to the FVRB is 6.71 percent.

Q. Does this conclude your pre-filed Direct Testimony?

A. Yes, it does.

[55] Decision No. 70665 (December 24, 2008), at 32.

EXHIBIT

AEB-1

30-DAY CONSTANT GROWTH DCF

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] First Call Earnings Growth	[6] Zacks Earnings Growth	[7] Value Line Earnings Growth	[8] Average Earnings Growth	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	$1.84	$40.98	4.49%	4.64%	6.00%	5.50%	9.00%	6.83%	10.11%	11.48%	13.69%
American Electric Power Company, Inc.	AEP	$1.88	$43.59	4.31%	4.38%	3.36%	3.48%	3.00%	3.28%	7.38%	7.66%	7.87%
Cleco Corporation	CNL	$1.35	$41.51	3.25%	3.32%	3.00%	3.00%	6.50%	4.17%	6.30%	7.49%	9.86%
Empire District Electric Company	EDE	$1.00	$21.26	4.70%	4.89%	10.20%	n/a	6.00%	8.10%	10.85%	12.99%	15.14%
FirstEnergy Corporation	FE	$2.20	$44.25	4.97%	5.06%	2.50%	2.50%	5.00%	3.33%	7.53%	8.39%	10.10%
Great Plains Energy Inc.	GXP	$0.85	$21.92	3.88%	4.03%	10.35%	8.17%	5.50%	8.01%	9.48%	12.04%	14.43%
Hawaiian Electric Industries, Inc.	HE	$1.24	$25.75	4.81%	5.01%	8.10%	7.05%	9.00%	8.05%	12.03%	13.06%	14.03%
IDACORP, Inc.	IDA	$1.52	$43.62	3.48%	3.54%	4.00%	4.00%	2.00%	3.33%	5.52%	6.88%	7.55%
Otter Tail Corporation	OTTR	$1.19	$23.88	4.98%	5.27%	5.00%	5.00%	24.00%	11.33%	10.11%	16.60%	29.58%
Pepco Holdings, Inc.	POM	$1.08	$19.46	5.55%	5.71%	5.23%	5.43%	7.00%	5.89%	10.93%	11.60%	12.75%
Pinnacle West Capital Corporation	PNW	$2.18	$52.10	4.18%	4.30%	5.07%	6.03%	5.00%	5.37%	9.29%	9.66%	10.34%
Portland General Electric Company	POR	$1.08	$27.00	4.00%	4.08%	2.67%	4.08%	5.50%	4.08%	6.72%	8.16%	9.61%
Southern Company	SO	$1.96	$45.14	4.34%	4.45%	5.18%	5.22%	5.00%	5.13%	9.45%	9.59%	9.68%
Westar Energy, Inc.	WR	$1.32	$29.27	4.51%	4.68%	10.00%	5.67%	6.50%	7.39%	10.31%	12.07%	14.74%
MEAN				4.39%	4.53%	5.76%	5.01%	7.07%	6.02%	9.00%	10.55%	12.81%
MEDIAN				4.42%	4.55%	5.13%	5.22%	5.75%	5.63%	9.47%	10.57%	11.54%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-trading day average as of November 16, 2012
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Yahoo! Finance
[6] Source: Zacks
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

90-DAY CONSTANT GROWTH DCF

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] First Call Earnings Growth	[6] Zacks Earnings Growth	[7] Value Line Earnings Growth	[8] Average Earnings Growth	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	$1.84	$41.35	4.45%	4.60%	6.00%	5.50%	9.00%	6.83%	10.07%	11.44%	13.65%
American Electric Power Company, Inc.	AEP	$1.88	$43.14	4.36%	4.43%	3.36%	3.48%	3.00%	3.28%	7.42%	7.71%	7.91%
Cleco Corporation	CNL	$1.35	$42.05	3.21%	3.28%	3.00%	3.00%	6.50%	4.17%	6.26%	7.44%	9.81%
Empire District Electric Company	EDE	$1.00	$21.40	4.67%	4.86%	10.20%	n/a	6.00%	8.10%	10.81%	12.96%	15.11%
FirstEnergy Corporation	FE	$2.20	$45.49	4.84%	4.92%	2.50%	2.50%	5.00%	3.33%	7.40%	8.25%	9.96%
Great Plains Energy Inc.	GXP	$0.85	$21.98	3.87%	4.02%	10.35%	8.17%	5.50%	8.01%	9.47%	12.03%	14.42%
Hawaiian Electric Industries, Inc.	HE	$1.24	$26.97	4.60%	4.78%	8.10%	7.05%	9.00%	8.05%	11.81%	12.83%	13.80%
IDACORP, Inc.	IDA	$1.52	$42.91	3.54%	3.60%	4.00%	4.00%	2.00%	3.33%	5.58%	6.94%	7.61%
Otter Tail Corporation	OTTR	$1.19	$23.56	5.05%	5.34%	5.00%	5.00%	24.00%	11.33%	10.18%	16.67%	29.66%
Pepco Holdings, Inc.	POM	$1.08	$19.38	5.57%	5.74%	5.23%	5.43%	7.00%	5.89%	10.95%	11.62%	12.77%
Pinnacle West Capital Corporation	PNW	$2.18	$52.59	4.15%	4.26%	5.07%	6.03%	5.00%	5.37%	9.25%	9.62%	10.30%
Portland General Electric Company	POR	$1.08	$27.16	3.98%	4.06%	2.67%	4.08%	5.50%	4.08%	6.70%	8.14%	9.59%
Southern Company	SO	$1.96	$45.99	4.26%	4.37%	5.18%	5.22%	5.00%	5.13%	9.37%	9.50%	9.59%
Westar Energy, Inc.	WR	$1.32	$29.66	4.45%	4.61%	10.00%	5.67%	6.50%	7.39%	10.25%	12.00%	14.67%
MEAN				4.36%	4.49%	5.76%	5.01%	7.07%	6.02%	8.97%	10.51%	12.78%
MEDIAN				4.40%	4.52%	5.13%	5.22%	5.75%	5.63%	9.42%	10.53%	11.53%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 90-trading day average as of November 16, 2012
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Yahoo! Finance
[6] Source: Zacks
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

180-DAY CONSTANT GROWTH DCF

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] First Call Earnings Growth	[6] Zacks Earnings Growth	[7] Value Line Earnings Growth	[8] Average Earnings Growth	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	$1.84	$41.00	4.49%	4.64%	6.00%	5.50%	9.00%	6.83%	10.11%	11.47%	13.69%
American Electric Power Company, Inc.	AEP	$1.88	$40.92	4.59%	4.67%	3.36%	3.48%	3.00%	3.28%	7.66%	7.95%	8.15%
Cleco Corporation	CNL	$1.35	$41.15	3.28%	3.35%	3.00%	3.00%	6.50%	4.17%	6.33%	7.52%	9.89%
Empire District Electric Company	EDE	$1.00	$20.90	4.78%	4.98%	10.20%	n/a	6.00%	8.10%	10.93%	13.08%	15.23%
FirstEnergy Corporation	FE	$2.20	$46.07	4.77%	4.85%	2.50%	2.50%	5.00%	3.33%	7.33%	8.19%	9.89%
Great Plains Energy Inc.	GXP	$0.85	$21.12	4.02%	4.18%	10.35%	8.17%	5.50%	8.01%	9.63%	12.19%	14.58%
Hawaiian Electric Industries, Inc.	HE	$1.24	$26.78	4.63%	4.82%	8.10%	7.05%	9.00%	8.05%	11.84%	12.87%	13.84%
IDACORP, Inc.	IDA	$1.52	$41.61	3.65%	3.71%	4.00%	4.00%	2.00%	3.33%	5.69%	7.05%	7.73%
Otter Tail Corporation	OTTR	$1.19	$22.69	5.24%	5.54%	5.00%	5.00%	24.00%	11.33%	10.38%	16.87%	29.87%
Pepco Holdings, Inc.	POM	$1.08	$19.20	5.63%	5.79%	5.23%	5.43%	7.00%	5.89%	11.00%	11.68%	12.82%
Pinnacle West Capital Corporation	PNW	$2.18	$50.67	4.30%	4.42%	5.07%	6.03%	5.00%	5.37%	9.41%	9.78%	10.46%
Portland General Electric Company	POR	$1.08	$26.27	4.11%	4.20%	2.67%	4.08%	5.50%	4.08%	6.84%	8.28%	9.72%
Southern Company	SO	$1.96	$45.83	4.28%	4.39%	5.18%	5.22%	5.00%	5.13%	9.38%	9.52%	9.61%
Westar Energy, Inc.	WR	$1.32	$29.05	4.54%	4.71%	10.00%	5.67%	6.50%	7.39%	10.34%	12.10%	14.77%
MEAN				4.45%	4.59%	5.76%	5.01%	7.07%	6.02%	9.06%	10.61%	12.88%
MEDIAN				4.52%	4.66%	5.13%	5.22%	5.75%	5.63%	9.52%	10.63%	11.64%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 180-trading day average as of November 16, 2012
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Yahoo! Finance
[6] Source: Zacks
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

EXHIBIT

AEB-2

30-DAY MULTI-STAGE DCF – AVERAGE FIRST STAGE GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
ALLETE, Inc.	ALE	$40.98	$1.84	6.83%	6.62%	6.41%	6.19%	5.98%	5.76%	5.55%	10.67%
American Electric Power Company, Inc.	AEP	$43.59	$1.88	3.28%	3.66%	4.04%	4.42%	4.79%	5.17%	5.55%	9.49%
Cleco Corporation	CNL	$41.51	$1.35	4.17%	4.40%	4.63%	4.86%	5.09%	5.32%	5.55%	8.68%
Empire District Electric Company	EDE	$21.26	$1.00	8.10%	7.68%	7.25%	6.83%	6.40%	5.98%	5.55%	11.33%
FirstEnergy Corporation	FE	$44.25	$2.20	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	10.12%
Great Plains Energy Inc.	GXP	$21.92	$0.85	8.01%	7.60%	7.19%	6.78%	6.37%	5.96%	5.55%	10.31%
Hawaiian Electric Industries, Inc.	HE	$25.75	$1.24	8.05%	7.63%	7.22%	6.80%	6.38%	5.97%	5.55%	11.44%
IDACORP, Inc.	IDA	$43.62	$1.52	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	8.73%
Otter Tail Corporation	OTTR	$23.88	$1.19	11.33%	10.37%	9.41%	8.44%	7.48%	6.51%	5.55%	12.86%
Pepco Holdings, Inc.	POM	$19.46	$1.08	5.89%	5.83%	5.77%	5.72%	5.66%	5.61%	5.55%	11.53%
Pinnacle West Capital Corporation	PNW	$52.10	$2.18	5.37%	5.40%	5.43%	5.46%	5.49%	5.52%	5.55%	9.92%
Portland General Electric Company	POR	$27.00	$1.08	4.08%	4.33%	4.57%	4.82%	5.06%	5.31%	5.55%	9.39%
Southern Company	SO	$45.14	$1.96	5.13%	5.20%	5.27%	5.34%	5.41%	5.48%	5.55%	10.02%
Westar Energy, Inc.	WR	$29.27	$1.32	7.39%	7.08%	6.78%	6.47%	6.16%	5.86%	5.55%	10.87%
MEAN											10.38%
MEDIAN											10.21%

Notes:
[1] Source: Bloomberg Professional, equals 30-trading day average as of November 16, 2012
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

90-DAY MULTI-STAGE DCF -- AVERAGE FIRST STAGE GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
ALLETE, Inc.	ALE	$41.35	$1.84	6.83%	6.62%	6.41%	6.19%	5.98%	5.76%	5.55%	10.63%
American Electric Power Company, Inc.	AEP	$43.14	$1.88	3.28%	3.66%	4.04%	4.42%	4.79%	5.17%	5.55%	9.53%
Cleco Corporation	CNL	$42.05	$1.35	4.17%	4.40%	4.63%	4.86%	5.09%	5.32%	5.55%	8.64%
Empire District Electric Company	EDE	$21.40	$1.00	8.10%	7.68%	7.25%	6.83%	6.40%	5.98%	5.55%	11.29%
FirstEnergy Corporation	FE	$45.49	$2.20	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	10.00%
Great Plains Energy Inc.	GXP	$21.98	$0.85	8.01%	7.60%	7.19%	6.78%	6.37%	5.96%	5.55%	10.29%
Hawaiian Electric Industries, Inc.	HE	$26.97	$1.24	8.05%	7.63%	7.22%	6.80%	6.38%	5.97%	5.55%	11.18%
IDACORP, Inc.	IDA	$42.91	$1.52	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	8.78%
Otter Tail Corporation	OTTR	$23.56	$1.19	11.33%	10.37%	9.41%	8.44%	7.48%	6.51%	5.55%	12.96%
Pepco Holdings, Inc.	POM	$19.38	$1.08	5.89%	5.83%	5.77%	5.72%	5.66%	5.61%	5.55%	11.55%
Pinnacle West Capital Corporation	PNW	$52.59	$2.18	5.37%	5.40%	5.43%	5.46%	5.49%	5.52%	5.55%	9.87%
Portland General Electric Company	POR	$27.16	$1.08	4.08%	4.33%	4.57%	4.82%	5.06%	5.31%	5.55%	9.37%
Southern Company	SO	$45.99	$1.96	5.13%	5.20%	5.27%	5.34%	5.41%	5.48%	5.55%	9.93%
Westar Energy, Inc.	WR	$29.66	$1.32	7.39%	7.08%	6.78%	6.47%	6.16%	5.86%	5.55%	10.80%
MEAN											10.35%
MEDIAN											10.15%

Notes:
[1] Source: Bloomberg Professional, equals 90-trading day average as of November 16, 2012
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

180-DAY MULTI-STAGE DCF – AVERAGE FIRST STAGE GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
ALLETE, Inc.	ALE	$41.00	$1.84	6.83%	6.62%	6.41%	6.19%	5.98%	5.76%	5.55%	10.67%
American Electric Power Company, Inc.	AEP	$40.92	$1.88	3.28%	3.66%	4.04%	4.42%	4.79%	5.17%	5.55%	9.75%
Cleco Corporation	CNL	$41.15	$1.35	4.17%	4.40%	4.63%	4.86%	5.09%	5.32%	5.55%	8.71%
Empire District Electric Company	EDE	$20.90	$1.00	8.10%	7.68%	7.25%	6.83%	6.40%	5.98%	5.55%	11.42%
FirstEnergy Corporation	FE	$46.07	$2.20	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	9.94%
Great Plains Energy Inc.	GXP	$21.12	$0.85	8.01%	7.60%	7.19%	6.78%	6.37%	5.96%	5.55%	10.48%
Hawaiian Electric Industries, Inc.	HE	$26.78	$1.24	8.05%	7.63%	7.22%	6.80%	6.38%	5.97%	5.55%	11.22%
IDACORP, Inc.	IDA	$41.61	$1.52	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	8.89%
Otter Tail Corporation	OTTR	$22.69	$1.19	11.33%	10.37%	9.41%	8.44%	7.48%	6.51%	5.55%	13.22%
Pepco Holdings, Inc.	POM	$19.20	$1.08	5.89%	5.83%	5.77%	5.72%	5.66%	5.61%	5.55%	11.61%
Pinnacle West Capital Corporation	PNW	$50.67	$2.18	5.37%	5.40%	5.43%	5.46%	5.49%	5.52%	5.55%	10.04%
Portland General Electric Company	POR	$26.27	$1.08	4.08%	4.33%	4.57%	4.82%	5.06%	5.31%	5.55%	9.50%
Southern Company	SO	$45.83	$1.96	5.13%	5.20%	5.27%	5.34%	5.41%	5.48%	5.55%	9.95%
Westar Energy, Inc.	WR	$29.05	$1.32	7.39%	7.08%	6.78%	6.47%	6.16%	5.86%	5.55%	10.91%
MEAN											10.45%
MEDIAN											10.26%

Notes:
[1] Source: Bloomberg Professional, equals 180-trading day average as of November 16, 2012
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

30-DAY MULTI-STAGE DCF – MINIMUM FIRST STAGE GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
ALLETE, Inc.	ALE	$40.98	$1.84	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	10.27%
American Electric Power Company, Inc.	AEP	$43.59	$1.88	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	9.42%
Cleco Corporation	CNL	$41.51	$1.35	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	8.44%
Empire District Electric Company	EDE	$21.26	$1.00	6.00%	5.93%	5.85%	5.78%	5.70%	5.63%	5.55%	10.65%
FirstEnergy Corporation	FE	$44.25	$2.20	2.50%	3.01%	3.52%	4.03%	4.53%	5.04%	5.55%	9.89%
Great Plains Energy Inc.	GXP	$21.92	$0.85	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.63%
Hawaiian Electric Industries, Inc.	HE	$25.75	$1.24	7.05%	6.80%	6.55%	6.30%	6.05%	5.80%	5.55%	11.11%
IDACORP, Inc.	IDA	$43.62	$1.52	2.00%	2.59%	3.18%	3.78%	4.37%	4.96%	5.55%	8.45%
Otter Tail Corporation	OTTR	$23.88	$1.19	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.64%
Pepco Holdings, Inc.	POM	$19.46	$1.08	5.23%	5.28%	5.34%	5.39%	5.44%	5.50%	5.55%	11.30%
Pinnacle West Capital Corporation	PNW	$52.10	$2.18	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.82%
Portland General Electric Company	POR	$27.00	$1.08	2.67%	3.15%	3.63%	4.11%	4.59%	5.07%	5.55%	9.06%
Southern Company	SO	$45.14	$1.96	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.98%
Westar Energy, Inc.	WR	$29.27	$1.32	5.67%	5.65%	5.63%	5.61%	5.59%	5.57%	5.55%	10.34%
MEAN											9.93%
MEDIAN											9.93%

Notes:
[1] Source: Bloomberg Professional, equals 30-trading day average as of November 16, 2012
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

90-DAY MULTI-STAGE DCF – MINIMUM FIRST STAGE GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
ALLETE, Inc.	ALE	$41.35	$1.84	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	10.23%
American Electric Power Company, Inc.	AEP	$43.14	$1.88	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	9.46%
Cleco Corporation	CNL	$42.05	$1.35	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	8.41%
Empire District Electric Company	EDE	$21.40	$1.00	6.00%	5.93%	5.85%	5.78%	5.70%	5.63%	5.55%	10.62%
FirstEnergy Corporation	FE	$45.49	$2.20	2.50%	3.01%	3.52%	4.03%	4.53%	5.04%	5.55%	9.76%
Great Plains Energy Inc.	GXP	$21.98	$0.85	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.62%
Hawaiian Electric Industries, Inc.	HE	$26.97	$1.24	7.05%	6.80%	6.55%	6.30%	6.05%	5.80%	5.55%	10.86%
IDACORP, Inc.	IDA	$42.91	$1.52	2.00%	2.59%	3.18%	3.78%	4.37%	4.96%	5.55%	8.50%
Otter Tail Corporation	OTTR	$23.56	$1.19	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.71%
Pepco Holdings, Inc.	POM	$19.38	$1.08	5.23%	5.28%	5.34%	5.39%	5.44%	5.50%	5.55%	11.32%
Pinnacle West Capital Corporation	PNW	$52.59	$2.18	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.78%
Portland General Electric Company	POR	$27.16	$1.08	2.67%	3.15%	3.63%	4.11%	4.59%	5.07%	5.55%	9.03%
Southern Company	SO	$45.99	$1.96	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.90%
Westar Energy, Inc.	WR	$29.66	$1.32	5.67%	5.65%	5.63%	5.61%	5.59%	5.57%	5.55%	10.28%
MEAN											9.89%
MEDIAN											9.84%

Notes:
[1] Source: Bloomberg Professional, equals 90-trading day average as of November 16, 2012
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

180-DAY MULTI-STAGE DCF – MINIMUM FIRST STAGE GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
ALLETE, Inc.	ALE	$41.00	$1.84	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	10.27%
American Electric Power Company, Inc.	AEP	$40.92	$1.88	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	9.68%
Cleco Corporation	CNL	$41.15	$1.35	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	8.47%
Empire District Electric Company	EDE	$20.90	$1.00	6.00%	5.93%	5.85%	5.78%	5.70%	5.63%	5.55%	10.74%
FirstEnergy Corporation	FE	$46.07	$2.20	2.50%	3.01%	3.52%	4.03%	4.53%	5.04%	5.55%	9.71%
Great Plains Energy Inc.	GXP	$21.12	$0.85	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.78%
Hawaiian Electric Industries, Inc.	HE	$26.78	$1.24	7.05%	6.80%	6.55%	6.30%	6.05%	5.80%	5.55%	10.90%
IDACORP, Inc.	IDA	$41.61	$1.52	2.00%	2.59%	3.18%	3.78%	4.37%	4.96%	5.55%	8.60%
Otter Tail Corporation	OTTR	$22.69	$1.19	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.90%
Pepco Holdings, Inc.	POM	$19.20	$1.08	5.23%	5.28%	5.34%	5.39%	5.44%	5.50%	5.55%	11.38%
Pinnacle West Capital Corporation	PNW	$50.67	$2.18	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.94%
Portland General Electric Company	POR	$26.27	$1.08	2.67%	3.15%	3.63%	4.11%	4.59%	5.07%	5.55%	9.16%
Southern Company	SO	$45.83	$1.96	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.91%
Westar Energy, Inc.	WR	$29.05	$1.32	5.67%	5.65%	5.63%	5.61%	5.59%	5.57%	5.55%	10.38%
MEAN											9.99%
MEDIAN											9.92%

Notes:
[1] Source: Bloomberg Professional, equals 180-trading day average as of November 16, 2012
[2] Source: Bloomberg Professional
[3] Source: *Exhibit* AEB-1
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

30-DAY MULTI-STAGE DCF -- MAXIMUM FIRST STAGE GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
ALLETE, Inc.	ALE	$40.98	$1.84	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.37%
American Electric Power Company, Inc.	AEP	$43.59	$1.88	3.48%	3.83%	4.17%	4.52%	4.86%	5.21%	5.55%	9.54%
Cleco Corporation	CNL	$41.51	$1.35	6.50%	6.34%	6.18%	6.03%	5.87%	5.71%	5.55%	9.19%
Empire District Electric Company	EDE	$21.26	$1.00	10.20%	9.43%	8.65%	7.88%	7.10%	6.33%	5.55%	12.06%
FirstEnergy Corporation	FE	$44.25	$2.20	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.63%
Great Plains Energy Inc.	GXP	$21.92	$0.85	10.35%	9.55%	8.75%	7.95%	7.15%	6.35%	5.55%	11.00%
Hawaiian Electric Industries, Inc.	HE	$25.75	$1.24	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.77%
IDACORP, Inc.	IDA	$43.62	$1.52	4.00%	4.26%	4.52%	4.78%	5.03%	5.29%	5.55%	8.87%
Otter Tail Corporation	OTTR	$23.88	$1.19	24.00%	20.93%	17.85%	14.78%	11.70%	8.63%	5.55%	18.69%
Pepco Holdings, Inc.	POM	$19.46	$1.08	7.00%	6.76%	6.52%	6.28%	6.03%	5.79%	5.55%	11.93%
Pinnacle West Capital Corporation	PNW	$52.10	$2.18	6.03%	5.95%	5.87%	5.79%	5.71%	5.63%	5.55%	10.10%
Portland General Electric Company	POR	$27.00	$1.08	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.76%
Southern Company	SO	$45.14	$1.96	5.22%	5.28%	5.33%	5.39%	5.44%	5.50%	5.55%	10.04%
Westar Energy, Inc.	WR	$29.27	$1.32	10.00%	9.26%	8.52%	7.78%	7.03%	6.29%	5.55%	11.73%
MEAN											**11.19%**
MEDIAN											**10.81%**

Notes:
[1] Source: Bloomberg Professional, equals 30-trading day average as of November 16, 2012
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

90-DAY MULTI-STAGE DCF – MAXIMUM FIRST STAGE GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
ALLETE, Inc.	ALE	$41.35	$1.84	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.32%
American Electric Power Company, Inc.	AEP	$43.14	$1.88	3.48%	3.83%	4.17%	4.52%	4.86%	5.21%	5.55%	9.59%
Cleco Corporation	CNL	$42.05	$1.35	6.50%	6.34%	6.18%	6.03%	5.87%	5.71%	5.55%	9.14%
Empire District Electric Company	EDE	$21.40	$1.00	10.20%	9.43%	8.65%	7.88%	7.10%	6.33%	5.55%	12.02%
FirstEnergy Corporation	FE	$45.49	$2.20	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.49%
Great Plains Energy Inc.	GXP	$21.98	$0.85	10.35%	9.55%	8.75%	7.95%	7.15%	6.35%	5.55%	10.99%
Hawaiian Electric Industries, Inc.	HE	$26.97	$1.24	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.50%
IDACORP, Inc.	IDA	$42.91	$1.52	4.00%	4.26%	4.52%	4.78%	5.03%	5.29%	5.55%	8.93%
Otter Tail Corporation	OTTR	$23.56	$1.19	24.00%	20.93%	17.85%	14.78%	11.70%	8.63%	5.55%	18.84%
Pepco Holdings, Inc.	POM	$19.38	$1.08	7.00%	6.76%	6.52%	6.28%	6.03%	5.79%	5.55%	11.95%
Pinnacle West Capital Corporation	PNW	$52.59	$2.18	6.03%	5.95%	5.87%	5.79%	5.71%	5.63%	5.55%	10.06%
Portland General Electric Company	POR	$27.16	$1.08	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.73%
Southern Company	SO	$45.99	$1.96	5.22%	5.28%	5.33%	5.39%	5.44%	5.50%	5.55%	9.96%
Westar Energy, Inc.	WR	$29.66	$1.32	10.00%	9.26%	8.52%	7.78%	7.03%	6.29%	5.55%	11.65%
MEAN											11.15%
MEDIAN											10.74%

Notes:
[1] Source: Bloomberg Professional, equals 90-trading day average as of November 16, 2012
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

180-DAY MULTI-STAGE DCF -- MAXIMUM FIRST STAGE GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
ALLETE, Inc.	ALE	$41.00	$1.84	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.36%
American Electric Power Company, Inc.	AEP	$40.92	$1.88	3.48%	3.83%	4.17%	4.52%	4.86%	5.21%	5.55%	9.81%
Cleco Corporation	CNL	$41.15	$1.35	6.50%	6.34%	6.18%	6.03%	5.87%	5.71%	5.55%	9.22%
Empire District Electric Company	EDE	$20.90	$1.00	10.20%	9.43%	8.65%	7.88%	7.10%	6.33%	5.55%	12.16%
FirstEnergy Corporation	FE	$46.07	$2.20	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.42%
Great Plains Energy Inc.	GXP	$21.12	$0.85	10.35%	9.55%	8.75%	7.95%	7.15%	6.35%	5.55%	11.20%
Hawaiian Electric Industries, Inc.	HE	$26.78	$1.24	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.54%
IDACORP, Inc.	IDA	$41.61	$1.52	4.00%	4.26%	4.52%	4.78%	5.03%	5.29%	5.55%	9.04%
Otter Tail Corporation	OTTR	$22.69	$1.19	24.00%	20.93%	17.85%	14.78%	11.70%	8.63%	5.55%	19.24%
Pepco Holdings, Inc.	POM	$19.20	$1.08	7.00%	6.76%	6.52%	6.28%	6.03%	5.79%	5.55%	12.01%
Pinnacle West Capital Corporation	PNW	$50.67	$2.18	6.03%	5.95%	5.87%	5.79%	5.71%	5.63%	5.55%	10.23%
Portland General Electric Company	POR	$26.27	$1.08	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.88%
Southern Company	SO	$45.83	$1.96	5.22%	5.28%	5.33%	5.39%	5.44%	5.50%	5.55%	9.97%
Westar Energy, Inc.	WR	$29.05	$1.32	10.00%	9.26%	8.52%	7.78%	7.03%	6.29%	5.55%	11.78%
MEAN											**11.28%**
MEDIAN											**10.81%**

Notes:
[1] Source: Bloomberg Professional, equals 180-trading day average as of November 16, 2012
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

EXHIBIT

AEB-3

CALCULATION OF LONG-TERM GDP GROWTH RATE

Step 1	
Real GDP ($ Billions) [1]	
1929	$ 976.1
2011	13,299.1
Compound Annual Growth Rate	**3.24%**
Step 2	
Consumer Price Index (YoY % Change) [2]	
2019-2023	2.40%
Average	2.40%
Consumer Price Index (All-Urban) [3]	
2022	2.78
2035	3.72
Compound Annual Growth Rate	2.27%
GDP Chain-type Price Index (2005=1.000) [3]	
2022	1.349
2035	1.758
Compound Annual Growth Rate	2.06%
Average Inflation Forecast [4]	**2.24%**
Long-Term GDP Growth Rate	**5.55%**

Notes:
[1] Bureau of Economic Analysis, October 27, 2012
[2] Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14.
[3] Energy Information Administration, Annual Energy Outlook 2012, Table 20

EXHIBIT

AEB-4

BETA
AS OF NOVEMBER 16, 2012

		[1]	[2]
		Bloomberg	Value Line
ALLETE, Inc.	ALE	0.78	0.70
American Electric Power Company, Inc.	AEP	0.61	0.70
Cleco Corporation	CNL	0.74	0.65
Empire District Electric Company	EDE	0.74	0.65
FirstEnergy Corporation	FE	0.64	0.80
Great Plains Energy Inc.	GXP	0.77	0.75
Hawaiian Electric Industries, Inc.	HE	0.72	0.70
IDACORP, Inc.	IDA	0.80	0.70
Otter Tail Corporation	OTTR	0.76	0.90
Pepco Holdings, Inc.	POM	0.66	0.75
Pinnacle West Capital Corporation	PNW	0.70	0.70
Portland General Electric Company	POR	0.74	0.75
Southern Company	SO	0.50	0.55
Westar Energy, Inc.	WR	0.67	0.75
Average		0.701	0.718

Notes:
[1] Source: Bloomberg Professional
[2] Source: Value Line; dated Aug. 24, 2012, Sept. 21, 2012, and Nov. 2, 2012

EXHIBIT

AEB-5

CAPITAL ASSET PRICING MODEL

	[4]	[5]	[6]	[7]
	Risk-Free Rate	Average Beta	Market Risk Premium	ROE
Proxy Group Average Bloomberg Beta				
[1] Current 30-day average of 30-year U.S. Treasury bond yield	2.87%	0.701	9.98%	9.87%
[2] Near-term projected 30-year U.S. Treasury bond yield (Q4 2012 - Q1 2014)	3.15%	0.701	9.70%	9.95%
[3] Projected 30-year U.S. Treasury bond yield (2014 - 2018)	5.10%	0.701	7.75%	10.53%
			Average:	10.12%
Proxy Group Average Value Line Beta				
[1] Current 30-day average of 30-year U.S. Treasury bond yield	2.87%	0.718	9.98%	10.03%
[2] Near-term projected 30-year U.S. Treasury bond yield (Q4 2012 - Q1 2014)	3.15%	0.718	9.70%	10.11%
[3] Projected 30-year U.S. Treasury bond yield (2014 - 2018)	5.10%	0.718	7.75%	10.66%
			Average:	10.27%

Note:
[1] Source: Bloomberg Professional
[2] Source: Blue Chip Financial Forecasts, Vol. 31, No. 11, November 1, 2012, at 2
[3] Source: Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14
[4] See Notes [1], [2], and [3]
[5] Source: Exhibit AEB-4
[6] Source: Exhibit AEB-5, at 2
[7] Equals [4] + ([5] x [6])

MARKET RISK PREMIUM DERIVED FROM ANALYSTS LONG-TERM GROWTH ESTIMATES

[8] Estimated Weighted Average Dividend Yield		2.37%	
[9] Estimated Weighted Average Long-Term Growth Rate		10.35%	
[10] S&P 500 Estimated Required Market Return		12.85%	
[11] Risk-Free Rate	2.87%	3.15%	5.10%
[12] Implied Market Risk Premium	9.98%	9.70%	7.75%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[13] Weight in Index	[14] Estimated Dividend Yield	[15] Cap-Weighted Dividend Yield	[16] Long-Term Growth Est.	[17] Cap-Weighted Long-Term Growth Est.
3M Co	MMM	0.49%	2.67%	0.01%	11.50%	0.0561%
Abbott Laboratories	ABT	0.79%	3.24%	0.03%	10.04%	0.0795%
Abercrombie & Fitch Co	ANF	0.03%	1.71%	0.00%	17.80%	0.0048%
Accenture PLC	ACN	0.40%	2.45%	0.01%	12.50%	0.0495%
ACE Ltd	ACE	0.21%	2.54%	0.01%	9.65%	0.0202%
Adobe Systems Inc	ADBE	0.13%	n/a	n/a	12.50%	0.0161%
ADT Corp/The	ADT	0.08%	n/a	n/a	10.00%	0.0075%
Advanced Micro Devices Inc	AMD	0.01%	n/a	n/a	4.50%	0.0005%
AES Corp/VA	AES	0.06%	1.62%	0.00%	8.50%	0.0050%
Aetna Inc	AET	0.11%	1.72%	0.00%	10.50%	0.0114%
Aflac Inc	AFL	0.19%	2.78%	0.01%	14.77%	0.0278%
Agilent Technologies Inc	A	0.10%	1.12%	0.00%	10.03%	0.0100%
AGL Resources Inc	GAS	0.04%	4.87%	0.00%	4.00%	0.0014%
Air Products & Chemicals Inc	APD	0.13%	3.20%	0.00%	10.69%	0.0144%
Airgas Inc	ARG	0.05%	1.85%	0.00%	12.46%	0.0067%
Akamai Technologies Inc	AKAM	0.05%	n/a	n/a	14.50%	0.0074%
Alcoa Inc	AA	0.07%	1.47%	0.00%	10.00%	0.0070%
Alexion Pharmaceuticals Inc	ALXN	0.14%	n/a	n/a	40.23%	0.0566%
Allegheny Technologies Inc	ATI	0.02%	2.77%	0.00%	15.00%	0.0033%
Allergan Inc/United States	AGN	0.22%	0.23%	0.00%	13.06%	0.0284%
Allstate Corp/The	ALL	0.15%	2.26%	0.00%	9.00%	0.0134%
Altera Corp	ALTR	0.08%	1.31%	0.00%	7.75%	0.0060%
Altria Group Inc	MO	0.50%	5.63%	0.03%	6.44%	0.0325%
Amazon.com Inc	AMZN	0.81%	n/a	n/a	32.26%	0.2623%
Ameren Corp	AEE	0.06%	5.45%	0.00%	-4.00%	-0.0023%
American Electric Power Co Inc	AEP	0.16%	4.53%	0.01%	4.33%	0.0070%
American Express Co	AXP	0.48%	1.47%	0.01%	9.68%	0.0469%
American International Group Inc	AIG	0.37%	n/a	n/a	12.33%	0.0461%
American Tower Corp	AMT	0.23%	1.25%	0.00%	18.43%	0.0429%
Ameriprise Financial Inc	AMP	0.10%	3.08%	0.00%	10.55%	0.0101%
AmerisourceBergen Corp	ABC	0.08%	2.09%	0.00%	12.00%	0.0097%
Amgen Inc	AMGN	0.52%	1.70%	0.01%	9.34%	0.0483%
Amphenol Corp	APH	0.08%	0.71%	0.00%	18.50%	0.0140%
Anadarko Petroleum Corp	APC	0.28%	0.51%	0.00%	7.60%	0.0212%
Analog Devices Inc	ADI	0.09%	3.05%	0.00%	11.00%	0.0103%
Aon PLC	AON	0.14%	1.12%	0.00%	8.33%	0.0119%
Apache Corp	APA	0.23%	0.90%	0.00%	7.52%	0.0177%
Apartment Investment & Management Co	AIV	0.03%	3.26%	0.00%	10.82%	0.0031%
Apollo Group Inc	APOL	0.02%	n/a	n/a	9.80%	0.0017%
Apple Inc	AAPL	3.96%	2.01%	0.08%	20.63%	0.8161%
Applied Materials Inc	AMAT	0.10%	3.55%	0.00%	9.00%	0.0090%
Archer-Daniels-Midland Co	ADM	0.13%	2.80%	0.00%	10.00%	0.0131%
Assurant Inc	AIZ	0.02%	2.36%	0.00%	11.00%	0.0025%
AT&T Inc	T	1.50%	5.43%	0.08%	6.19%	0.0928%
Autodesk Inc	ADSK	0.06%	n/a	n/a	17.75%	0.0101%
Automatic Data Processing Inc	ADP	0.21%	3.16%	0.01%	9.67%	0.0205%
AutoNation Inc	AN	0.04%	n/a	n/a	20.48%	0.0082%
AutoZone Inc	AZO	0.11%	n/a	n/a	16.65%	0.0186%
AvalonBay Communities Inc	AVB	0.10%	3.01%	0.00%	10.12%	0.0102%
Avery Dennison Corp	AVY	0.03%	3.38%	0.00%	7.00%	0.0018%
Avon Products Inc	AVP	0.05%	1.70%	0.00%	11.00%	0.0053%
Baker Hughes Inc	BHI	0.14%	1.49%	0.00%	23.00%	0.0324%
Ball Corp	BLL	0.05%	0.92%	0.00%	10.00%	0.0053%
Bank of America Corp	BAC	0.78%	0.44%	0.00%	13.45%	0.1054%
Bank of New York Mellon Corp/The	BK	0.22%	2.20%	0.00%	17.63%	0.0388%
Baxter International Inc	BAX	0.29%	2.73%	0.01%	9.00%	0.0260%
BB&T Corp	BBT	0.16%	2.85%	0.00%	8.95%	0.0140%
Beam Inc	BEAM	0.07%	1.53%	0.00%	12.72%	0.0086%
Becton Dickinson and Co	BDX	0.12%	2.38%	0.00%	6.62%	0.0080%
Bed Bath & Beyond Inc	BBBY	0.10%	n/a	n/a	14.70%	0.0151%
Bemis Co Inc	BMS	0.03%	3.09%	0.00%	6.00%	0.0016%
Berkshire Hathaway Inc	BRK/B	0.75%	n/a	n/a	n/a	n/a
Best Buy Co Inc	BBY	0.04%	4.95%	0.00%	-1.40%	-0.0005%
Big Lots Inc	BIG	0.01%	n/a	n/a	10.95%	0.0014%
Biogen Idec Inc	BIIB	0.27%	n/a	n/a	15.83%	0.0421%
BlackRock Inc	BLK	0.25%	3.21%	0.01%	12.67%	0.0320%
BMC Software Inc	BMC	0.05%	n/a	n/a	15.00%	0.0072%
Boeing Co/The	BA	0.43%	2.49%	0.01%	11.37%	0.0483%
BorgWarner Inc	BWA	0.06%	n/a	n/a	18.74%	0.0108%
Boston Properties Inc	BXP	0.12%	2.58%	0.00%	5.78%	0.0070%
Boston Scientific Corp	BSX	0.06%	n/a	n/a	9.57%	0.0054%
Bristol-Myers Squibb Co	BMY	0.42%	4.29%	0.02%	7.65%	0.0319%
Broadcom Corp	BRCM	0.12%	1.31%	0.00%	14.50%	0.0180%
Brown-Forman Corp	BF/B	0.07%	1.56%	0.00%	12.50%	0.0084%
CA Inc	CA	0.08%	4.59%	0.00%	10.00%	0.0080%
Cablevision Systems Corp	CVC	0.02%	4.28%	0.00%	23.00%	0.0054%
Cabot Oil & Gas Corp	COG	0.08%	0.17%	0.00%	n/a	n/a

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[13] Weight in Index	[14] Estimated Dividend Yield	[15] Cap-Weighted Dividend Yield	[16] Long-Term Growth Est.	[17] Cap-Weighted Long-Term Growth Est.
Cameron International Corp	CAM	0.10%	n/a	n/a	17.00%	0.0175%
Campbell Soup Co	CPB	0.09%	3.17%	0.00%	6.25%	0.0058%
Capital One Financial Corp	COF	0.26%	0.36%	0.00%	9.72%	0.0251%
Cardinal Health Inc	CAH	0.11%	2.79%	0.00%	10.50%	0.0112%
CareFusion Corp	CFN	0.05%	n/a	n/a	10.20%	0.0048%
CarMax Inc	KMX	0.06%	n/a	n/a	12.79%	0.0078%
Carnival Corp	CCL	0.18%	2.68%	0.00%	15.00%	0.0265%
Caterpillar Inc	CAT	0.43%	2.54%	0.01%	11.00%	0.0470%
CBRE Group Inc	CBG	0.05%	n/a	n/a	13.33%	0.0061%
CBS Corp	CBS	0.16%	1.43%	0.00%	10.75%	0.0171%
Celgene Corp	CELG	0.25%	n/a	n/a	23.82%	0.0597%
CenterPoint Energy Inc	CNP	0.07%	4.14%	0.00%	5.67%	0.0038%
CenturyLink Inc	CTL	0.19%	7.73%	0.01%	0.71%	0.0013%
Cerner Corp	CERN	0.11%	n/a	n/a	19.00%	0.0200%
CF Industries Holdings Inc	CF	0.10%	0.82%	0.00%	12.00%	0.0118%
CH Robinson Worldwide Inc	CHRW	0.08%	2.23%	0.00%	14.80%	0.0112%
Charles Schwab Corp/The	SCHW	0.13%	1.88%	0.00%	17.97%	0.0233%
Chesapeake Energy Corp	CHK	0.09%	2.11%	0.00%	8.44%	0.0074%
Chevron Corp	CVX	1.60%	3.52%	0.06%	-0.92%	-0.0147%
Chipotle Mexican Grill Inc	CMG	0.07%	n/a	n/a	20.83%	0.0137%
Chubb Corp/The	CB	0.16%	2.17%	0.00%	7.44%	0.0117%
Cigna Corp	CI	0.11%	0.08%	0.00%	10.69%	0.0123%
Cincinnati Financial Corp	CINF	0.05%	4.18%	0.00%	5.00%	0.0025%
Cintas Corp	CTAS	0.04%	1.61%	0.00%	11.17%	0.0044%
Cisco Systems Inc	CSCO	0.76%	3.11%	0.02%	9.75%	0.0739%
Citigroup Inc	C	0.82%	0.11%	0.00%	10.49%	0.0857%
Citrix Systems Inc	CTXS	0.09%	n/a	n/a	15.80%	0.0139%
Cliffs Natural Resources Inc	CLF	0.04%	7.08%	0.00%	11.00%	0.0044%
Clorox Co/The	CLX	0.08%	3.45%	0.00%	8.30%	0.0064%
CME Group Inc/IL	CME	0.14%	3.32%	0.00%	14.73%	0.0212%
CMS Energy Corp	CMS	0.05%	4.13%	0.00%	6.00%	0.0029%
Coach Inc	COH	0.12%	2.20%	0.00%	12.71%	0.0157%
Coca-Cola Co/The	KO	1.31%	2.79%	0.04%	7.49%	0.0978%
Coca-Cola Enterprises Inc	CCE	0.07%	2.16%	0.00%	6.86%	0.0047%
Cognizant Technology Solutions Corp	CTSH	0.16%	n/a	n/a	17.96%	0.0283%
Colgate-Palmolive Co	CL	0.40%	2.36%	0.01%	8.66%	0.0343%
Comcast Corp	CMCSA	0.60%	1.83%	0.01%	14.44%	0.0864%
Comerica Inc	CMA	0.04%	2.14%	0.00%	6.64%	0.0028%
Computer Sciences Corp	CSC	0.04%	2.32%	0.00%	8.00%	0.0034%
ConAgra Foods Inc	CAG	0.09%	3.60%	0.00%	6.67%	0.0060%
ConocoPhillips	COP	0.53%	4.80%	0.03%	-0.49%	-0.0026%
CONSOL Energy Inc	CNX	0.06%	1.57%	0.00%	12.00%	0.0069%
Consolidated Edison Inc	ED	0.13%	4.40%	0.01%	3.26%	0.0042%
Constellation Brands Inc	STZ	0.04%	n/a	n/a	10.88%	0.0047%
Cooper Industries PLC	CBE	0.10%	1.10%	0.00%	14.67%	0.0144%
Corning Inc	GLW	0.13%	3.30%	0.00%	12.00%	0.0154%
Costco Wholesale Corp	COST	0.33%	1.15%	0.00%	12.93%	0.0426%
Coventry Health Care Inc	CVH	0.05%	1.18%	0.00%	12.00%	0.0055%
Covidien PLC	COV	0.21%	1.85%	0.00%	8.28%	0.0176%
CR Bard Inc	BCR	0.06%	0.84%	0.00%	9.20%	0.0058%
Crown Castle International Corp	CCI	0.15%	n/a	n/a	37.00%	0.0563%
CSX Corp	CSX	0.16%	2.95%	0.00%	15.00%	0.0234%
Cummins Inc	CMI	0.15%	2.09%	0.00%	13.00%	0.0189%
CVS Caremark Corp	CVS	0.45%	1.45%	0.01%	13.50%	0.0601%
Danaher Corp	DHR	0.29%	0.19%	0.00%	15.00%	0.0431%
Darden Restaurants Inc	DRI	0.05%	3.93%	0.00%	12.46%	0.0065%
DaVita HealthCare Partners Inc	DVA	0.09%	n/a	n/a	12.33%	0.0108%
Dean Foods Co	DF	0.02%	n/a	n/a	5.75%	0.0014%
Deere & Co	DE	0.27%	2.16%	0.01%	10.00%	0.0266%
Dell Inc	DELL	0.12%	3.62%	0.00%	7.33%	0.0090%
Denbury Resources Inc	DNR	0.05%	n/a	n/a	9.10%	0.0042%
DENTSPLY International Inc	XRAY	0.04%	0.57%	0.00%	11.50%	0.0050%
Devon Energy Corp	DVN	0.17%	1.53%	0.00%	5.51%	0.0093%
Diamond Offshore Drilling Inc	DO	0.07%	5.38%	0.00%	18.00%	0.0130%
DIRECTV	DTV	0.24%	n/a	n/a	16.48%	0.0389%
Discover Financial Services	DFS	0.16%	1.01%	0.00%	10.67%	0.0169%
Discovery Communications Inc	DISCA	0.06%	n/a	n/a	21.75%	0.0139%
Dollar Tree Inc	DLTR	0.07%	n/a	n/a	16.67%	0.0117%
Dominion Resources Inc/VA	D	0.23%	4.21%	0.01%	6.00%	0.0138%
Dover Corp	DOV	0.09%	2.27%	0.00%	14.67%	0.0129%
Dow Chemical Co/The	DOW	0.27%	4.61%	0.01%	14.33%	0.0380%
DR Horton Inc	DHI	0.05%	0.79%	0.00%	7.67%	0.0037%
Dr Pepper Snapple Group Inc	DPS	0.07%	3.17%	0.00%	7.41%	0.0053%
DTE Energy Co	DTE	0.08%	4.18%	0.00%	5.00%	0.0041%
Duke Energy Corp	DUK	0.34%	5.02%	0.02%	4.50%	0.0154%
Dun & Bradstreet Corp/The	DNB	0.03%	2.03%	0.00%	10.00%	0.0027%
E*TRADE Financial Corp	ETFC	0.02%	n/a	n/a	-57.27%	-0.0103%
Eastman Chemical Co	EMN	0.07%	1.87%	0.00%	10.33%	0.0070%
Eaton Corp	ETN	0.13%	3.11%	0.00%	10.00%	0.0132%
eBay Inc	EBAY	0.49%	n/a	n/a	14.60%	0.0712%
Ecolab Inc	ECL	0.16%	1.16%	0.00%	14.75%	0.0237%
Edison International	EIX	0.12%	2.92%	0.00%	3.98%	0.0048%
Edwards Lifesciences Corp	EW	0.08%	n/a	n/a	17.60%	0.0139%
EI du Pont de Nemours & Co	DD	0.31%	4.10%	0.01%	6.68%	0.0208%
Electronic Arts Inc	EA	0.03%	n/a	n/a	16.83%	0.0053%
Eli Lilly & Co	LLY	0.42%	4.27%	0.02%	-0.23%	-0.0010%
EMC Corp/MA	EMC	0.40%	n/a	n/a	15.00%	0.0593%
Emerson Electric Co	EMR	0.28%	3.40%	0.01%	10.00%	0.0279%
Ensco PLC	ESV	0.10%	2.74%	0.00%	18.00%	0.0182%
Entergy Corp	ETR	0.09%	5.28%	0.00%	3.50%	0.0031%
EOG Resources Inc	EOG	0.25%	0.58%	0.00%	10.84%	0.0268%

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EQT Corp	EQT	0.07%	1.46%	0.00%	30.00%	0.0215%
Equifax Inc	EFX	0.05%	1.43%	0.00%	11.00%	0.0053%
Equity Residential	EQR	0.13%	2.49%	0.00%	8.42%	0.0110%
Estee Lauder Cos Inc/The	EL	0.11%	1.27%	0.00%	13.95%	0.0149%
Exelon Corp	EXC	0.20%	7.18%	0.01%	-1.25%	-0.0025%
Expedia Inc	EXPE	0.06%	0.89%	0.00%	13.37%	0.0076%
Expeditors International of Washington Inc	EXPD	0.06%	1.57%	0.00%	9.30%	0.0055%
Express Scripts Holding Co	ESRX	0.34%	n/a	n/a	16.88%	0.0572%
Exxon Mobil Corp	XOM	3.14%	2.64%	0.08%	3.38%	0.1062%
F5 Networks Inc	FFIV	0.05%	n/a	n/a	18.00%	0.0098%
Family Dollar Stores Inc	FDO	0.06%	1.26%	0.00%	14.10%	0.0086%
Fastenal Co	FAST	0.10%	2.05%	0.00%	18.73%	0.0181%
Federated Investors Inc	FII	0.02%	5.06%	0.00%	8.00%	0.0013%
FedEx Corp	FDX	0.22%	0.65%	0.00%	10.74%	0.0232%
Fidelity National Information Services Inc	FIS	0.08%	2.29%	0.00%	12.86%	0.0105%
Fifth Third Bancorp	FITB	0.10%	2.84%	0.00%	2.78%	0.0028%
First Horizon National Corp	FHN	0.02%	0.43%	0.00%	8.33%	0.0015%
First Solar Inc	FSLR	0.02%	n/a	n/a	9.00%	0.0015%
FirstEnergy Corp	FE	0.14%	5.32%	0.01%	1.50%	0.0021%
Fiserv Inc	FISV	0.08%	n/a	n/a	11.71%	0.0092%
FLIR Systems Inc	FLIR	0.02%	1.47%	0.00%	12.50%	0.0029%
Flowserve Corp	FLS	0.05%	1.07%	0.00%	11.00%	0.0059%
Fluor Corp	FLR	0.07%	1.24%	0.00%	13.43%	0.0092%
FMC Corp	FMC	0.06%	0.70%	0.00%	11.59%	0.0066%
FMC Technologies Inc	FTI	0.08%	n/a	n/a	15.33%	0.0117%
Ford Motor Co	F	0.31%	1.90%	0.01%	10.47%	0.0328%
Forest Laboratories Inc	FRX	0.07%	n/a	n/a	14.16%	0.0097%
Fossil Inc	FOSL	0.04%	n/a	n/a	17.30%	0.0068%
Franklin Resources Inc	BEN	0.22%	0.84%	0.00%	12.67%	0.0275%
Freeport-McMoRan Copper & Gold Inc	FCX	0.28%	3.40%	0.01%	n/a	n/a
Frontier Communications Corp	FTR	0.03%	9.32%	0.00%	-10.51%	-0.0036%
GameStop Corp	GME	0.03%	3.91%	0.00%	10.43%	0.0026%
Gannett Co Inc	GCI	0.03%	4.71%	0.00%	6.00%	0.0019%
Gap Inc/The	GPS	0.13%	1.49%	0.00%	11.78%	0.0152%
General Dynamics Corp	GD	0.17%	3.28%	0.01%	8.00%	0.0140%
General Electric Co	GE	1.68%	3.38%	0.06%	10.33%	0.1739%
General Mills Inc	GIS	0.20%	3.32%	0.01%	7.75%	0.0159%
Genuine Parts Co	GPC	0.07%	3.28%	0.00%	8.32%	0.0062%
Genworth Financial Inc	GNW	0.02%	n/a	n/a	5.00%	0.0011%
Gilead Sciences Inc	GILD	0.45%	n/a	n/a	20.04%	0.0900%
Goldman Sachs Group Inc/The	GS	0.43%	1.73%	0.01%	11.03%	0.0479%
Goodyear Tire & Rubber Co/The	GT	0.02%	n/a	n/a	43.84%	0.0096%
Google Inc	GOOG	1.37%	n/a	n/a	14.55%	0.1988%
H&R Block Inc	HRB	0.04%	4.48%	0.00%	11.00%	0.0042%
Halliburton Co	HAL	0.23%	1.18%	0.00%	20.50%	0.0462%
Harley-Davidson Inc	HOG	0.08%	1.34%	0.00%	13.00%	0.0108%
Harman International Industries Inc	HAR	0.02%	1.61%	0.00%	17.50%	0.0035%
Harris Corp	HRS	0.04%	3.19%	0.00%	4.00%	0.0017%
Hartford Financial Services Group Inc	HIG	0.07%	1.96%	0.00%	9.50%	0.0067%
Hasbro Inc	HAS	0.04%	3.95%	0.00%	9.00%	0.0034%
HCP Inc	HCP	0.16%	4.49%	0.01%	5.24%	0.0084%
Health Care REIT Inc	HCN	0.12%	5.14%	0.01%	5.16%	0.0064%
Helmerich & Payne Inc	HP	0.04%	0.56%	0.00%	8.00%	0.0034%
Hershey Co/The	HSY	0.09%	2.34%	0.00%	8.10%	0.0075%
Hess Corp	HES	0.13%	0.82%	0.00%	2.05%	0.0027%
Hewlett-Packard Co	HPQ	0.20%	4.11%	0.01%	3.50%	0.0070%
HJ Heinz Co	HNZ	0.15%	3.55%	0.01%	7.33%	0.0109%
Home Depot Inc/The	HD	0.75%	1.87%	0.01%	15.90%	0.1187%
Honeywell International Inc	HON	0.37%	2.77%	0.01%	10.50%	0.0388%
Hormel Foods Corp	HRL	0.06%	1.94%	0.00%	8.50%	0.0055%
Hospira Inc	HSP	0.04%	n/a	n/a	5.99%	0.0023%
Host Hotels & Resorts Inc	HST	0.08%	2.32%	0.00%	9.97%	0.0079%
Hudson City Bancorp Inc	HCBK	0.03%	4.03%	0.00%	0.50%	0.0002%
Humana Inc	HUM	0.08%	1.59%	0.00%	9.80%	0.0081%
Huntington Bancshares Inc/OH	HBAN	0.04%	2.66%	0.00%	5.33%	0.0022%
Illinois Tool Works Inc	ITW	0.22%	2.56%	0.01%	7.48%	0.0163%
Ingersoll-Rand PLC	IR	0.11%	1.41%	0.00%	11.00%	0.0120%
Integrys Energy Group Inc	TEG	0.03%	5.17%	0.00%	5.50%	0.0018%
Intel Corp	INTC	0.80%	4.46%	0.04%	10.27%	0.0822%
IntercontinentalExchange Inc	ICE	0.07%	n/a	n/a	13.45%	0.0099%
International Business Machines Corp	IBM	1.68%	1.82%	0.03%	9.50%	0.1599%
International Flavors & Fragrances Inc	IFF	0.04%	2.21%	0.00%	3.00%	0.0012%
International Game Technology	IGT	0.03%	1.89%	0.00%	14.25%	0.0039%
International Paper Co	IP	0.12%	3.50%	0.00%	5.00%	0.0060%
Interpublic Group of Cos Inc/The	IPG	0.03%	2.50%	0.00%	12.50%	0.0041%
Intuit Inc	INTU	0.14%	1.15%	0.00%	13.50%	0.0188%
Intuitive Surgical Inc	ISRG	0.17%	n/a	n/a	18.38%	0.0311%
Invesco Ltd	IVZ	0.08%	2.95%	0.00%	12.50%	0.0104%
Iron Mountain Inc	IRM	0.04%	3.30%	0.00%	13.00%	0.0058%
Jabil Circuit Inc	JBL	0.03%	1.82%	0.00%	12.00%	0.0035%
Jacobs Engineering Group Inc	JEC	0.04%	n/a	n/a	13.23%	0.0053%
JC Penney Co Inc	JCP	0.03%	n/a	n/a	22.00%	0.0063%
JDS Uniphase Corp	JDSU	0.02%	n/a	n/a	n/a	n/a
JM Smucker Co/The	SJM	0.07%	2.48%	0.00%	7.50%	0.0055%
Johnson & Johnson	JNJ	1.53%	3.53%	0.05%	6.39%	0.0977%
Johnson Controls Inc	JCI	0.14%	3.03%	0.00%	12.78%	0.0175%
Joy Global Inc	JOY	0.05%	1.28%	0.00%	16.60%	0.0078%
JPMorgan Chase & Co	JPM	1.20%	3.04%	0.04%	7.25%	0.0868%
Juniper Networks Inc	JNPR	0.07%	n/a	n/a	14.00%	0.0094%
Kellogg Co	K	0.15%	3.25%	0.01%	8.25%	0.0128%
KeyCorp	KEY	0.06%	2.49%	0.00%	6.32%	0.0038%

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Kimberly-Clark Corp	KMB	0.27%	3.48%	0.01%	8.44%	0.0226%
Kimco Realty Corp	KIM	0.06%	4.53%	0.00%	14.83%	0.0089%
Kinder Morgan Inc/Delaware	KMI	0.27%	4.46%	0.01%	7.00%	0.0187%
KLA-Tencor Corp	KLAC	0.06%	3.61%	0.00%	10.00%	0.0059%
Kohl's Corp	KSS	0.10%	2.51%	0.00%	12.00%	0.0114%
Kraft Foods Group Inc	KRFT	0.21%	n/a	n/a	6.00%	0.0125%
Kroger Co/The	KR	0.10%	2.45%	0.00%	8.91%	0.0092%
L-3 Communications Holdings Inc	LLL	0.06%	2.70%	0.00%	1.45%	0.0008%
Laboratory Corp of America Holdings	LH	0.06%	n/a	n/a	12.25%	0.0076%
Lam Research Corp	LRCX	0.05%	n/a	n/a	10.00%	0.0047%
Legg Mason Inc	LM	0.03%	1.75%	0.00%	13.00%	0.0034%
Leggett & Platt Inc	LEG	0.03%	4.37%	0.00%	15.00%	0.0045%
Lennar Corp	LEN	0.05%	0.44%	0.00%	8.00%	0.0037%
Leucadia National Corp	LUK	0.04%	1.22%	0.00%	n/a	n/a
Life Technologies Corp	LIFE	0.06%	n/a	n/a	9.73%	0.0062%
Lincoln National Corp	LNC	0.05%	2.02%	0.00%	4.10%	0.0021%
Linear Technology Corp	LLTC	0.06%	3.20%	0.00%	10.33%	0.0060%
Lockheed Martin Corp	LMT	0.23%	5.20%	0.01%	7.83%	0.0179%
Loews Corp	L	0.13%	0.61%	0.00%	n/a	n/a
Lorillard Inc	LO	0.12%	5.38%	0.01%	9.15%	0.0109%
Lowe's Cos Inc	LOW	0.29%	2.00%	0.01%	16.50%	0.0480%
LSI Corp	LSI	0.03%	n/a	n/a	15.33%	0.0043%
Ltd Brands Inc	LTD	0.11%	2.16%	0.00%	12.68%	0.0134%
LyondellBasell Industries NV	LYB	0.21%	3.41%	0.01%	9.67%	0.0208%
M&T Bank Corp	MTB	0.10%	2.88%	0.00%	16.54%	0.0164%
Macy's Inc	M	0.13%	1.99%	0.00%	10.27%	0.0132%
Marathon Oil Corp	MRO	0.17%	2.20%	0.00%	1.40%	0.0024%
Marathon Petroleum Corp	MPC	0.15%	2.58%	0.00%	11.00%	0.0162%
Marriott International Inc/DE	MAR	0.09%	1.51%	0.00%	20.22%	0.0175%
Marsh & McLennan Cos Inc	MMC	0.15%	2.66%	0.00%	8.08%	0.0121%
Masco Corp	MAS	0.04%	2.01%	0.00%	10.00%	0.0042%
Mastercard Inc	MA	0.44%	0.26%	0.00%	17.93%	0.0792%
Mattel Inc	MAT	0.10%	3.51%	0.00%	9.00%	0.0087%
McCormick & Co Inc/MD	MKC	0.06%	1.95%	0.00%	8.00%	0.0049%
McDonald's Corp	MCD	0.67%	3.66%	0.02%	9.63%	0.0648%
McGraw-Hill Cos Inc/The	MHP	0.11%	2.01%	0.00%	9.50%	0.0107%
McKesson Corp	MCK	0.17%	0.87%	0.00%	14.33%	0.0248%
Mead Johnson Nutrition Co	MJN	0.11%	1.82%	0.00%	11.50%	0.0123%
MeadWestvaco Corp	MWV	0.04%	3.49%	0.00%	10.00%	0.0040%
Medtronic Inc	MDT	0.33%	2.53%	0.01%	6.43%	0.0215%
Merck & Co Inc	MRK	1.04%	3.90%	0.04%	4.69%	0.0489%
MetLife Inc	MET	0.27%	2.34%	0.01%	10.00%	0.0274%
MetroPCS Communications Inc	PCS	0.03%	n/a	n/a	11.12%	0.0035%
Microchip Technology Inc	MCHP	0.05%	4.79%	0.00%	10.00%	0.0046%
Micron Technology Inc	MU	0.04%	n/a	n/a	12.54%	0.0056%
Microsoft Corp	MSFT	1.78%	3.47%	0.06%	10.95%	0.1948%
Molex Inc	MOLX	0.02%	3.46%	0.00%	11.67%	0.0023%
Molson Coors Brewing Co	TAP	0.05%	3.21%	0.00%	3.34%	0.0017%
Mondelez International Inc	MDLZ	0.36%	2.04%	0.01%	7.86%	0.0284%
Monsanto Co	MON	0.36%	1.76%	0.01%	11.92%	0.0433%
Monster Beverage Corp	MNST	0.06%	n/a	n/a	17.00%	0.0106%
Moody's Corp	MCO	0.08%	1.42%	0.00%	11.00%	0.0088%
Morgan Stanley	MS	0.25%	1.24%	0.00%	11.00%	0.0280%
Mosaic Co/The	MOS	0.12%	2.02%	0.00%	4.53%	0.0053%
Motorola Solutions Inc	MSI	0.12%	1.97%	0.00%	n/a	n/a
Murphy Oil Corp	MUR	0.09%	2.22%	0.00%	10.00%	0.0087%
Mylan Inc/PA	MYL	0.08%	n/a	n/a	10.54%	0.0088%
Nabors Industries Ltd	NBR	0.03%	n/a	n/a	8.00%	0.0024%
NASDAQ OMX Group Inc/The	NDAQ	0.03%	2.27%	0.00%	7.65%	0.0023%
National Oilwell Varco Inc	NOV	0.24%	0.74%	0.00%	13.50%	0.0324%
NetApp Inc	NTAP	0.09%	n/a	n/a	13.00%	0.0114%
Netflix Inc	NFLX	0.04%	n/a	n/a	21.71%	0.0078%
Newell Rubbermaid Inc	NWL	0.05%	2.87%	0.00%	9.13%	0.0044%
Newfield Exploration Co	NFX	0.03%	n/a	n/a	11.50%	0.0030%
Newmont Mining Corp	NEM	0.18%	3.03%	0.01%	-3.00%	-0.0054%
News Corp	NWSA	0.29%	0.73%	0.00%	13.13%	0.0377%
NextEra Energy Inc	NEE	0.23%	3.56%	0.01%	5.13%	0.0117%
NIKE Inc	NKE	0.27%	1.81%	0.00%	12.30%	0.0327%
NiSource Inc	NI	0.06%	4.02%	0.00%	n/a	n/a
Noble Corp	NE	0.07%	1.55%	0.00%	13.00%	0.0088%
Noble Energy Inc	NBL	0.13%	1.09%	0.00%	7.00%	0.0091%
Nordstrom Inc	JWN	0.09%	1.97%	0.00%	12.67%	0.0111%
Norfolk Southern Corp	NSC	0.14%	3.55%	0.01%	15.00%	0.0213%
Northeast Utilities	NU	0.10%	3.58%	0.00%	7.53%	0.0072%
Northern Trust Corp	NTRS	0.09%	2.56%	0.00%	4.08%	0.0037%
Northrop Grumman Corp	NOC	0.12%	3.46%	0.00%	3.33%	0.0041%
NRG Energy Inc	NRG	0.04%	1.82%	0.00%	-13.70%	-0.0049%
Nucor Corp	NUE	0.10%	3.70%	0.00%	8.50%	0.0085%
NVIDIA Corp	NVDA	0.06%	2.64%	0.00%	14.33%	0.0081%
NYSE Euronext	NYX	0.04%	5.32%	0.00%	10.00%	0.0044%
O'Reilly Automotive Inc	ORLY	0.08%	n/a	n/a	17.67%	0.0145%
Occidental Petroleum Corp	OXY	0.48%	2.93%	0.01%	-2.63%	-0.0125%
Omnicom Group Inc	OMC	0.10%	2.61%	0.00%	6.00%	0.0058%
ONEOK Inc	OKE	0.07%	2.89%	0.00%	16.00%	0.0119%
Oracle Corp	ORCL	1.15%	0.80%	0.01%	15.05%	0.1734%
Owens-Illinois Inc	OI	0.02%	n/a	n/a	8.67%	0.0021%
PACCAR Inc	PCAR	0.12%	1.91%	0.00%	10.25%	0.0121%
Pall Corp	PLL	0.05%	1.69%	0.00%	12.74%	0.0069%
Parker Hannifin Corp	PH	0.10%	2.05%	0.00%	6.00%	0.0057%
Patterson Cos Inc	PDCO	0.03%	1.59%	0.00%	12.33%	0.0038%
Paychex Inc	PAYX	0.09%	4.16%	0.00%	9.50%	0.0087%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[13] Weight in Index	[14] Estimated Dividend Yield	[15] Cap-Weighted Dividend Yield	[16] Long-Term Growth Est.	[17] Cap-Weighted Long-Term Growth Est.
Peabody Energy Corp	BTU	0.05%	1.36%	0.00%	12.00%	0.0064%
Pentair Ltd	PNR	0.07%	1.96%	0.00%	12.50%	0.0094%
People's United Financial Inc	PBCT	0.03%	5.48%	0.00%	7.00%	0.0023%
Pepco Holdings Inc	POM	0.04%	5.63%	0.00%	5.00%	0.0018%
PepsiCo Inc	PEP	0.84%	3.15%	0.03%	5.98%	0.0503%
PerkinElmer Inc	PKI	0.03%	0.93%	0.00%	11.41%	0.0032%
Perrigo Co	PRGO	0.08%	0.35%	0.00%	10.97%	0.0083%
PetSmart Inc	PETM	0.06%	0.98%	0.00%	18.08%	0.0105%
Pfizer Inc	PFE	1.40%	3.69%	0.05%	3.63%	0.0509%
PG&E Corp	PCG	0.14%	4.50%	0.01%	4.00%	0.0055%
Philip Morris International Inc	PM	1.14%	4.00%	0.05%	10.60%	0.1209%
Phillips 66	PSX	0.23%	2.18%	0.00%	10.00%	0.0228%
Pinnacle West Capital Corp	PNW	0.04%	4.38%	0.00%	4.52%	0.0020%
Pioneer Natural Resources Co	PXD	0.10%	0.08%	0.00%	15.69%	0.0158%
Pitney Bowes Inc	PBI	0.02%	13.61%	0.00%	n/a	n/a
Plum Creek Timber Co Inc	PCL	0.05%	4.07%	0.00%	5.00%	0.0027%
PNC Financial Services Group Inc	PNC	0.23%	2.94%	0.01%	3.64%	0.0083%
PPG Industries Inc	PPG	0.14%	2.04%	0.00%	7.00%	0.0099%
PPL Corp	PPL	0.13%	5.05%	0.01%	-1.50%	-0.0020%
Praxair Inc	PX	0.25%	2.11%	0.01%	10.59%	0.0261%
Precision Castparts Corp	PCP	0.20%	0.07%	0.00%	13.07%	0.0264%
priceline.com Inc	PCLN	0.24%	n/a	n/a	18.17%	0.0444%
Principal Financial Group Inc	PFG	0.06%	3.19%	0.00%	13.00%	0.0080%
Procter & Gamble Co/The	PG	1.46%	3.36%	0.05%	7.56%	0.1100%
Progressive Corp/The	PGR	0.11%	1.81%	0.00%	7.75%	0.0084%
Prologis Inc	PLD	0.12%	3.43%	0.00%	3.93%	0.0047%
Prudential Financial Inc	PRU	0.18%	3.28%	0.01%	14.50%	0.0260%
Public Service Enterprise Group Inc	PEG	0.12%	4.82%	0.01%	0.30%	0.0004%
Public Storage	PSA	0.20%	3.06%	0.01%	5.61%	0.0110%
PulteGroup Inc	PHM	0.05%	n/a	n/a	10.00%	0.0048%
QEP Resources Inc	QEP	0.04%	0.30%	0.00%	15.00%	0.0057%
QUALCOMM Inc	QCOM	0.84%	1.61%	0.01%	15.00%	0.1262%
Quanta Services Inc	PWR	0.04%	n/a	n/a	17.83%	0.0079%
Quest Diagnostics Inc	DGX	0.07%	2.06%	0.00%	11.63%	0.0085%
Ralph Lauren Corp	RL	0.07%	1.06%	0.00%	12.33%	0.0090%
Range Resources Corp	RRC	0.09%	0.24%	0.00%	10.00%	0.0087%
Raytheon Co	RTN	0.14%	3.67%	0.01%	9.00%	0.0129%
Red Hat Inc	RHT	0.07%	n/a	n/a	17.00%	0.0127%
Regions Financial Corp	RF	0.07%	0.63%	0.00%	8.00%	0.0057%
Republic Services Inc	RSG	0.08%	3.48%	0.00%	6.60%	0.0052%
Reynolds American Inc	RAI	0.18%	5.77%	0.01%	7.31%	0.0133%
Robert Half International Inc	RHI	0.03%	2.25%	0.00%	14.33%	0.0043%
Rockwell Automation Inc	ROK	0.09%	2.46%	0.00%	10.67%	0.0092%
Rockwell Collins Inc	COL	0.06%	2.22%	0.00%	8.28%	0.0050%
Roper Industries Inc	ROP	0.08%	0.51%	0.00%	15.00%	0.0127%
Ross Stores Inc	ROST	0.10%	1.04%	0.00%	13.00%	0.0125%
Rowan Cos Plc	RDC	0.03%	n/a	n/a	13.00%	0.0041%
RR Donnelley & Sons Co	RRD	0.01%	11.32%	0.00%	5.00%	0.0007%
Ryder System Inc	R	0.02%	2.80%	0.00%	8.97%	0.0018%
Safeway Inc	SWY	0.03%	4.22%	0.00%	9.86%	0.0031%
SAIC Inc	SAI	0.03%	4.36%	0.00%	3.87%	0.0012%
Salesforce.com Inc	CRM	0.16%	n/a	n/a	26.60%	0.0424%
SanDisk Corp	SNDK	0.08%	n/a	n/a	16.85%	0.0128%
SCANA Corp	SCG	0.05%	4.30%	0.00%	4.34%	0.0021%
Schlumberger Ltd	SLB	0.72%	1.61%	0.01%	17.00%	0.1227%
Scripps Networks Interactive Inc	SNI	0.05%	0.81%	0.00%	15.19%	0.0083%
Seagate Technology PLC	STX	0.08%	4.72%	0.00%	7.63%	0.0062%
Sealed Air Corp	SEE	0.03%	3.17%	0.00%	5.50%	0.0014%
Sempra Energy	SRE	0.13%	3.63%	0.00%	7.00%	0.0089%
Sherwin-Williams Co/The	SHW	0.12%	1.03%	0.00%	13.02%	0.0162%
Sigma-Aldrich Corp	SIAL	0.07%	1.15%	0.00%	7.11%	0.0047%
Simon Property Group Inc	SPG	0.36%	2.99%	0.01%	5.68%	0.0206%
SLM Corp	SLM	0.06%	2.99%	0.00%	-4.30%	-0.0026%
Snap-on Inc	SNA	0.03%	2.03%	0.00%	10.00%	0.0035%
Southern Co/The	SO	0.30%	4.59%	0.01%	5.28%	0.0157%
Southwest Airlines Co	LUV	0.05%	0.45%	0.00%	15.75%	0.0083%
Southwestern Energy Co	SWN	0.10%	n/a	n/a	n/a	n/a
Spectra Energy Corp	SE	0.14%	4.41%	0.01%	5.00%	0.0072%
Sprint Nextel Corp	S	0.13%	n/a	n/a	5.00%	0.0066%
St Jude Medical Inc	STJ	0.09%	2.63%	0.00%	10.00%	0.0086%
Stanley Black & Decker Inc	SWK	0.09%	2.91%	0.00%	8.00%	0.0073%
Staples Inc	SPLS	0.06%	3.75%	0.00%	5.53%	0.0035%
Starbucks Corp	SBUX	0.29%	1.72%	0.01%	17.43%	0.0507%
Starwood Hotels & Resorts Worldwide Inc	HOT	0.08%	2.43%	0.00%	15.19%	0.0122%
State Street Corp	STT	0.16%	2.17%	0.00%	5.75%	0.0094%
Stericycle Inc	SRCL	0.06%	n/a	n/a	16.00%	0.0099%
Stryker Corp	SYK	0.16%	1.63%	0.00%	9.50%	0.0150%
SunTrust Banks Inc	STI	0.11%	0.77%	0.00%	14.36%	0.0160%
Symantec Corp	SYMC	0.10%	n/a	n/a	6.60%	0.0066%
Sysco Corp	SYY	0.14%	3.73%	0.01%	10.00%	0.0141%
T Rowe Price Group Inc	TROW	0.13%	2.15%	0.00%	14.00%	0.0180%
Target Corp	TGT	0.33%	2.30%	0.01%	12.09%	0.0394%
TE Connectivity Ltd	TEL	0.11%	2.46%	0.00%	15.00%	0.0172%
TECO Energy Inc	TE	0.03%	5.33%	0.00%	3.67%	0.0010%
Tenet Healthcare Corp	THC	0.02%	n/a	n/a	11.00%	0.0025%
Teradata Corp	TDC	0.08%	n/a	n/a	16.00%	0.0134%
Teradyne Inc	TER	0.02%	n/a	n/a	11.75%	0.0026%
Tesoro Corp	TSO	0.04%	1.58%	0.00%	34.10%	0.0145%
Texas Instruments Inc	TXN	0.25%	2.97%	0.01%	9.50%	0.0240%
Textron Inc	TXT	0.05%	0.35%	0.00%	31.50%	0.0164%
Thermo Fisher Scientific Inc	TMO	0.17%	0.99%	0.00%	10.94%	0.0190%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[13] Weight in Index	[14] Estimated Dividend Yield	[15] Cap-Weighted Dividend Yield	[16] Long-Term Growth Est.	[17] Cap-Weighted Long-Term Growth Est.
Tiffany & Co	TIF	0.06%	2.15%	0.00%	13.73%	0.0082%
Time Warner Cable Inc	TWC	0.22%	2.48%	0.01%	15.33%	0.0333%
Time Warner Inc	TWX	0.34%	2.33%	0.01%	12.72%	0.0429%
Titanium Metals Corp	TIE	0.02%	1.81%	0.00%	15.00%	0.0035%
TJX Cos Inc	TJX	0.25%	1.08%	0.00%	11.68%	0.0291%
Torchmark Corp	TMK	0.04%	1.19%	0.00%	9.00%	0.0034%
Total System Services Inc	TSS	0.03%	1.87%	0.00%	9.71%	0.0031%
Travelers Cos Inc/The	TRV	0.21%	2.68%	0.01%	7.75%	0.0162%
TripAdvisor Inc	TRIP	0.04%	n/a	n/a	16.34%	0.0064%
Tyco International Ltd	TYC	0.10%	2.24%	0.00%	13.00%	0.0129%
Tyson Foods Inc	TSN	0.04%	1.18%	0.00%	n/a	n/a
Union Pacific Corp	UNP	0.44%	2.35%	0.01%	13.20%	0.0581%
United Parcel Service Inc	UPS	0.40%	3.26%	0.01%	9.58%	0.0387%
United States Steel Corp	X	0.02%	1.00%	0.00%	6.50%	0.0015%
United Technologies Corp	UTX	0.55%	2.84%	0.02%	12.96%	0.0712%
UnitedHealth Group Inc	UNH	0.42%	1.64%	0.01%	10.25%	0.0433%
Unum Group	UNM	0.04%	2.67%	0.00%	10.00%	0.0043%
Urban Outfitters Inc	URBN	0.04%	n/a	n/a	18.44%	0.0075%
US Bancorp	USB	0.47%	2.47%	0.01%	7.57%	0.0358%
Valero Energy Corp	VLO	0.13%	2.38%	0.00%	6.30%	0.0082%
Varian Medical Systems Inc	VAR	0.06%	n/a	n/a	11.50%	0.0069%
Ventas Inc	VTR	0.15%	3.89%	0.01%	4.77%	0.0072%
VeriSign Inc	VRSN	0.05%	n/a	n/a	15.50%	0.0078%
Verizon Communications Inc	VZ	0.94%	4.98%	0.05%	6.43%	0.0605%
VF Corp	VFC	0.14%	2.23%	0.00%	12.40%	0.0170%
Viacom Inc	VIAB	0.18%	2.22%	0.00%	12.28%	0.0218%
Visa Inc	V	0.61%	0.93%	0.01%	18.71%	0.1140%
Vornado Realty Trust	VNO	0.11%	3.77%	0.00%	-2.91%	-0.0032%
Vulcan Materials Co	VMC	0.05%	0.09%	0.00%	9.67%	0.0046%
Wal-Mart Stores Inc	WMT	1.82%	2.34%	0.04%	10.22%	0.1863%
Walgreen Co	WAG	0.24%	3.42%	0.01%	12.83%	0.0311%
Walt Disney Co/The	DIS	0.68%	1.27%	0.01%	10.89%	0.0739%
Washington Post Co/The	WPO	0.02%	2.86%	0.00%	n/a	n/a
Waste Management Inc	WM	0.12%	4.52%	0.01%	2.80%	0.0033%
Waters Corp	WAT	0.06%	n/a	n/a	9.08%	0.0051%
Watson Pharmaceuticals Inc	WPI	0.08%	n/a	n/a	12.29%	0.0104%
WellPoint Inc	WLP	0.13%	2.09%	0.00%	11.00%	0.0147%
Wells Fargo & Co	WFC	1.34%	2.76%	0.04%	11.13%	0.1491%
Western Digital Corp	WDC	0.07%	2.89%	0.00%	2.13%	0.0014%
Western Union Co/The	WU	0.06%	3.93%	0.00%	10.41%	0.0063%
Weyerhaeuser Co	WY	0.11%	2.68%	0.00%	5.00%	0.0055%
Whirlpool Corp	WHR	0.06%	2.08%	0.00%	n/a	n/a
Whole Foods Market Inc	WFM	0.13%	0.88%	0.00%	18.86%	0.0252%
Williams Cos Inc/The	WMB	0.16%	4.10%	0.01%	12.00%	0.0190%
Windstream Corp	WIN	0.04%	12.12%	0.00%	-3.41%	-0.0013%
Wisconsin Energy Corp	WEC	0.07%	3.30%	0.00%	4.75%	0.0032%
WPX Energy Inc	WPX	0.02%	n/a	n/a	n/a	n/a
WW Grainger Inc	GWW	0.10%	1.70%	0.00%	14.18%	0.0147%
Wyndham Worldwide Corp	WYN	0.05%	1.88%	0.00%	18.60%	0.0102%
Wynn Resorts Ltd	WYNN	0.08%	1.92%	0.00%	8.00%	0.0067%
Xcel Energy Inc	XEL	0.10%	4.11%	0.00%	5.17%	0.0053%
Xerox Corp	XRX	0.06%	3.69%	0.00%	n/a	n/a
Xilinx Inc	XLNX	0.07%	2.71%	0.00%	14.00%	0.0095%
XL Group PLC	XL	0.06%	1.86%	0.00%	8.33%	0.0047%
Xylem Inc/NY	XYL	0.04%	1.67%	0.00%	7.00%	0.0025%
Yahoo! Inc	YHOO	0.17%	n/a	n/a	12.67%	0.0213%
Yum! Brands Inc	YUM	0.26%	1.86%	0.00%	12.00%	0.0311%
Zimmer Holdings Inc	ZMH	0.09%	1.12%	0.00%	9.56%	0.0085%
Zions Bancorporation	ZION	0.03%	0.20%	0.00%	7.75%	0.0022%

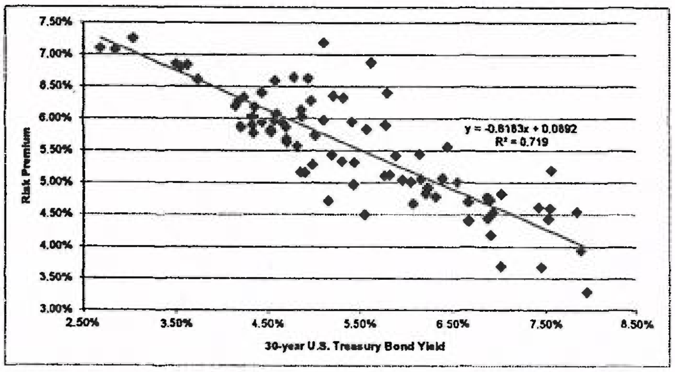
Notes:
[8] Equals sum of [15]
[9] Equals sum of Col. [17]
[10] Equals ([8] x (1 + (0.5 x [9]))) + [9]
[11] Source: Exhibit AEB-[X], at 1
[12] Equals [10] – [11]
[13] Equals weight in S&P 500 based on market capitalization
[14] Source: Bloomberg Professional
[15] Equals [13] x [14]
[16] Source: Bloomberg Professional
[17] Equals [13] x [16]

EXHIBIT

AEB-6

BOND YIELD PLUS RISK PREMIUM

	[1] Average Authorized Electric ROE	[2] 30-year U.S. Treasury Bond	[3] Risk Premium
1992.1	12.38%	7.84%	4.55%
1992.2	11.83%	7.88%	3.94%
1992.3	12.03%	7.42%	4.62%
1992.4	12.14%	7.54%	4.60%
1993.1	11.84%	7.01%	4.83%
1993.2	11.64%	6.86%	4.78%
1993.3	11.15%	6.23%	4.92%
1993.4	11.04%	6.21%	4.84%
1994.1	11.07%	6.66%	4.40%
1994.2	11.13%	7.45%	3.68%
1994.3	12.75%	7.55%	5.20%
1994.4	11.24%	7.95%	3.29%
1995.1	11.96%	7.52%	4.44%
1995.2	11.32%	6.87%	4.45%
1995.3	11.37%	6.66%	4.71%
1995.4	11.58%	6.14%	5.45%
1996.1	11.46%	6.39%	5.07%
1996.2	11.46%	6.92%	4.54%
1996.3	10.70%	7.00%	3.70%
1996.4	11.56%	6.54%	5.02%
1997.1	11.08%	6.90%	4.18%
1997.2	11.62%	6.88%	4.73%
1997.3	12.00%	6.44%	5.56%
1997.4	11.06%	6.04%	5.02%
1998.1	11.31%	5.89%	5.43%
1998.2	12.20%	5.79%	6.41%
1998.3	11.65%	5.32%	6.33%
1998.4	12.30%	5.11%	7.20%
1999.1	10.40%	5.43%	4.97%
1999.2	10.94%	5.82%	5.12%
1999.3	10.75%	6.07%	4.68%
1999.4	11.10%	6.31%	4.79%
2000.1	11.21%	6.15%	5.06%
2000.2	11.00%	5.95%	5.05%
2000.3	11.68%	5.78%	5.90%
2000.4	12.50%	5.62%	6.88%
2001.1	11.38%	5.42%	5.96%
2001.2	10.88%	5.77%	5.11%
2001.3	10.76%	5.44%	5.32%
2001.4	11.57%	5.21%	6.36%
2002.1	10.05%	5.55%	4.50%
2002.2	11.41%	5.57%	5.83%
2002.3	11.25%	4.96%	6.29%
2002.4	11.57%	4.93%	6.63%
2003.1	11.43%	4.78%	6.65%
2003.2	11.16%	4.57%	6.60%
2003.3	9.88%	5.15%	4.72%
2003.4	11.09%	5.11%	5.98%
2004.1	11.00%	4.86%	6.14%
2004.2	10.64%	5.31%	5.33%
2004.3	10.75%	5.01%	5.74%
2004.4	10.91%	4.87%	6.04%
2005.1	10.56%	4.69%	5.87%
2005.2	10.13%	4.34%	5.78%
2005.3	10.85%	4.43%	6.41%
2005.4	10.59%	4.66%	5.93%
2006.1	10.38%	4.69%	5.69%
2006.2	10.63%	5.19%	5.44%
2006.3	10.06%	4.90%	5.16%
2006.4	10.33%	4.70%	5.64%
2007.1	10.39%	4.81%	5.58%
2007.2	10.27%	4.98%	5.28%
2007.3	10.02%	4.85%	5.16%
2007.4	10.36%	4.53%	5.83%
2008.1	10.37%	4.34%	6.03%
2008.2	10.54%	4.57%	5.97%
2008.3	10.38%	4.44%	5.95%
2008.4	10.36%	3.49%	6.86%
2009.1	10.46%	3.62%	6.85%
2009.2	10.58%	4.23%	6.34%
2009.3	10.46%	4.18%	6.28%
2009.4	10.54%	4.35%	6.19%
2010.1	10.66%	4.59%	6.06%
2010.2	10.08%	4.20%	5.87%
2010.3	10.34%	3.73%	6.61%
2010.4	10.34%	4.14%	6.20%
2011.1	10.32%	4.53%	5.80%
2011.2	10.23%	4.33%	5.90%
2011.3	10.36%	3.54%	6.82%
2011.4	10.29%	3.03%	7.26%
2012.1	10.84%	3.12%	7.72%
2012.2	9.92%	2.84%	7.08%
2012.3	9.78%	2.68%	7.10%
AVERAGE	10.98%	5.41%	5.57%
MEDIAN	10.94%	5.21%	5.64%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.847945
R Square	0.719010
Adjusted R Square	0.715541
Standard Error	0.004847
Observations	83

ANOVA

	df	*SS*	*MS*	*F*	*Sig. F*
Regression	1	0.004869	0.004869	207.266595	0.000000
Residual	81	0.001903	0.000023		
Total	82	0.006771			

	Coefficients	*Std. Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.089161	0.002385	37.383584	0.000000	0.084415	0.093906	0.084415	0.093906
30-year U.S. Treasury Bond	-0.618273	0.042945	-14.396756	0.000000	-0.703720	-0.532825	-0.703720	-0.532825

	[7]	[8]	[9]
	30-year U.S. Treasury	Risk Premium	ROE
Current 30-Day Average [4]	2.87%	7.14%	10.01%
Blue Chip Consensus Forecast (Q4 2012 - Q1 2014) [5]	3.15%	6.97%	10.12%
Blue Chip Consensus Forecast *(2014 - 2018) [6]*	*5.10%*	*5.76%*	*10.86%*
AVERAGE			10.33%

Notes:

[1] Source: Regulatory Research Associates
[2] Source: Bloomberg Professional, quarterly bond yields are the average of the last trading day of each month in the quarter
[3] Equals Column [1] – Column [2]
[4] Source: Bloomberg Professional
[5] Source: Blue Chip Financial Forecasts, Vol. 31, No. 11, November 1, 2012, at 2
[6] Source: Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14
[7] *See notes [4], [5] & [6]*
[8] Equals 0.089161 + (-0.618273 x Column [7])
[9] Equals Column [7] + Column [8]

EXHIBIT

AEB-7

2013-2017 CAPITAL EXPENDITURES AS A PERCENT OF 2011 NET PLANT
($ Millions)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
		2011	2013	2014	2015	2016	2017	2013-17 Cap. Ex. / 2011 Net Plant
ALLETE, Inc.	ALE							
Capital Spending per Share			$7.55	$5.40	$3.25	$3.25	$3.25	
Common Shares Outstanding			40.00	40.75	41.50	41.50	41.50	
Capital Expenditures			$302.0	$220.1	$134.9	$134.9	$134.9	46.74%
Net Plant		$1,982.7						
American Electric Power Company, Inc.	AEP							
Capital Spending per Share			$7.75	$7.63	$7.50	$7.50	$7.50	
Common Shares Outstanding			489.00	494.50	500.00	500.00	500.00	
Capital Expenditures			$3,789.8	$3,770.6	$3,750.0	$3,750.0	$3,750.0	50.88%
Net Plant		$36,971.0						
Cleco Corporation	CNL							
Capital Spending per Share			$2.15	$2.20	$2.25	$2.25	$2.25	
Common Shares Outstanding			61.00	61.00	61.00	61.00	61.00	
Capital Expenditures			$131.2	$134.2	$137.3	$137.3	$137.3	23.40%
Net Plant		$2,893.9						
Empire District Electric Company	EDE							
Capital Spending per Share			$3.75	$3.50	$3.25	$3.25	$3.25	
Common Shares Outstanding			42.50	42.88	43.25	43.25	43.25	
Capital Expenditures			$159.4	$150.1	$140.6	$140.6	$140.6	46.76%
Net Plant		$1,563.7						
FirstEnergy Corporation	FE							
Capital Spending per Share			$6.40	$6.20	$6.00	$6.00	$6.00	
Common Shares Outstanding			418.22	418.22	418.22	418.22	418.22	
Capital Expenditures			$2,676.6	$2,593.0	$2,509.3	$2,509.3	$2,509.3	42.18%
Net Plant		$30,337.0						
Great Plains Energy Inc.	GXP							
Capital Spending per Share			$5.15	$4.58	$4.00	$4.00	$4.00	
Common Shares Outstanding			153.50	153.50	153.50	153.50	153.50	
Capital Expenditures			$790.5	$702.3	$614.0	$614.0	$614.0	47.28%
Net Plant		$7,053.5						
Hawaiian Electric Industries, Inc.	HE							
Capital Spending per Share			$4.15	$5.83	$7.50	$7.50	$7.50	
Common Shares Outstanding			104.00	113.00	122.00	122.00	122.00	
Capital Expenditures			$431.6	$658.2	$915.0	$915.0	$915.0	115.00%
Net Plant		$3,334.5						
IDACORP, Inc.	IDA							
Capital Spending per Share			$5.00	$6.28	$7.55	$7.55	$7.55	
Common Shares Outstanding			50.00	51.50	53.00	53.00	53.00	
Capital Expenditures			$250.0	$323.2	$400.2	$400.2	$400.2	52.06%
Net Plant		$3,406.6						
Otter Tail Corporation	OTTR							
Capital Spending per Share			$4.20	$4.60	$5.00	$5.00	$5.00	
Common Shares Outstanding			37.00	38.50	40.00	40.00	40.00	
Capital Expenditures			$155.4	$177.1	$200.0	$200.0	$200.0	86.54%
Net Plant		$1,077.5						
Pepco Holdings, Inc.	POM							
Capital Spending per Share			$4.00	$3.95	$3.90	$3.90	$3.90	
Common Shares Outstanding			242.00	248.50	255.00	255.00	255.00	
Capital Expenditures			$968.0	$981.6	$994.5	$994.5	$994.5	60.01%
Net Plant		$8,220.0						
Pinnacle West Capital Corporation	PNW							
Capital Spending per Share			$9.60	$9.05	$8.50	$8.50	$8.50	
Common Shares Outstanding			111.00	114.75	118.50	118.50	118.50	
Capital Expenditures			$1,065.6	$1,038.5	$1,007.3	$1,007.3	$1,007.3	51.45%
Net Plant		$9,962.3						
Portland General Electric Company	POR							
Capital Spending per Share			$4.05	$4.40	$4.75	$4.75	$4.75	

2013-2017 CAPITAL EXPENDITURES AS A PERCENT OF 2011 NET PLANT

($ Millions)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
		2011	2013	2014	2015	2016	2017	2013-17 Cap. Ex. / 2011 Net Plant
Common Shares Outstanding			75.75	76.13	76.50	76.50	76.50	
Capital Expenditures			$306.8	$335.0	$363.4	$363.4	$363.4	40.42%
Net Plant		$4,285.0						
Southern Company	SO							
Capital Spending per Share			$5.65	$6.20	$6.75	$6.75	$6.75	
Common Shares Outstanding			870.00	892.50	915.00	915.00	915.00	
Capital Expenditures			$4,915.5	$5,533.5	$6,176.3	$6,176.3	$6,176.3	64.38%
Net Plant		$45,010.0						
Westar Energy, Inc.	WR							
Capital Spending per Share			$7.05	$7.45	$7.85	$7.85	$7.85	
Common Shares Outstanding			128.00	131.00	134.00	134.00	134.00	
Capital Expenditures			$902.4	$976.0	$1,051.9	$1,051.9	$1,051.9	74.63%
Net Plant		$6,745.4						
UNS Electric, Inc.								
Capital Expenditures [8]			$55.9	$27.4	$32.7	$29.2	$36.9	64.85%
Net Plant [9]		$280.7						

Notes:

[1]-[7] Source: Value Line

[8] Source: Data provided by UNS Electric, Inc.

[9] Source: UNS Electric, Inc., FERC Form 1 for the year ended December 31, 2011, at 110

EXHIBIT

AEB-8

SIZE PREMIUM CALCULATION

Proxy Group Market Capitalization and Market-to-Book Ratio

Company	Ticker	[1] Customers		[2] Market Capitalization ($ Billions)	[3] Market-to-Book Ratio
ALLETE, Inc.	ALE	171,250	$	1.579	1.37
American Electric Power Company, Inc.	AEP	5,206,000		21.141	1.38
Cleco Corporation	CNL	279,259		2.520	1.67
Empire District Electric Company	EDE	210,965		0.900	1.26
FirstEnergy Corporation	FE	5,810,687		18.504	1.38
Great Plains Energy Inc.	GXP	824,300		3.364	1.00
Hawaiian Electric Industries, Inc.	HE	445,566		2.503	1.56
IDACORP, Inc.	IDA	493,209		2.188	1.24
Otter Tail Corporation	OTTR	129,064		0.864	1.63
Pepco Holdings, Inc.	POM	1,959,000		4.457	1.00
Pinnacle West Capital Corporation	PNW	1,119,174		5.710	1.41
Portland General Electric Company	POR	823,027		2.040	1.19
Southern Company	SO	4,403,625		39.482	2.12
Westar Energy, Inc.	WR	687,375		3.698	1.28
MEAN		1,611,607	$	7.782	1.39
MEDIAN		755,201	$	2.942	1.38

UNS Electric, Inc.		
Rate Base ($ Millions) [4]	$	216.6
Common Equity Ratio [5]		52.60%
Rate Base x Common Equity Ratio [6]		113.9
Implied Market Capitalization [7]		156.7
As a percent of Proxy Group Median Market Capitalization		5.33%

Ibbotson SBBI 2012 Valuation Yearbook -- Size Premium

Breakdown of Deciles 1-10	[8] Market Capitalization of Smallest Company ($ millions)	[9] Market Capitalization of Largest Company ($ millions)	[10] Size Premium
1-Largest	15,484.940	354,351.912	-0.38%
2	6,927.557	15,408.314	0.78%
3	3,596.535	6,896.389	0.94%
4	2,366.464	3,577.774	1.17%
5	1,621.096	2,362.532	1.74%
6	1,090.652	1,620.860	1.75%
7	683.059	1,090.515	1.77%
8	422.999	682.750	2.51%
9	206.802	422.811	2.80%
10-Smallest	1.028	206.795	6.10%
Proxy Group Median		2,942.051	1.17%
UNS Electric, Inc. Implied Market Capitalization		156.707	6.10%
Size Premium [11]			4.93%

Notes:
[1] Source: SNL Financial
[2] Source: Bloomberg Professional; equals 30-day average as of November 16, 2012
[3] Source: Bloomberg Professional; equals 30-day average as of November 16, 2012
[4] Source: Direct Testimony of Dallas J. Dukes, Schedule A-1
[5] Source: Direct Testimony of Kentton C. Grant
[6] Equals [4] x [5]
[7] Equals [6] x proxy group median market-to-book ratio
[8] Source: Ibbotson SBBI 2012 Valuation Yearbook, at 202
[9] Source: Ibbotson SBBI 2012 Valuation Yearbook, at 202
[10] Source: Ibbotson SBBI 2012 Valuation Yearbook, at 202
[11] Equals 6.10% – 1.17%

EXHIBIT

AEB-9

CAPITAL STRUCTURE ANALYSIS

COMMON EQUITY RATIO

Company	Ticker	2012 Q3	2012 Q2	2012 Q1	2011 Q4	2011 Q3	2011 Q2	2011 Q1	2010 Q4	Average
ALLETE, Inc.	ALE	54.41%	57.43%	59.36%	58.41%	57.75%	58.92%	58.73%	58.00%	57.87%
American Electric Power Company, Inc.	AEP	52.83%	52.18%	51.46%	52.94%	52.71%	50.85%	50.07%	49.98%	51.63%
Cleco Corporation	CNL	49.77%	50.38%	48.38%	48.29%	47.52%	47.75%	46.98%	47.33%	48.30%
Empire District Electric Company	EDE	53.11%	52.50%	52.91%	52.29%	51.95%	50.96%	51.03%	50.93%	51.96%
FirstEnergy Corporation	FE	48.93%	48.14%	47.85%	47.65%	48.13%	47.13%	47.81%	50.07%	48.21%
Great Plains Energy Inc.	GXP	55.33%	49.49%	51.86%	51.93%	51.13%	53.00%	53.59%	52.23%	52.32%
Hawaiian Electric Industries, Inc.	HE	55.70%	55.36%	58.58%	57.06%	56.22%	55.85%	55.86%	55.83%	56.31%
IDACORP, Inc.	IDA	51.53%	50.37%	50.91%	50.59%	50.44%	48.95%	48.84%	46.61%	49.78%
Otter Tail Corporation	OTTR	50.35%	50.23%	50.48%	50.28%	53.36%	53.17%	53.24%	53.16%	51.78%
Pepco Holdings, Inc.	POM	46.48%	45.28%	47.12%	46.68%	46.69%	45.95%	46.41%	45.92%	46.32%
Pinnacle West Capital Corporation	PNW	56.30%	54.60%	54.36%	54.46%	52.06%	52.44%	52.57%	52.97%	53.72%
Portland General Electric Company	POR	49.74%	49.47%	49.37%	48.94%	47.90%	47.78%	47.74%	46.83%	48.47%
Southern Company	SO	48.01%	47.22%	46.48%	47.43%	51.14%	50.22%	50.59%	49.27%	48.79%
Westar Energy, Inc.	WR	60.30%	59.38%	60.05%	61.36%	60.66%	59.62%	59.24%	59.37%	60.00%
MEAN		52.34%	51.57%	52.08%	52.02%	51.98%	51.61%	51.62%	51.32%	51.82%
MEDIAN		52.18%	50.38%	51.18%	51.26%	51.54%	50.90%	50.81%	50.50%	51.71%
LOW		46.48%	45.28%	46.48%	46.68%	46.69%	45.95%	46.41%	45.92%	46.32%
HIGH		60.30%	59.38%	60.05%	61.36%	60.66%	59.62%	59.24%	59.37%	60.00%

OPERATING COMPANIES

Company	Ticker	2012 Q3	2012 Q2	2012 Q1	2011 Q4	2011 Q3	2011 Q2	2011 Q1	2010 Q4	Average
ALLETE (Minnesota Power)	ALE	54.41%	57.43%	57.69%	56.92%	56.28%	58.10%	57.49%	56.82%	56.89%
Superior Water, Light and Power Company	ALE			61.03%	59.89%	59.22%	59.74%	59.97%	59.17%	59.84%
AEP Texas Central Company	AEP	50.05%	48.91%	45.78%	63.77%	60.84%	47.26%	44.99%	44.85%	50.81%
AEP Texas North Company	AEP	47.55%	47.24%	47.29%	46.93%	46.35%	46.08%	45.88%	45.52%	46.61%
Appalachian Power Company	AEP	44.82%	44.73%	44.62%	44.07%	44.19%	43.14%	41.53%	44.21%	43.91%
Indiana Michigan Power Company	AEP	49.61%	49.42%	49.55%	49.13%	49.10%	49.06%	48.86%	48.47%	49.15%
Kentucky Power Company	AEP	46.46%	46.12%	45.76%	45.61%	45.62%	45.42%	45.50%	44.84%	45.67%
Kingsport Power Company	AEP	59.92%	59.94%	60.35%	59.56%	58.67%	59.00%	59.12%	57.96%	59.31%
Ohio Power Company	AEP	54.38%	53.94%	53.49%	52.12%	53.92%	54.34%	54.52%	53.43%	53.77%
Public Service Company of Oklahoma	AEP	49.69%	48.93%	48.40%	48.52%	48.56%	47.51%	45.21%	46.45%	47.91%
Southwestern Electric Power Company	AEP	50.42%	49.27%	48.55%	51.85%	51.99%	50.32%	49.58%	49.15%	50.14%
Wheeling Power Company	AEP	75.36%	73.26%	70.78%	67.87%	67.88%	66.34%	65.53%	64.89%	68.99%
Cleco Power LLC	CNL	49.77%	50.38%	48.38%	48.29%	47.52%	47.75%	46.98%	47.33%	48.30%
Empire District Electric Company	EDE	53.11%	52.50%	52.91%	52.29%	51.95%	50.96%	51.03%	50.93%	51.96%
Cleveland Electric Illuminating Company	FE	39.87%	39.44%	40.47%	42.30%	42.84%	42.26%	42.07%	42.72%	41.50%
Jersey Central Power & Light Company	FE	61.16%	60.81%	60.94%	60.71%	60.36%	59.42%	63.89%	63.70%	61.37%
Metropolitan Edison Company	FE	53.40%	53.37%	53.03%	52.55%	51.60%	50.71%	55.76%	59.42%	53.73%
Monongahela Power Company	FE	47.87%	46.13%	45.29%	43.96%	45.76%	41.18%	40.41%	45.45%	44.51%
Ohio Edison Company	FE	42.65%	42.09%	41.67%	40.81%	42.58%	40.91%	44.90%	46.83%	42.81%
Pennsylvania Electric Company	FE	44.99%	44.56%	44.17%	45.72%	44.20%	43.60%	44.55%	44.60%	44.55%
Pennsylvania Power Company	FE	60.92%	60.25%	59.48%	58.75%	59.55%	62.36%	61.57%	60.75%	60.45%
Potomac Edison Company	FE	47.78%	46.41%	45.22%	43.97%	43.69%	42.38%	39.50%	44.17%	44.14%
Toledo Edison Company	FE	38.93%	38.20%	37.78%	38.13%	39.73%	38.84%	39.24%	39.71%	38.82%
West Penn Power Company	FE	51.70%	50.15%	50.49%	49.61%	50.98%	49.68%	46.19%	53.34%	50.27%
Kansas City Power & Light Company	GXP	52.56%	51.73%	51.48%	51.59%	49.84%	54.41%	52.66%	52.90%	52.15%
KCP&L Greater Missouri Operations Company	GXP	58.09%	47.26%	52.24%	52.28%	52.42%	51.59%	54.52%	51.55%	52.49%
Hawaii Electric Light Company, Inc.	HE									
Hawaiian Electric Company, Inc.	HE	55.70%	55.36%	58.58%	57.06%	56.22%	55.85%	55.86%	55.83%	56.31%
Maui Electric Company, Limited	HE									
Idaho Power Co.	IDA	51.53%	50.37%	50.91%	50.59%	50.44%	48.95%	48.84%	46.61%	49.78%
Otter Tail Power Company	OTTR	50.35%	50.23%	50.48%	50.28%	53.36%	53.17%	53.24%	53.16%	51.78%
Arizona Public Service Company	PNW	56.30%	54.60%	54.36%	54.46%	52.06%	52.44%	52.57%	52.97%	53.72%
Atlantic City Electric Company	POM	42.49%	42.14%	41.99%	41.72%	41.71%	38.97%	41.55%	41.08%	41.46%
Delmarva Power & Light Company	POM	48.19%	45.19%	49.57%	48.93%	48.76%	49.89%	49.26%	48.56%	48.54%
Potomac Electric Power Company	POM	48.77%	48.52%	49.79%	49.39%	49.61%	48.98%	48.43%	48.12%	48.95%
Portland General Electric Company	POR	49.74%	49.47%	49.37%	48.94%	47.90%	47.78%	47.74%	46.83%	48.47%
Alabama Power Company	SO	47.52%	46.81%	45.57%	46.53%	47.29%	46.71%	46.46%	46.54%	46.68%
Georgia Power Company	SO	49.61%	47.90%	50.17%	51.73%	51.94%	50.73%	51.17%	51.32%	50.57%
Gulf Power Company	SO	48.73%	48.31%	48.35%	47.61%	47.79%	47.45%	47.52%	46.71%	47.81%
Mississippi Power Company	SO	46.17%	45.88%	41.82%	43.83%	57.54%	55.99%	57.21%	52.51%	50.12%
Kansas Gas and Electric Company	WR	59.27%	58.30%	57.85%	57.55%	57.70%	56.77%	56.52%	57.00%	57.62%
Westar Energy (KPL)	WR	61.32%	60.46%	62.26%	65.18%	63.63%	62.47%	61.96%	61.74%	62.38%

CAPITAL STRUCTURE ANALYSIS

LONG-TERM DEBT RATIO

Company	Ticker	2012 Q3	2012 Q2	2012 Q1	2011 Q4	2011 Q3	2011 Q2	2011 Q1	2010 Q4	Average
ALLETE, Inc.	ALE	45.59%	42.57%	40.64%	41.59%	42.25%	41.08%	41.27%	42.00%	42.13%
American Electric Power Company, Inc.	AEP	47.17%	47.82%	48.54%	47.06%	47.29%	49.15%	49.93%	50.02%	48.37%
Cleco Corporation	CNL	50.23%	49.62%	51.62%	51.71%	52.48%	52.25%	53.02%	52.67%	51.70%
Empire District Electric Company	EDE	46.89%	47.50%	47.09%	47.71%	48.05%	49.04%	48.97%	49.07%	48.04%
FirstEnergy Corporation	FE	51.07%	51.86%	52.15%	52.35%	51.87%	52.87%	52.19%	49.93%	51.79%
Great Plains Energy Inc.	GXP	44.67%	50.51%	48.14%	48.07%	48.87%	47.00%	46.41%	47.77%	47.68%
Hawaiian Electric Industries, Inc.	HE	44.30%	44.64%	41.42%	42.94%	43.78%	44.15%	44.14%	44.17%	43.69%
IDACORP, Inc.	IDA	48.47%	49.63%	49.09%	49.41%	49.56%	51.05%	51.16%	53.39%	50.22%
Otter Tail Corporation	OTTR	49.65%	49.77%	49.52%	49.72%	46.64%	46.83%	46.76%	46.84%	48.22%
Pepco Holdings, Inc.	POM	53.52%	54.72%	52.88%	53.32%	53.31%	54.05%	53.59%	54.08%	53.68%
Pinnacle West Capital Corporation	PNW	43.70%	45.40%	45.64%	45.54%	47.94%	47.56%	47.43%	47.03%	46.28%
Portland General Electric Company	POR	50.26%	50.53%	50.63%	51.06%	52.10%	52.22%	52.26%	53.17%	51.53%
Southern Company	SO	51.99%	52.78%	53.52%	52.57%	48.86%	49.78%	49.41%	50.73%	51.21%
Westar Energy, Inc.	WR	39.70%	40.62%	39.95%	38.64%	39.34%	40.38%	40.76%	40.63%	40.00%
MEAN		47.66%	48.43%	47.92%	47.98%	48.02%	48.39%	48.38%	48.68%	48.18%
MEDIAN		47.82%	49.62%	48.82%	48.74%	48.46%	49.10%	49.19%	49.50%	48.29%
LOW		39.70%	40.62%	39.95%	38.64%	39.34%	40.38%	40.76%	40.63%	40.00%
HIGH		53.52%	54.72%	53.52%	53.32%	53.31%	54.05%	53.59%	54.08%	53.68%

OPERATING COMPANIES

Company	Ticker	2012 Q3	2012 Q2	2012 Q1	2011 Q4	2011 Q3	2011 Q2	2011 Q1	2010 Q4	Average
ALLETE (Minnesota Power)	ALE	45.59%	42.57%	42.31%	43.08%	43.72%	41.90%	42.51%	43.18%	43.11%
Superior Water, Light and Power Company	ALE			38.97%	40.11%	40.78%	40.26%	40.03%	40.83%	40.16%
AEP Texas Central Company	AEP	49.95%	51.09%	54.22%	36.23%	39.16%	52.74%	55.01%	55.15%	49.19%
AEP Texas North Company	AEP	52.45%	52.76%	52.71%	53.07%	53.65%	53.92%	54.12%	54.48%	53.39%
Appalachian Power Company	AEP	55.18%	55.27%	55.38%	55.93%	55.81%	56.86%	58.47%	55.79%	56.09%
Indiana Michigan Power Company	AEP	50.39%	50.58%	50.45%	50.87%	50.90%	50.94%	51.14%	51.53%	50.85%
Kentucky Power Company	AEP	53.54%	53.88%	54.24%	54.39%	54.38%	54.58%	54.50%	55.16%	54.33%
Kingsport Power Company	AEP	40.08%	40.06%	39.65%	40.44%	41.33%	41.00%	40.88%	42.04%	40.69%
Ohio Power Company	AEP	45.62%	46.06%	46.51%	47.88%	46.08%	45.66%	45.48%	46.57%	46.23%
Public Service Company of Oklahoma	AEP	50.31%	51.07%	51.60%	51.48%	51.44%	52.49%	54.79%	53.55%	52.09%
Southwestern Electric Power Company	AEP	49.58%	50.73%	51.45%	48.15%	48.01%	49.68%	50.42%	50.85%	49.86%
Wheeling Power Company	AEP	24.64%	26.74%	29.22%	32.13%	32.12%	33.66%	34.47%	35.11%	31.01%
Cleco Power LLC	CNL	50.23%	49.62%	51.62%	51.71%	52.48%	52.25%	53.02%	52.67%	51.70%
Empire District Electric Company	EDE	46.89%	47.50%	47.09%	47.71%	48.05%	49.04%	48.97%	49.07%	48.04%
Cleveland Electric Illuminating Company	FE	60.13%	60.56%	59.53%	57.70%	57.16%	57.74%	57.93%	57.28%	58.50%
Jersey Central Power & Light Company	FE	38.84%	39.19%	39.06%	39.29%	39.64%	40.58%	36.11%	36.30%	38.63%
Metropolitan Edison Company	FE	46.60%	46.63%	46.97%	47.45%	48.40%	49.29%	44.24%	40.58%	46.27%
Monongahela Power Company	FE	52.13%	53.87%	54.71%	56.04%	54.24%	58.82%	59.59%	54.55%	55.49%
Ohio Edison Company	FE	57.35%	57.91%	58.33%	59.19%	57.42%	59.09%	55.10%	53.17%	57.19%
Pennsylvania Electric Company	FE	55.01%	55.44%	55.83%	54.28%	55.80%	56.40%	55.45%	55.40%	55.45%
Pennsylvania Power Company	FE	39.08%	39.75%	40.52%	41.25%	40.45%	37.64%	38.43%	39.25%	39.55%
Potomac Edison Company	FE	52.22%	53.59%	54.78%	56.03%	56.31%	57.62%	60.50%	55.83%	55.86%
Toledo Edison Company	FE	61.07%	61.80%	62.22%	61.87%	60.27%	61.16%	60.76%	60.29%	61.18%
West Penn Power Company	FE	48.30%	49.85%	49.51%	50.39%	49.02%	50.32%	53.81%	46.66%	49.73%
Kansas City Power & Light Company	GXP	47.44%	48.27%	48.52%	48.41%	50.16%	45.59%	47.34%	47.10%	47.85%
KCP&L Greater Missouri Operations Company	GXP	41.91%	52.74%	47.76%	47.72%	47.58%	48.41%	45.48%	48.45%	47.51%
Hawaii Electric Light Company, Inc.	HE									
Hawaiian Electric Company, Inc.	HE	44.30%	44.64%	41.42%	42.94%	43.78%	44.15%	44.14%	44.17%	43.69%
Maui Electric Company, Limited	HE									
Idaho Power Co.	IDA	48.47%	49.63%	49.09%	49.41%	49.56%	51.05%	51.16%	53.39%	50.22%
Otter Tail Power Company	OTTR	49.65%	49.77%	49.52%	49.72%	46.64%	46.83%	46.76%	46.84%	48.22%
Arizona Public Service Company	PNW	43.70%	45.40%	45.64%	45.54%	47.94%	47.56%	47.43%	47.03%	46.28%
Atlantic City Electric Company	POM	57.51%	57.86%	58.01%	58.28%	58.29%	61.03%	58.45%	58.92%	58.54%
Delmarva Power & Light Company	POM	51.81%	54.81%	50.43%	51.07%	51.24%	50.11%	50.74%	51.44%	51.46%
Potomac Electric Power Company	POM	51.23%	51.48%	50.21%	50.61%	50.39%	51.02%	51.57%	51.88%	51.05%
Portland General Electric Company	POR	50.26%	50.53%	50.63%	51.06%	52.10%	52.22%	52.26%	53.17%	51.53%
Alabama Power Company	SO	52.48%	53.19%	54.43%	53.47%	52.71%	53.29%	53.54%	53.46%	53.32%
Georgia Power Company	SO	50.39%	52.10%	49.83%	48.27%	48.06%	49.27%	48.83%	48.68%	49.43%
Gulf Power Company	SO	51.27%	51.69%	51.65%	52.39%	52.21%	52.55%	52.48%	53.29%	52.19%
Mississippi Power Company	SO	53.83%	54.12%	58.18%	56.17%	42.46%	44.01%	42.79%	47.49%	49.88%
Kansas Gas and Electric Company	WR	40.73%	41.70%	42.15%	42.45%	42.30%	43.23%	43.48%	43.00%	42.38%
Westar Energy (KPL)	WR	38.68%	39.54%	37.74%	34.82%	36.37%	37.53%	38.04%	38.26%	37.62%

EXHIBIT

AEB-10

PROXY GROUP DECOUPLING MECHANISMS

	State	Decoupling	Total Electric Customers (2011)	Notes
ALLETE, Inc.				
ALLETE (Minnesota Power)	MN	None	143,688	
Superior Water, Light and Power Company	WI	None	14,648	
American Electric Power Company, Inc.				
AEP Texas Central Company	TX	None	787,000	
AEP Texas North Company	TX	None	186,000	
Appalachian Power Company	VA	None	521,923	
	WV	None	439,206	
Indiana Michigan Power Company	IN	Partial	454,952	[1]
	MI	None	127,844	
Kentucky Power Company	KY	Partial	173,642	[2]
Kingsport Power Company	TN	None	47,436	
Ohio Power Company	OH	Full	1,459,876	[3]
Public Service Company of Oklahoma	OK	Partial	532,395	[4]
Southwestern Electric Power Company	AR	Partial	113,656	[5]
	LA	Full	227,287	[6]
	TX	None	180,658	
Wheeling Power Company	WV	None	41,099	
Cleco Corporation				
Cleco Power LLC	LA	None	280,857	
Empire District Electric Company	AR	None	4,333	
	KS	None	9,927	
	MO	None	147,219	
	OK	Partial	4,727	[7]
FirstEnergy Corp.				
Cleveland Electric Illuminating Company	OH	Partial	748,935	[8]
Jersey Central Power & Light Company	NJ	None	1,099,194	
Metropolitan Edison Company	PA	None	552,631	
Monongahela Power Company	WV	None	386,819	
Ohio Edison Company	OH	Partial	1,034,534	[8]
Pennsylvania Electric Company	NY	None	3,780	
	PA	None	582,091	
Pennsylvania Power Company	PA	None	160,250	
Potomac Edison Company	MD	None	252,769	
	WV	None	136,045	
Toledo Edison Company	OH	Partial	309,020	[8]
West Penn Power Company	PA	None	717,269	
Great Plains Energy Inc.				
Kansas City Power & Light Company	KS	None	240,636	
	MO	None	271,446	
KCP&L Greater Missouri Operations Company	MO	Partial	312,684	*Pending* [9]
Hawaiian Electric Industries, Inc.				
Hawaii Electric Light Company, Inc.	HI	Full	80,807	[10]
Hawaiian Electric Company, Inc.	HI	Full	296,800	[11]
Maui Electric Company, Limited	HI	Full	67,993	[12]
IDACORP, Inc.				
Idaho Power Co.	ID	Full	475,147	[13]
	OR	None	18,385	
Otter Tail Corporation				
Otter Tail Power Company	MN	None	59,486	
	ND	None	57,050	
	SD	None	11,452	
Pepco Holdings, Inc.				
Atlantic City Electric Company	NJ	None	547,762	
Delmarva Power & Light Company	DE	Full	301,542	[14]

PROXY GROUP DECOUPLING MECHANISMS

	State	Decoupling	Total Electric Customers (2011)	Notes
	MD	Full	199,456	[15]
Potomac Electric Power Company	DC	Full	255,948	[16]
	MD	Full	531,189	[15]
Pinnacle West Capital Corporation				
Arizona Public Service Company	AZ	Partial	1,120,236	[17]
Portland General Electric Company	OR	Partial	823,171	[18]
Southern Company				
Alabama Power Company	AL	Full	1,434,487	[19]
Georgia Power Company	GA	Partial	2,360,487	[20]
Gulf Power Company	FL	None	432,401	
Mississippi Power Company	MS	Full	185,768	[21]
Westar Energy, Inc.				
Kansas Gas and Electric Company	KS	Partial	317,580	[22]
Westar Energy (KPL)	KS	Partial	369,106	[22]

Operating Companies with Decoupling:	14,191,425
Total:	22,652,729
	62.6%

Notes:
[1] Regulatory Research Associates, "Adjustment Clauses and Rate Riders", March 21, 2012, at 14
[2] Regulatory Research Associates, "Adjustment Clauses and Rate Riders", March 21, 2012, at 16
[3] Public Utilities Commission of Ohio, Case No. 11-351-EL-AIR et al, Opinion and Order, December 14, 201
[4] Regulatory Research Associates, "Adjustment Clauses and Rate Riders", March 21, 2012, at 22
[5] Regulatory Research Associates, "Adjustment Clauses and Rate Riders", March 21, 2012, at 11
[6] Southwestern Electric Power Company, Louisiana Tariff, Formula Rate Plan;
adjusts rates annually to maintain earned ROE between 10.015% and 11.115% (extension pending)
[7] Empire District Electric Company, Oklahoma Tariff, Demand Side Management Cost Recovery Rider
[8] Regulatory Research Associates, "Adjustment Clauses and Rate Riders", March 21, 2012, at 21
[9] KCP&L Greater Missouri Operations Company, Case No. EO-2012-0009, Application for Approval of Dem
Side Programs and for Authority to Establish a Demand-Side Programs Investment Mechanism, Decembe
[10] Public Utilities Commission of Hawaii, Docket No. 2009-0164, Decision and Order No. 30168, February 8
[11] Public Utilities Commission of Hawaii, Docket No. 2008-0083, Final Decision and Order, December 29, 2
[12] Public Utilities Commission of Hawaii, Docket No. 2009-0163, Decision and Order No. 30365, May 2, 201
[13] IDACORP, Inc., Form 10-K for the fiscal year ended December 31, 2011, at 18
[14] Pepco Holdings, Inc., Form 10-K for the fiscal year ended December 31, 2011, at 158
[15] Regulatory Research Associates, "Adjustment Clauses and Rate Riders", March 21, 2012, at 5
[16] Regulatory Research Associates, "Adjustment Clauses and Rate Riders", March 21, 2012, at 3
[17] Arizona Corporation Commission, Docket No. E-01345A-11-0224, Decision No. 73183, May 24, 2012
[18] Regulatory Research Associates, "Adjustment Clauses and Rate Riders", March 21, 2012, at 23
[19] Alabama Power Company, Tariff, Rate RSE - Rate Stabilization and Equalization Factor;
adjusts rates annually to maintain earned ROE between 13.00% and 14.50%
[20] Georgia Public Service Commission, Docket No. 31958, Final Order, December 21, 2010, at 11;
if the company projects that its earned ROE will be less than 10.25%, it may petition the Commission for t
implementation of an Interim Cost Recovery tariff which will adjust the company's earnings back to 10.25'
[21] Mississippi Power Company, Tariff, Performance Evaluation Plan - Rate Schedule "PEP-5";
adjusts rates annually to maintain earned ROE within range of no change determined by ROE formula an
[22] Regulatory Research Associates, "Adjustment Clauses and Rate Riders", March 21, 2012, at 15

PROXY GROUP CAPITAL TRACKER MECHANISMS

	State	Capital Tracker	Total Electric Customers (2011)	Notes
ALLETE, Inc.				
ALLETE (Minnesota Power)	MN	Rider For Transmission Cost Recovery	143,688	[1]
Superior Water, Light and Power Company	WI	None	14,648	
American Electric Power Company, Inc.				
AEP Texas Central Company	TX	Schedule TCRF - Transmission Cost Recovery Factor	787,000	[2]
AEP Texas North Company	TX	Schedule TCRF - Transmission Cost Recovery Factor - ERCOT System	186,000	[3]
Appalachian Power Company	VA	Transmission Rate Adjustment Clause Rider; Environmental & Reliability Cost Recovery Surcharge	521,923	[4]
	WV	Construction/765 kV Surcharge	439,206	[5]
Indiana Michigan Power Company	IN	Environmental Compliance Cost Rider	454,952	[6]
	MI	None	127,844	
Kentucky Power Company	KY	Environmental Surcharge	173,642	[7]
Kingsport Power Company	TN	None	47,436	
Ohio Power Company	OH	Transmission Cost Recovery Rider	1,459,876	[8]
Public Service Company of Oklahoma	OK	Southwest Power Pool Transmission Cost Tariff	532,395	[9]
Southwestern Electric Power Company	AR	Alternative Generation Recovery Rider	113,656	[10]
	LA	None	227,287	
	TX	Transmission Cost of Service Mechanism	180,658	[11]
Wheeling Power Company	WV	Construction/765 kV Surcharge	41,099	[12]
Cleco Corporation				
Cleco Power LLC	LA	Infrastructure and Incremental Costs Recovery	280,857	[13]
El Paso Electric Company	NM	None	91,031	
	TX	Transmission Cost of Service Mechanism	287,516	[11]
Empire District Electric Company	AR	Transmission Cost Recovery Rider	4,333	[14]
	KS	None	9,927	
	MO	None	147,219	
	OK	Transmission Cost Recovery	4,727	[15]
FirstEnergy Corp.				
Cleveland Electric Illuminating Company	OH	Transmission and Ancillary Services Rider; Advanced Metering Infrastructure / Modern Grid Rider; Delivery Service Improvement Rider; Delivery Capital Recovery Rider	748,935	[16]
Jersey Central Power & Light Company	NJ	None	1,099,194	[17]
Metropolitan Edison Company	PA	Transmission Service Charge; Smart Meter Technologies Charge Rider	552,631	[18]
Monongahela Power Company	WV	None	386,819	
Ohio Edison Company	OH	Transmission and Ancillary Services Rider; Advanced Metering Infrastructure / Modern Grid Rider; Delivery Service Improvement Rider; Delivery Capital Recovery Rider	1,034,534	[19]
Pennsylvania Electric Company	NY	None	3,780	
	PA	Transmission Service Charge; Smart Meter Technologies Charge Rider	582,091	[20]
Pennsylvania Power Company	PA	MTEP and MISO Exit Fees and PJM Integration Charges; PJM RTEP Charges; Smart Meter Technologies Charge Rider	160,250	[21]
Potomac Edison Company	MD	None	252,769	
	WV	Environmental Control Charge	136,045	[22]
Toledo Edison Company	OH	Transmission and Ancillary Services Rider; Advanced Metering Infrastructure / Modern Grid Rider; Delivery Service Improvement Rider; Delivery Capital Recovery Rider	309,020	[23]
West Penn Power Company	PA	Transmission Service Charge Rider; Smart Meter Technologies Surcharge	717,269	[24]
Great Plains Energy Inc.				
Kansas City Power & Light Company	KS	None	240,636	
	MO	None	271,446	
KCP&L Greater Missouri Operations Company	MO	None	312,684	
Hawaiian Electric Industries, Inc.				
Hawaii Electric Light Company, Inc.	HI	Renewable Energy Infrastructure Program Surcharge	80,807	[25]
Hawaiian Electric Company, Inc.	HI	Renewable Energy Infrastructure Program Surcharge	296,800	[25]
Maui Electric Company, Limited	HI	Renewable Energy Infrastructure Program Surcharge	67,993	[25]
IDACORP, Inc.				
Idaho Power Co.	ID	None	475,147	
	OR	None	18,385	
Otter Tail Corporation				
Otter Tail Power Company	MN	Transmission Cost Recovery Rider	59,486	[26]
	ND	Transmission Cost Recovery Rider	57,050	[26]
	SD	Transmission Cost Recovery Rider	11,452	[26]
Pepco Holdings, Inc.				
Atlantic City Electric Company	NJ	Infrastructure Investment Surcharge	547,762	[27]
Delmarva Power & Light Company	DE	Transmission Service Charge	301,542	[28]
	MD	None	199,456	
Potomac Electric Power Company	DC	None	255,948	
	MD	None	531,189	
Pinnacle West Capital Corporation				
Arizona Public Service Company	AZ	Transmission Cost Adjustment; Environmental Improvement Surcharge	1,120,236	[29]
Portland General Electric Company	OR	Renewable Resources Automatic Adjustment Clause	823,171	[30]

PROXY GROUP CAPITAL TRACKER MECHANISMS

	State	Capital Tracker	Total Electric Customers (2011)	Notes
Southern Company				
Alabama Power Company	AL	Adjustment for Commercial Operation of Certificated New Plant	1,434,487	[31]
Georgia Power Company	GA	Environmental Compliance Cost Recovery Schedule; Nuclear Construction Cost Recovery	2,360,487	[32]
Gulf Power Company	FL	Environmental Cost Recovery Clause	432,401	[33]
Mississippi Power Company	MS	Environmental Compliance Overview Plan	185,768	[34]
Westar Energy, Inc.				
Kansas Gas and Electric Company	KS	Transmission Delivery Charge; Environmental Cost Recovery Rider	317,580	[35]
Westar Energy (KPL)	KS	Transmission Delivery Charge; Environmental Cost Recovery Rider	369,106	[35]

Operating Companies with Capital Trackers:	18,318,431
Total:	23,031,276
	79.5%

Notes:

[1] Minnesota Power, Electric Rate Book, Rider for Transmission Cost Recovery
[2] AEP Texas Central Company, Tariff for Retail Delivery Service, Schedule TCRF - Transmission Cost Recovery Factor
[3] AEP Texas North Company, Tariff for Retail Delivery Service, Schedule TCRF - Transmission Cost Recovery Factor
[4] Appalachian Power Company, Virginia S.C.C. Tariff No. 24, Environmental and Reliability Cost Recovery Surcharge and Transmission Rate Adjustment Clause Rider
Virginia State Corporation Commission, Case No. PUE-2009-00031, Final Order, October 6, 2009
[5] Appalachian Power Company, P.S.C. W.VA. Tariff No. 13, Construction Surcharge
[6] Indiana Michigan Power Company, I.U.R.C. NO. 15 Tariff, Environmental Compliance Cost Rider
[7] Kentucky Power Company, Schedule of Tariffs, Environmental Surcharge
[8] Ohio Power Company, P.U.C.O. No. 20, Transmission Cost Recovery Rider
[9] Public Service Company of Oklahoma, Riders Schedules, Southwest Pool Transmission Cost Tariff
[10] Southwestern Electric Power Company, Arkansas P.S.C. Tariff, Alternative Generation Recovery Rider
[11] Regulatory Research Associates, "Adjustment Clauses and Rate Riders", March 21, 2012, at 26
[12] Wheeling Power Company, P.S.C. W.VA. Tariff No. 18, Construction Surcharge
[13] Louisiana Public Service Commission, Docket No. U-30689, Order, October 28, 2010, at 12
[14] Empire District Electric Company, Arkansas P.S.C. Tariff, Transmission Cost Recovery Rider
[15] Empire District Electric Company, Oklahoma Tariff, Residential Service - Schedule RG
[16] Cleveland Electric Illuminating Company, Schedule of Rates for Electric Service, Transmission and Ancillary Services Rider;
Advanced Metering Infrastructure / Modern Grid Rider; Delivery Service Improvement Rider; Delivery Capital Recovery Rider
[17] Regulatory Research Associates, "Adjustment Clauses and Rate Riders", March 21, 2012, at 20
[18] Metropolitan Edison Company, PA P.U.C. Electric Service Tariff, Transmission Service Charge and Smart Meter Technologies Charge Rider
[19] Ohio Edison Company, P.U.C.O. No. 11, Schedule of Rates for Electric Service, Transmission and Ancillary Services Rider;
Advanced Metering Infrastructure / Modern Grid Rider; Delivery Service Improvement Rider; Delivery Capital Recovery Rider
[20] Pennsylvania Electric Company, Electric Service Tariff, Transmission Service Charge and Smart Meter Technologies Charge Rider
[21] Pennsylvania Power Company, Schedule of Rates, Rules and Regulations for Electric Service, MTEP and MISO Exit Fees and PJM Integration Charges;
PJM RTEP Charges; Smart Meter Technologies Charge Rider
[22] Public Service Commission of West Virginia, Case No. 05-0780-E-PC, Commission Order, September 30, 2009
[23] Toledo Edison Company, Schedule of Rates for Electric Service, Transmission and Ancillary Services Rider;
Advanced Metering Infrastructure / Modern Grid Rider; Delivery Service Improvement Rider; Delivery Capital Recovery Rider
[24] West Penn Power Company, Rate Schedules and Rules and Regulations for Electric Service, Transmission Service Charge Rider and Smart Meter Technologies S
[25] Public Utilities Commission of Hawaii, Docket No. 2007-0416, Decision and Order, December 30, 2009
[26] Otter Tail Power Company, Electric Rate Schedule, Transmission Cost Recovery Rider
[27] Atlantic City Electric Company, Tariff for Electric Service, Infrastructure Investment Surcharge
[28] Delaware Public Service Commission, PSC Docket No. 12-284, Order No. 8193, July 17, 2012
[29] Arizona Public Service Company, Tariff, Transmission Cost Adjustment and Adjustment Schedule EIS - Environmental Improvement Surcharge
Arizona Corporation Commission, Docket No. E-01345A-12-0175, Decision No. 73262, July 30, 2012
[30] Portland General Electric Company, Tariff, Schedule 122 - Renewable Resources Automatic Adjustment Clause
[31] Alabama Power Company, Tariff, Rate CNP - Adjustment for Commercial Operation of Certificated New Plant
[32] Georgia Power Company, Tariff, Environmental Compliance Cost Recovery Schedule "ECCR-2" and Nuclear Construction Cost Recovery Schedule "NCCR-2"
[33] Gulf Power Company, Tariff, Rate Schedule ECR - Environmental Cost Recovery Clause
[34] Mississippi Power Company, Tariff, Environmental Compliance Overview Plan - Rate Schedule "ECO-2"
[35] Westar Energy, Tariff, Transmission Delivery Charge and Environmental Cost Recovery Rider

EXHIBIT

AEB-11

UNS ELECTRIC
FAIR VALUE RATE OF RETURN
ARIZONA STAFF METHODOLOGY

	Amount ($M)	Weighting	Weighted Amount ($M)	
Original Cost Rate Base (OCRB)	$ 216.6	50.00%	$ 108.3	[1]
Replacement Cost New, Depreciated Rate Base (RCND)	356.1	50.00%	178.0	[2]
Fair Value Rate Base (FVRB)			286.3	[3]
Appreciation Above OCRB			$ 69.8	[4]
FVRB / OCRB Multiple			1.32	

Capital	Amount ($M)	Percent	Cost Rate		Weighted Cost Rate	
Long-Term Debt	$ 102.7	35.85%	5.97%	[5]	2.14%	
Common Equity	113.9	39.79%	10.50%	[6]	4.18%	
Capital Financing OCRB	$ 216.6	75.64%			6.32%	
Appreciation Above OCRB Not Recognized on Utility's Books	69.8	24.36%	1.61%		0.39%	
Total	$ 286.3	100.00%			6.71%	[7]

[1] Direct Testimony of Dallas J. Dukes, Schedule B-1
[2] Direct Testimony of Dallas J. Dukes, Schedule B-1
[3] Equals [1] + [2]
[4] Equals [3] – OCRB
[5] Schedule D-1
[6] Equals Recommended ROE on OCRB
[7] Capital Financing OCRB + Return on Fair Value Increment

CALCULATION OF INFLATION RATE

Step 1	
Consumer Price Index (YoY % Change) [1]	
2014-2018	2.40%
2019-2023	2.40%
Average	2.40%
Consumer Price Index (All-Urban) [2]	
2012	2.28
2023	2.83
Compound Annual Growth Rate	1.98%
GDP Chain-type Price Index (2005=1.000) [2]	
2012	1.148
2023	1.373
Compound Annual Growth Rate	1.64%
Average Inflation Forecast	**2.01%**
Step 2	
Nominal U.S. Treasury Bond Yield, 30-year [1]	
2014-2018	5.10%
2019-2023	5.50%
	5.30%
Real Risk-Free Rate [3]	**3.23%**
50.0% of Real Risk-Free Rate [4]	**1.61%**

Notes:

[1] Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14.
[2] Energy Information Administration, Annual Energy Outlook 2012, Table 20
[3] Equals (5.30% + 1) / (1 + 2.01%) − 1
[4] Equals [3] x 50.0%

EXHIBIT

AEB-12

Comparable Transactions Analysis
Calculation of Transaction Premium over Corporate Value

Target	Buyer	[1] Date Announced	[2] Target Book Value Per Share	[3] Target Deal Value Per Share	[4] Premium to Equity	[5] Target Equity Ratio	[6] Transaction Premium to Corporate Value	[7] Implied UNSE Valuation ($M)
Central Vermont Public Service Corporation	Gaz Métro LP	06/23/11	$20.59	$35.25	71.20%	61.29%	43.64%	$311.1
Constellation Energy Group Inc.	Exelon Corporation	04/28/11	$39.65	$38.59	-2.68%	65.30%	-1.75%	$212.8
DPL Inc.	AES Corporation	04/19/11	$10.52	$30.00	185.18%	63.13%	116.90%	$469.7
Progress Energy Inc.	Duke Energy Corporation	01/10/11	$34.21	$46.47	35.86%	46.68%	16.74%	$252.8
NSTAR	Northeast Utilities	10/18/10	$18.60	$40.28	116.51%	51.31%	59.79%	$346.1
Allegheny Energy, Inc.	FirstEnergy Corporation	02/11/10	$18.36	$27.65	50.62%	42.53%	21.53%	$263.2
Florida Public Utilities Company	Chesapeake Utilities Corporation	04/17/09	$8.14	$12.47	53.23%	53.38%	28.41%	$278.1
Puget Energy, Inc.	Investor Consortium	10/25/07	$18.45	$30.00	62.63%	50.35%	31.54%	$284.9
Energy East Corporation	Iberdrola, S.A.	06/25/07	$20.21	$28.50	41.01%	48.37%	19.83%	$259.5
Aquila, Inc.	Great Plains Energy, Inc.	02/06/07	$3.49	$4.54	30.18%	48.89%	14.76%	$248.5
Duquesne Light Holdings, Inc	Macquarie Consortium	07/05/06	$8.41	$20.00	137.82%	46.83%	64.55%	$356.4
Green Mountain Power Corporation	Gaz Métro LP	06/21/06	$22.79	$35.00	53.60%	61.71%	33.08%	$288.2
KeySpan Corp.	National Grid Group PLC	02/25/06	$25.60	$42.00	64.05%	56.78%	36.37%	$295.3
Cinergy Corp.	Duke Energy Corporation	05/08/05	$22.71	$45.80	101.69%	55.23%	56.16%	$338.2
RGS Energy Group, Inc.	Energy East Corporation	02/16/01	$22.19	$39.50	78.04%	55.15%	43.04%	$309.8
Conectiv	Potomac Electric Power Company	02/12/01	$13.10	$25.00	90.91%	54.41%	49.46%	$323.7
Montana Power Company	NorthWestern Corporation	09/28/00	$9.86	$10.50	6.53%	77.59%	5.06%	$227.5
Niagara Mohawk Holdings, Inc.	National Grid Group PLC	09/04/00	$16.90	$19.00	12.39%	43.41%	5.38%	$228.2
GPU, Inc.	FirstEnergy Corporation	08/08/00	$27.01	$36.50	35.12%	54.35%	19.09%	$257.9
IPALCO Enterprises, Inc.	AES Corporation	07/15/00	$7.76	$25.00	222.03%	49.21%	109.27%	$453.2
Bangor Hydro-Electric Company	NS Power Holdings Inc.	06/29/00	$18.34	$26.50	44.46%	46.73%	20.77%	$261.6
LG&E Energy Corp.	Powergen PLC	02/27/00	$8.80	$24.85	182.35%	63.37%	115.56%	$466.8
MidAmerican Energy Holdings Company	Investor group	10/24/99	$15.59	$35.05	124.81%	20.58%	25.69%	$272.2
Unicom Corporation	PECO Energy Company	09/22/99	$23.51	$34.40	46.36%	49.01%	22.72%	$265.8
Florida Progress Corporation	Carolina Power & Light Company	08/22/99	$19.70	$54.00	174.08%	51.35%	89.39%	$410.2
CMP Group, Inc.	Energy East Corporation	06/14/99	$16.79	$29.50	75.72%	78.19%	59.20%	$344.8
TNP Enterprises, Inc.	Investor Group	05/24/99	$23.21	$44.00	89.59%	40.00%	35.84%	$294.2
Eastern Utilities Associates	National Grid Group PLC	02/01/99	$18.29	$31.46	72.05%	61.42%	44.25%	$312.4
New England Electric System	National Grid Group PLC	12/11/98	$29.30	$53.75	83.48%	62.49%	52.16%	$329.5
PacifiCorp	Scottish Power PLC	12/06/98	$13.47	$25.13	86.56%	54.51%	47.19%	$318.8
Commonwealth Energy System	BEC Energy	12/05/98	$20.75	$44.10	112.58%	54.79%	61.68%	$350.2
CILCORP Inc	AES Corporation	11/23/98	$26.24	$65.00	147.71%	62.91%	92.92%	$417.8
MidAmerican Energy Holdings Company	CalEnergy Company, Inc.	08/11/98	$12.99	$27.15	109.07%	25.20%	27.49%	$276.1
Orange and Rockland Utilities, Inc.	Consolidated Edison, Inc.	05/10/98	$27.92	$58.50	109.52%	60.21%	65.94%	$359.4
Nevada Power Company	Sierra Pacific Resources	04/29/98	$16.33	$26.00	59.20%	52.88%	31.30%	$284.4
KU Energy Corporation	LG&E Energy Corporation	05/20/97	$17.29	$40.71	135.48%	56.38%	76.39%	$382.0

	Transaction Premium to Corporate Value	Implied UNSE Valuation ($M)
Min:	-1.75%	$212.8
Max:	116.90%	$469.7
Mean:	45.59%	$315.3
Median:	39.70%	$302.6
Std. Dev.:	30.22%	$65.4
Count:	36	36

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional
[3] Source: SEC Filings
[4] Equals ([3] – [2]) / [2]
[5] Source: Bloomberg Professional
[6] Equals [4] x [5]
[7] Equals UNS Electric's OCRB x (1 + [6])

AEB

ATTACHMENT A

Ann E. Bulkley
Vice President

Ms. Bulkley has over has nearly two decades of management and economic consulting experience in the energy industry. Ms. Bulkley has extensive state and federal regulatory experience on both electric and natural gas issues including rate of return, cost of equity and capital structure issues. Ms. Bulkley has worked on acquisition teams with investors seeking to acquire utility assets, providing valuation services including an understanding of regulation, market expected returns, and the assessment of utility risk factors. In addition, Ms. Bulkley has over 15 years of valuation experience assisting clients with valuations of public utility and industrial properties for ratemaking, purchase and sale considerations, ad valorem tax assessments, and accounting and financial purposes.

REPRESENTATIVE PROJECT EXPERIENCE

Regulatory Analysis and Ratemaking

Ms. Bulkley has provided a range of advisory services relating to regulatory policy analysis and many aspects of utility ratemaking. Specific services have included: cost of capital and return on equity testimony, cost of service and rate design analysis and testimony, development of ratemaking strategies; development of merchant function exit strategies; analysis and program development to address residual energy supply and/or provider of last resort obligations; stranded costs assessment and recovery; performance-based ratemaking analysis and design; and many aspects of traditional utility ratemaking (e.g., rate design, rate base valuation).

Cost of Capital

Ms. Bulkley has been instrumental in developing Concentric's cost of capital practice including developing the analytical foundation, providing strategic advice to expert witnesses, counsel and company staff and providing expert testimony. Ms. Bulkley has prepared cost of capital testimony and supporting analysis for at least forty Federal and State regulatory proceedings over the past five years. Representative projects have included:

- Northern States Power Company: Before the North Dakota Public Service Commission, provided expert testimony on the cost of capital for the company's North Dakota electric utility operations.
- WE Energies: Before the Michigan Public Service Commission, provided expert testimony in support of the company's cost of capital for its electric utility operations.
- CenterPoint Energy: Provided analytical support and testimony development for Concentric expert witnesses in seven rate proceedings for electric and natural gas operations in Arkansas, Minnesota, Oklahoma and Texas.
- Ameren: Provided analytical support and testimony development for Concentric expert witnesses in four rate proceedings for electric and natural gas operations in Illinois and Missouri.
- Potomac Edison Power Company: Provided analytical support and testimony development for Concentric expert witnesses in six rate proceedings in Delaware, Maryland, New Jersey, and Washington DC.

- In addition to the specific cases listed above, Ms. Bulkley has provided testimony strategy as well as analytical support on cost of capital in several cases in the following states: Arizona, Colorado, Connecticut, Massachusetts, Minnesota, New Mexico, New York, North Carolina, South Carolina, South Dakota, Virginia, and Utah.

- Portland Natural Gas Transmission: Provided testimony strategy as well as analytical support for cost of capital testimony before the Federal Energy Regulatory Commission.

Valuation

Ms. Bulkley has provided valuation services to utility clients, unregulated generators and private equity clients for a variety of purposes including ratemaking, fair value, ad valorem tax, litigation and damages, and acquisition. In these assignments, Ms. Bulkley has relied on the traditional approaches to valuation including income, cost and comparable market transactions analyses as well as other simulation based valuation methodologies.

Representative projects/clients have included:

- Prepared fair value rate base analyses for Northern Indiana Public Service Company for several electric rate proceedings. Valuation approaches used in this project included income, cost and comparable sales approaches.

- Northern Indiana Fuel and Light: Provided expert testimony regarding the fair value of the company's natural gas distribution system assets. Valuation relied on cost approach.

- Kokomo Gas: Provided expert testimony regarding the fair value of the company's natural gas distribution system assets. Valuation relied on cost approach.

- Confidential Utility Client: Prepared valuation of fossil and nuclear generation assets for financing purposes for regulated utility client.

- Prepared a valuation of numerous generation assets for a large energy utility to be used for strategic planning purposes. Valuation approach included an income approach, a real options analysis and a risk analysis.

- Assisted clients in the restructuring of NUG contracts through the valuation of the underlying assets. Performed analysis to determine the option value of a plant in a competitively priced electricity market following the settlement of the NUG contract. Assisted clients in implementing generation divestiture programs. Acted as a liaison between the bidders and the seller in the divestiture process. Provided documentation, detailed due diligence and marketing support. Participated in site tour development, training and implementation.

- Prepared a valuation of numerous purchase power contracts for large electric utilities in the sale of purchase power contracts. Assignment included an assessment of the regional power market, analysis of the underlying purchase power contracts, a traditional discounted cash flow valuation approach, as well as a risk analysis. Analyzed bids from potential acquirers using income and risk analysis approached. Prepared an assessment of the credit issues and VAR for the selling utility.

- Prepared a valuation of several FirstEnergy generating facilities using the income, cost, and comparable sales approaches as well as risk analysis. Prepared an independent report.

- Prepared valuation of fossil generating assets to establish the value of assets transferred from utility property.

- Conducted due diligence on an electric transmission and distribution system as part of a buy-side due diligence team.

- Provided analytical support for and prepared appraisal reports of generation assets to be used in ad valorem tax disputes.

- Provided analytical support and prepared testimony regarding the valuation of electric distribution system assets in five communities in a condemnation proceeding.

- Valued purchase power agreements in the transfer of assets to a deregulated electric market.

Ratemaking

Ms. Bulkley has assisted several clients across with analysis to support investor-owned and municipal utility clients in the preparation of rate cases.

- Assisted several investor-owned and municipal clients on cost allocation and rate design issues including the development of expert testimony supporting recommended rate alternatives.

- Worked with Canadian regulatory staff to establish filing requirements for a rate review of a newly regulated electric utility. Analyzed and evaluated rate application. Attended hearings and conducted investigation of rate application for regulatory staff. Prepared, supported and defended recommendations for revenue requirements and rates for the company. Developed rates for gas utility for transportation program and ancillary services.

Strategic and Financial Advisory Services

Ms. Bulkley has assisted several clients across North America with analytically based strategic planning, due diligence and financial advisory services.

Representative projects include:

- Preparation of feasibility studies for bond issuances for municipal and district steam clients.

- Assisted in the development of a generation strategy for an electric utility. Analyzed various NERC regions to identify potential market entry points. Evaluated potential competitors and alliance partners. Assisted in the development of gas and electric price forecasts. Developed a framework for the implementation of a risk management program.

- Assisted clients in identifying potential joint venture opportunities and alliance partners. Contacted interviewed, and evaluated potential alliance candidates based on company-established criteria for several LDCs and marketing companies. Worked with several LDCs and unregulated marketing companies to establish alliances to enter into the retail energy market. Prepared testimony in support of several merger cases and participated in the regulatory process to obtain approval for these mergers.

- Assisted clients in several buy-side due diligence efforts, providing regulatory insight and developing valuation recommendations for acquisitions of both electric and gas properties.

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2002 – Present)
Vice President
Assistant Vice President
Project Manager

Navigant Consulting, Inc. (1995 – 2002)
Project Manager

Cahners Publishing Company (1995)
Economist

EDUCATION

M.A., Economics, Boston University, 1995
B.A., Economics and Finance, Simmons College, 1991

EXPERT TESTIMONY OF ANN E. BULKLEY

SPONSOR	DATE	CASE/APPLICANT	DOCKET / CASE NO.	SUBJECT
Indiana Utility Regulatory Commission				
Kokomo Gas And Fuel Company	09/10	Kokomo Gas And Fuel Company	Docket No. 43942	Fair Value
Northern Indiana Fuel And Light Company, Inc.	09/10	Northern Indiana Fuel And Light Company, Inc.	Docket No. 43943	Fair Value
Massachusetts Department of Public Utilities				
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
Michigan Public Service Commission				
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
North Dakota Public Service Commission				
Northern States Power Company-MN	12/12	Northern States Power Company-MN	C-PU-12-813	Return on Equity
Northern States Power Company-MN	12/10	Northern States Power Company-MN	C-PU-10-657	Return on Equity

U.S. DEPARTMENT OF THE TREASURY

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2012 ▼ Go

Date	1 Mo	2 Mo	3 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
01/03/12	0.01	N/A	0.02	0.06	0.12	0.27	0.40	0.89	1.41	1.97	2.67	2.98
01/04/12	0.01	N/A	0.02	0.06	0.12	0.25	0.40	0.89	1.43	2.00	2.71	3.03
01/05/12	0.01	N/A	0.02	0.07	0.11	0.27	0.40	0.88	1.43	2.02	2.74	3.06
01/06/12	0.02	N/A	0.02	0.05	0.12	0.25	0.40	0.86	1.40	1.98	2.70	3.02
01/09/12	0.01	N/A	0.01	0.05	0.11	0.26	0.38	0.85	1.39	1.98	2.70	3.02
01/10/12	0.01	N/A	0.02	0.05	0.11	0.24	0.37	0.86	1.41	2.00	2.71	3.04
01/11/12	0.01	N/A	0.02	0.05	0.11	0.24	0.34	0.82	1.34	1.93	2.63	2.96
01/12/12	0.02	N/A	0.03	0.06	0.11	0.22	0.35	0.84	1.37	1.94	2.65	2.97
01/13/12	0.02	N/A	0.03	0.06	0.10	0.24	0.34	0.80	1.32	1.89	2.59	2.91
01/17/12	0.02	N/A	0.03	0.06	0.11	0.21	0.33	0.79	1.31	1.87	2.57	2.89
01/18/12	0.02	N/A	0.03	0.07	0.11	0.24	0.35	0.82	1.34	1.92	2.63	2.96
01/19/12	0.04	N/A	0.05	0.07	0.11	0.26	0.36	0.87	1.43	2.01	2.72	3.05
01/20/12	0.03	N/A	0.05	0.07	0.11	0.26	0.38	0.91	1.47	2.05	2.78	3.10
01/23/12	0.03	N/A	0.04	0.07	0.12	0.26	0.39	0.93	1.51	2.09	2.82	3.15
01/24/12	0.02	N/A	0.04	0.07	0.12	0.24	0.39	0.92	1.49	2.08	2.82	3.15
01/25/12	0.03	N/A	0.04	0.07	0.12	0.22	0.34	0.81	1.40	2.01	2.78	3.13
01/26/12	0.04	N/A	0.05	0.08	0.12	0.22	0.31	0.77	1.34	1.96	2.74	3.10
01/27/12	0.05	N/A	0.06	0.08	0.12	0.22	0.32	0.75	1.31	1.93	2.71	3.07
01/30/12	0.05	N/A	0.05	0.08	0.12	0.22	0.31	0.73	1.27	1.87	2.64	2.99
01/31/12	0.04	N/A	0.06	0.08	0.13	0.22	0.30	0.71	1.24	1.83	2.59	2.94
02/01/12	0.05	N/A	0.06	0.09	0.13	0.23	0.31	0.72	1.27	1.87	2.65	3.01
02/02/12	0.07	N/A	0.08	0.10	0.14	0.23	0.31	0.71	1.25	1.86	2.64	3.01
02/03/12	0.06	N/A	0.08	0.10	0.14	0.23	0.33	0.78	1.35	1.97	2.76	3.13
02/06/12	0.04	N/A	0.08	0.10	0.14	0.24	0.32	0.76	1.32	1.93	2.71	3.08
02/07/12	0.06	N/A	0.08	0.11	0.14	0.25	0.35	0.82	1.39	2.00	2.78	3.14
02/08/12	0.06	N/A	0.09	0.11	0.15	0.27	0.35	0.82	1.39	2.01	2.78	3.14
02/09/12	0.06	N/A	0.09	0.12	0.15	0.27	0.38	0.86	1.43	2.04	2.83	3.20
02/10/12	0.05	N/A	0.09	0.12	0.15	0.27	0.36	0.81	1.36	1.96	2.75	3.11
02/13/12	0.06	N/A	0.11	0.14	0.15	0.29	0.40	0.85	1.40	1.99	2.78	3.14
02/14/12	0.09	N/A	0.12	0.15	0.18	0.29	0.40	0.81	1.34	1.92	2.70	3.06
02/15/12	0.09	N/A	0.11	0.13	0.18	0.29	0.38	0.81	1.34	1.93	2.72	3.09
02/16/12	0.04	N/A	0.10	0.13	0.17	0.29	0.42	0.87	1.41	1.99	2.78	3.14

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02/17/12	0.03	N/A	0.09	0.13	0.18	0.29	0.42	0.88	1.43	2.01	2.80	3.16
02/21/12	0.03	N/A	0.08	0.13	0.17	0.31	0.44	0.92	1.47	2.05	2.84	3.20
02/22/12	0.07	N/A	0.09	0.13	0.17	0.29	0.42	0.88	1.41	2.01	2.79	3.15
02/23/12	0.07	N/A	0.09	0.14	0.17	0.31	0.43	0.88	1.40	1.99	2.77	3.13
02/24/12	0.08	N/A	0.10	0.14	0.18	0.31	0.43	0.89	1.41	1.98	2.75	3.10
02/27/12	0.08	N/A	0.12	0.14	0.17	0.30	0.40	0.84	1.35	1.92	2.69	3.04
02/28/12	0.10	N/A	0.10	0.14	0.18	0.30	0.41	0.84	1.36	1.94	2.71	3.07
02/29/12	0.08	N/A	0.08	0.13	0.18	0.30	0.43	0.87	1.39	1.98	2.73	3.08
03/01/12	0.07	N/A	0.08	0.13	0.18	0.30	0.43	0.89	1.44	2.03	2.80	3.15
03/02/12	0.06	N/A	0.07	0.12	0.17	0.28	0.41	0.84	1.38	1.99	2.77	3.11
03/05/12	0.07	N/A	0.08	0.14	0.17	0.31	0.43	0.87	1.40	2.00	2.78	3.13
03/06/12	0.06	N/A	0.08	0.13	0.17	0.30	0.40	0.83	1.35	1.96	2.73	3.08
03/07/12	0.06	N/A	0.08	0.14	0.18	0.30	0.42	0.85	1.37	1.98	2.76	3.12
03/08/12	0.07	N/A	0.08	0.14	0.18	0.32	0.44	0.89	1.41	2.03	2.82	3.18
03/09/12	0.06	N/A	0.09	0.13	0.18	0.33	0.46	0.90	1.43	2.04	2.83	3.19
03/12/12	0.05	N/A	0.09	0.15	0.18	0.33	0.47	0.92	1.43	2.04	2.82	3.17
03/13/12	0.06	N/A	0.08	0.15	0.20	0.35	0.51	0.99	1.52	2.14	2.92	3.26
03/14/12	0.08	N/A	0.09	0.15	0.21	0.40	0.60	1.13	1.69	2.29	3.08	3.43
03/15/12	0.08	N/A	0.08	0.15	0.21	0.37	0.56	1.11	1.67	2.29	3.08	3.41
03/16/12	0.07	N/A	0.09	0.15	0.21	0.37	0.57	1.13	1.70	2.31	3.08	3.41
03/19/12	0.07	N/A	0.10	0.15	0.21	0.39	0.60	1.20	1.77	2.39	3.14	3.48
03/20/12	0.08	N/A	0.10	0.15	0.22	0.41	0.62	1.22	1.78	2.38	3.13	3.46
03/21/12	0.09	N/A	0.09	0.15	0.21	0.39	0.58	1.15	1.71	2.31	3.06	3.38
03/22/12	0.06	N/A	0.08	0.14	0.19	0.37	0.56	1.13	1.69	2.29	3.04	3.37
03/23/12	0.06	N/A	0.08	0.14	0.19	0.37	0.55	1.10	1.66	2.25	2.99	3.31
03/26/12	0.06	N/A	0.09	0.15	0.19	0.36	0.54	1.09	1.65	2.26	3.00	3.33
03/27/12	0.07	N/A	0.09	0.14	0.18	0.33	0.50	1.04	1.59	2.20	2.96	3.29
03/28/12	0.05	N/A	0.09	0.14	0.18	0.34	0.51	1.05	1.60	2.21	2.97	3.31
03/29/12	0.02	N/A	0.07	0.14	0.18	0.33	0.50	1.01	1.57	2.18	2.93	3.27
03/30/12	0.05	N/A	0.07	0.15	0.19	0.33	0.51	1.04	1.61	2.23	3.00	3.35
04/02/12	0.05	N/A	0.08	0.14	0.18	0.33	0.50	1.03	1.60	2.22	3.00	3.35
04/03/12	0.07	N/A	0.08	0.15	0.20	0.36	0.56	1.10	1.68	2.30	3.07	3.41
04/04/12	0.08	N/A	0.08	0.14	0.19	0.35	0.53	1.05	1.62	2.25	3.02	3.37
04/05/12	0.07	N/A	0.08	0.14	0.19	0.35	0.50	1.01	1.56	2.19	2.97	3.32
04/06/12	0.06	N/A	0.07	0.14	0.19	0.32	0.45	0.89	1.42	2.07	2.85	3.21
04/09/12	0.07	N/A	0.09	0.15	0.19	0.32	0.46	0.90	1.42	2.06	2.82	3.18
04/10/12	0.08	N/A	0.09	0.15	0.19	0.28	0.42	0.85	1.37	2.01	2.77	3.13
04/11/12	0.08	N/A	0.09	0.14	0.18	0.30	0.43	0.89	1.41	2.05	2.82	3.18
04/12/12	0.08	N/A	0.09	0.14	0.18	0.29	0.43	0.90	1.44	2.08	2.85	3.22
04/13/12	0.07	N/A	0.09	0.13	0.17	0.27	0.41	0.86	1.39	2.02	2.77	3.14
04/16/12	0.07	N/A	0.08	0.14	0.18	0.27	0.42	0.85	1.37	2.00	2.75	3.12
04/17/12	0.07	N/A	0.08	0.13	0.18	0.27	0.42	0.88	1.40	2.03	2.79	3.15
04/18/12	0.05	N/A	0.07	0.13	0.18	0.27	0.40	0.86	1.38	2.00	2.76	3.13
04/19/12	0.04	N/A	0.07	0.12	0.17	0.27	0.40	0.84	1.37	1.98	2.74	3.12
04/20/12	0.04	N/A	0.08	0.13	0.18	0.29	0.40	0.86	1.38	1.99	2.75	3.12
04/23/12	0.04	N/A	0.08	0.13	0.17	0.27	0.39	0.83	1.34	1.96	2.71	3.08
04/24/12	0.07	N/A	0.09	0.14	0.18	0.27	0.40	0.86	1.37	2.00	2.75	3.12
04/25/12	0.08	N/A	0.09	0.14	0.18	0.26	0.39	0.86	1.38	2.01	2.76	3.15
04/26/12	0.09	N/A	0.09	0.15	0.18	0.26	0.39	0.83	1.36	1.98	2.74	3.13

04/27/12	0.07	N/A	0.09	0.14	0.19	0.26	0.39	0.82	1.34	1.96	2.73	3.12
04/30/12	0.07	N/A	0.10	0.15	0.20	0.27	0.38	0.82	1.33	1.95	2.73	3.12
05/01/12	0.07	N/A	0.09	0.15	0.19	0.27	0.39	0.84	1.35	1.98	2.76	3.16
05/02/12	0.06	N/A	0.08	0.15	0.18	0.27	0.39	0.82	1.33	1.96	2.72	3.11
05/03/12	0.05	N/A	0.09	0.15	0.19	0.28	0.40	0.82	1.34	1.96	2.72	3.12
05/04/12	0.05	N/A	0.07	0.14	0.18	0.27	0.37	0.78	1.28	1.91	2.67	3.07
05/07/12	0.06	N/A	0.10	0.15	0.18	0.27	0.37	0.79	1.29	1.92	2.67	3.07
05/08/12	0.08	N/A	0.09	0.15	0.18	0.27	0.36	0.77	1.26	1.88	2.63	3.03
05/09/12	0.07	N/A	0.09	0.15	0.18	0.27	0.36	0.77	1.26	1.87	2.63	3.03
05/10/12	0.08	N/A	0.10	0.15	0.18	0.27	0.37	0.79	1.28	1.89	2.64	3.07
05/11/12	0.07	N/A	0.10	0.15	0.18	0.27	0.36	0.75	1.24	1.84	2.59	3.02
05/14/12	0.07	N/A	0.10	0.15	0.19	0.29	0.37	0.73	1.20	1.78	2.53	2.95
05/15/12	0.08	N/A	0.09	0.15	0.19	0.29	0.38	0.74	1.19	1.76	2.50	2.91
05/16/12	0.08	N/A	0.10	0.15	0.20	0.30	0.40	0.75	1.19	1.76	2.48	2.90
05/17/12	0.08	N/A	0.10	0.16	0.20	0.32	0.40	0.74	1.16	1.70	2.39	2.80
05/18/12	0.06	N/A	0.08	0.15	0.20	0.32	0.42	0.75	1.16	1.71	2.40	2.80
05/21/12	0.06	N/A	0.09	0.14	0.21	0.30	0.41	0.75	1.18	1.75	2.42	2.80
05/22/12	0.07	N/A	0.09	0.14	0.21	0.30	0.41	0.78	1.20	1.79	2.48	2.88
05/23/12	0.07	N/A	0.09	0.13	0.20	0.28	0.40	0.74	1.15	1.73	2.41	2.81
05/24/12	0.08	N/A	0.10	0.14	0.21	0.29	0.42	0.77	1.20	1.77	2.46	2.86
05/25/12	0.07	N/A	0.09	0.14	0.20	0.30	0.41	0.76	1.17	1.75	2.44	2.85
05/29/12	0.06	N/A	0.09	0.14	0.20	0.30	0.42	0.76	1.17	1.74	2.44	2.85
05/30/12	0.05	N/A	0.07	0.13	0.19	0.27	0.38	0.69	1.06	1.63	2.32	2.72
05/31/12	0.03	N/A	0.07	0.14	0.18	0.27	0.35	0.67	1.03	1.59	2.27	2.67
06/01/12	0.03	N/A	0.07	0.12	0.17	0.25	0.34	0.62	0.93	1.47	2.13	2.53
06/04/12	0.04	N/A	0.08	0.13	0.18	0.25	0.35	0.68	1.01	1.53	2.17	2.56
06/05/12	0.05	N/A	0.08	0.14	0.18	0.25	0.34	0.68	1.04	1.57	2.23	2.63
06/06/12	0.05	N/A	0.09	0.13	0.18	0.26	0.37	0.73	1.11	1.66	2.34	2.73
06/07/12	0.04	N/A	0.09	0.14	0.18	0.27	0.37	0.72	1.10	1.66	2.35	2.75
06/08/12	0.04	N/A	0.09	0.14	0.19	0.28	0.39	0.71	1.09	1.65	2.36	2.77
06/11/12	0.05	N/A	0.09	0.15	0.18	0.27	0.37	0.69	1.05	1.60	2.30	2.71
06/12/12	0.06	N/A	0.10	0.15	0.19	0.30	0.41	0.75	1.12	1.67	2.37	2.77
06/13/12	0.07	N/A	0.10	0.15	0.18	0.30	0.40	0.71	1.06	1.61	2.30	2.70
06/14/12	0.08	N/A	0.11	0.15	0.18	0.30	0.41	0.73	1.10	1.64	2.33	2.73
06/15/12	0.05	N/A	0.09	0.15	0.18	0.29	0.37	0.68	1.06	1.60	2.30	2.70
06/18/12	0.06	N/A	0.10	0.15	0.18	0.29	0.38	0.69	1.06	1.59	2.28	2.67
06/19/12	0.06	N/A	0.09	0.14	0.18	0.30	0.39	0.71	1.09	1.64	2.33	2.73
06/20/12	0.06	N/A	0.09	0.16	0.20	0.32	0.41	0.74	1.12	1.65	2.34	2.72
06/21/12	0.05	N/A	0.09	0.15	0.19	0.32	0.41	0.73	1.10	1.63	2.30	2.68
06/22/12	0.05	N/A	0.09	0.15	0.19	0.31	0.42	0.76	1.15	1.69	2.37	2.75
06/25/12	0.06	N/A	0.10	0.16	0.19	0.31	0.39	0.72	1.10	1.63	2.31	2.69
06/26/12	0.07	N/A	0.10	0.15	0.21	0.31	0.42	0.75	1.12	1.66	2.34	2.71
06/27/12	0.06	N/A	0.09	0.17	0.21	0.31	0.42	0.73	1.10	1.65	2.32	2.70
06/28/12	0.02	N/A	0.09	0.17	0.22	0.31	0.40	0.69	1.06	1.60	2.28	2.67
06/29/12	0.04	N/A	0.09	0.16	0.21	0.33	0.41	0.72	1.11	1.67	2.38	2.76
07/02/12	0.06	N/A	0.10	0.15	0.21	0.30	0.39	0.67	1.04	1.61	2.30	2.69
07/03/12	0.08	N/A	0.09	0.15	0.21	0.30	0.39	0.69	1.08	1.65	2.36	2.74
07/05/12	0.07	N/A	0.08	0.15	0.19	0.28	0.39	0.68	1.05	1.62	2.34	2.72
07/06/12	0.06	N/A	0.08	0.15	0.20	0.27	0.37	0.64	1.01	1.57	2.28	2.66

07/09/12	0.06	N/A	0.09	0.14	0.20	0.27	0.36	0.63	0.98	1.53	2.24	2.62
07/10/12	0.07	N/A	0.09	0.15	0.20	0.27	0.37	0.63	0.98	1.53	2.22	2.60
07/11/12	0.07	N/A	0.10	0.15	0.20	0.27	0.36	0.64	0.99	1.54	2.22	2.60
07/12/12	0.08	N/A	0.10	0.15	0.20	0.25	0.35	0.63	0.98	1.50	2.18	2.57
07/13/12	0.08	N/A	0.10	0.15	0.20	0.25	0.34	0.63	0.99	1.52	2.20	2.58
07/16/12	0.04	N/A	0.10	0.14	0.18	0.24	0.31	0.60	0.97	1.50	2.18	2.56
07/17/12	0.08	N/A	0.10	0.14	0.18	0.25	0.32	0.62	0.99	1.53	2.22	2.59
07/18/12	0.07	N/A	0.09	0.14	0.18	0.22	0.30	0.60	0.97	1.52	2.21	2.59
07/19/12	0.06	N/A	0.09	0.14	0.17	0.22	0.31	0.62	0.99	1.54	2.24	2.61
07/20/12	0.07	N/A	0.09	0.14	0.17	0.22	0.29	0.59	0.95	1.49	2.17	2.55
07/23/12	0.07	N/A	0.10	0.14	0.17	0.22	0.28	0.57	0.93	1.47	2.15	2.52
07/24/12	0.08	N/A	0.10	0.15	0.18	0.22	0.28	0.57	0.91	1.44	2.11	2.47
07/25/12	0.08	N/A	0.10	0.14	0.17	0.22	0.28	0.56	0.91	1.43	2.11	2.46
07/26/12	0.08	N/A	0.11	0.15	0.18	0.23	0.31	0.58	0.94	1.45	2.13	2.49
07/27/12	0.07	N/A	0.11	0.15	0.17	0.25	0.34	0.65	1.04	1.58	2.27	2.63
07/30/12	0.06	N/A	0.11	0.15	0.18	0.23	0.31	0.61	0.99	1.53	2.22	2.58
07/31/12	0.07	N/A	0.11	0.14	0.16	0.23	0.30	0.60	0.98	1.51	2.21	2.56
08/01/12	0.07	N/A	0.10	0.14	0.17	0.24	0.32	0.63	1.03	1.56	2.25	2.60
08/02/12	0.04	N/A	0.09	0.14	0.17	0.24	0.31	0.61	0.98	1.51	2.20	2.55
08/03/12	0.03	N/A	0.09	0.14	0.16	0.24	0.33	0.67	1.07	1.60	2.30	2.65
08/06/12	0.05	N/A	0.10	0.14	0.16	0.24	0.33	0.65	1.05	1.59	2.29	2.65
08/07/12	0.09	N/A	0.11	0.14	0.19	0.27	0.37	0.71	1.13	1.66	2.37	2.72
08/08/12	0.09	N/A	0.11	0.14	0.19	0.29	0.38	0.73	1.14	1.68	2.39	2.75
08/09/12	0.10	N/A	0.11	0.15	0.20	0.29	0.38	0.74	1.15	1.69	2.40	2.78
08/10/12	0.10	N/A	0.10	0.14	0.18	0.27	0.36	0.71	1.11	1.65	2.37	2.74
08/13/12	0.10	N/A	0.11	0.15	0.19	0.27	0.36	0.71	1.12	1.65	2.37	2.74
08/14/12	0.11	N/A	0.11	0.15	0.19	0.27	0.39	0.75	1.18	1.73	2.45	2.82
08/15/12	0.11	N/A	0.09	0.14	0.19	0.27	0.42	0.80	1.25	1.80	2.53	2.90
08/16/12	0.10	N/A	0.09	0.14	0.20	0.29	0.42	0.83	1.28	1.83	2.57	2.96
08/17/12	0.09	N/A	0.09	0.14	0.20	0.29	0.42	0.81	1.27	1.81	2.55	2.93
08/20/12	0.09	N/A	0.11	0.14	0.19	0.29	0.41	0.80	1.26	1.82	2.55	2.93
08/21/12	0.10	N/A	0.11	0.14	0.20	0.31	0.42	0.80	1.25	1.80	2.53	2.90
08/22/12	0.10	N/A	0.11	0.13	0.19	0.26	0.37	0.71	1.16	1.71	2.44	2.82
08/23/12	0.10	N/A	0.11	0.13	0.19	0.26	0.36	0.71	1.13	1.68	2.41	2.79
08/24/12	0.10	N/A	0.10	0.13	0.19	0.28	0.37	0.72	1.14	1.68	2.41	2.79
08/27/12	0.10	N/A	0.11	0.14	0.18	0.28	0.37	0.70	1.11	1.65	2.38	2.76
08/28/12	0.12	N/A	0.10	0.15	0.18	0.27	0.36	0.69	1.10	1.64	2.36	2.75
08/29/12	0.12	N/A	0.12	0.14	0.18	0.27	0.36	0.69	1.11	1.66	2.38	2.77
08/30/12	0.12	N/A	0.10	0.14	0.17	0.27	0.35	0.66	1.08	1.63	2.36	2.75
08/31/12	0.09	N/A	0.09	0.14	0.16	0.22	0.30	0.59	1.01	1.57	2.29	2.68
09/04/12	0.10	N/A	0.10	0.14	0.16	0.23	0.31	0.62	1.03	1.59	2.30	2.69
09/05/12	0.11	N/A	0.11	0.14	0.17	0.25	0.32	0.62	1.04	1.60	2.32	2.70
09/06/12	0.10	N/A	0.11	0.14	0.18	0.27	0.34	0.68	1.12	1.68	2.41	2.80
09/07/12	0.09	N/A	0.11	0.14	0.18	0.25	0.33	0.64	1.09	1.67	2.42	2.81
09/10/12	0.09	N/A	0.10	0.14	0.18	0.25	0.33	0.66	1.10	1.68	2.43	2.83
09/11/12	0.09	N/A	0.10	0.14	0.18	0.25	0.33	0.67	1.12	1.70	2.44	2.84
09/12/12	0.09	N/A	0.10	0.13	0.18	0.25	0.33	0.70	1.17	1.77	2.52	2.92
09/13/12	0.10	N/A	0.10	0.13	0.17	0.24	0.32	0.65	1.12	1.75	2.53	2.95
09/14/12	0.08	N/A	0.11	0.13	0.18	0.27	0.35	0.72	1.23	1.88	2.68	3.09

09/17/12	0.06	N/A	0.11	0.13	0.18	0.25	0.36	0.73	1.22	1.85	2.64	3.03
09/18/12	0.08	N/A	0.10	0.13	0.18	0.25	0.35	0.71	1.19	1.82	2.61	3.00
09/19/12	0.08	N/A	0.11	0.14	0.18	0.27	0.35	0.70	1.18	1.79	2.58	2.97
09/20/12	0.06	N/A	0.11	0.14	0.18	0.27	0.36	0.70	1.18	1.80	2.58	2.96
09/21/12	0.05	N/A	0.11	0.14	0.18	0.27	0.36	0.68	1.14	1.77	2.57	2.95
09/24/12	0.03	N/A	0.11	0.14	0.18	0.27	0.35	0.68	1.12	1.74	2.53	2.91
09/25/12	0.06	N/A	0.11	0.15	0.18	0.27	0.35	0.66	1.08	1.70	2.47	2.86
09/26/12	0.05	N/A	0.11	0.13	0.17	0.26	0.34	0.63	1.03	1.64	2.40	2.79
09/27/12	0.05	N/A	0.09	0.14	0.16	0.25	0.34	0.64	1.05	1.66	2.43	2.83
09/28/12	0.06	N/A	0.10	0.14	0.17	0.23	0.31	0.62	1.04	1.65	2.42	2.82
10/01/12	0.05	N/A	0.09	0.14	0.17	0.25	0.31	0.62	1.04	1.64	2.41	2.81
10/02/12	0.09	N/A	0.09	0.14	0.16	0.23	0.31	0.61	1.03	1.64	2.41	2.81
10/03/12	0.09	N/A	0.09	0.14	0.16	0.23	0.31	0.61	1.02	1.64	2.42	2.82
10/04/12	0.10	N/A	0.10	0.14	0.18	0.23	0.32	0.63	1.07	1.70	2.48	2.89
10/05/12	0.10	N/A	0.11	0.15	0.18	0.27	0.34	0.67	1.12	1.75	2.55	2.96
10/09/12	0.11	N/A	0.10	0.15	0.18	0.25	0.35	0.67	1.11	1.74	2.52	2.93
10/10/12	0.12	N/A	0.10	0.15	0.18	0.27	0.35	0.66	1.09	1.72	2.48	2.89
10/11/12	0.12	N/A	0.10	0.14	0.18	0.28	0.34	0.67	1.09	1.70	2.45	2.86
10/12/12	0.12	N/A	0.11	0.15	0.18	0.27	0.34	0.67	1.09	1.69	2.44	2.83
10/15/12	0.10	N/A	0.11	0.15	0.19	0.27	0.34	0.67	1.09	1.70	2.45	2.85
10/16/12	0.13	N/A	0.09	0.15	0.18	0.27	0.36	0.70	1.15	1.75	2.51	2.91
10/17/12	0.13	N/A	0.11	0.15	0.18	0.30	0.41	0.78	1.24	1.83	2.60	2.98
10/18/12	0.12	N/A	0.10	0.15	0.18	0.29	0.41	0.79	1.26	1.86	2.63	3.02
10/19/12	0.11	N/A	0.10	0.14	0.18	0.30	0.41	0.77	1.21	1.79	2.55	2.94
10/22/12	0.10	N/A	0.10	0.15	0.19	0.32	0.42	0.79	1.25	1.83	2.57	2.95
10/23/12	0.11	N/A	0.11	0.15	0.18	0.29	0.41	0.77	1.21	1.79	2.53	2.91
10/24/12	0.13	N/A	0.11	0.16	0.18	0.29	0.40	0.76	1.21	1.80	2.55	2.93
10/25/12	0.13	N/A	0.11	0.16	0.19	0.31	0.43	0.82	1.28	1.86	2.60	2.98
10/26/12	0.12	N/A	0.12	0.15	0.19	0.30	0.41	0.76	1.20	1.78	2.53	2.92
10/29/12	0.13	N/A	0.14	0.16	0.18	0.30	0.40	0.74	1.16	1.74	2.48	2.87
10/31/12	0.09	N/A	0.11	0.16	0.18	0.30	0.38	0.72	1.14	1.72	2.46	2.85
11/01/12	0.06	N/A	0.09	0.15	0.18	0.30	0.38	0.73	1.16	1.75	2.50	2.89
11/02/12	0.08	N/A	0.09	0.15	0.19	0.28	0.38	0.73	1.16	1.75	2.51	2.91
11/05/12	0.09	N/A	0.11	0.15	0.19	0.28	0.38	0.70	1.13	1.72	2.47	2.88
11/06/12	0.12	N/A	0.10	0.15	0.19	0.30	0.41	0.75	1.19	1.78	2.52	2.92
11/07/12	0.12	N/A	0.10	0.14	0.18	0.27	0.36	0.67	1.08	1.68	2.42	2.83
11/08/12	0.13	N/A	0.10	0.15	0.20	0.27	0.35	0.65	1.04	1.62	2.35	2.77
11/09/12	0.13	N/A	0.09	0.15	0.18	0.27	0.35	0.65	1.04	1.61	2.34	2.75
11/13/12	0.12	N/A	0.11	0.15	0.18	0.27	0.33	0.63	1.02	1.59	2.31	2.72
11/14/12	0.15	N/A	0.10	0.15	0.18	0.25	0.33	0.63	1.03	1.59	2.31	2.73
11/15/12	0.13	N/A	0.08	0.14	0.17	0.24	0.32	0.62	1.02	1.58	2.30	2.72
11/16/12	0.07	N/A	0.06	0.13	0.16	0.24	0.32	0.62	1.01	1.58	2.31	2.73
11/19/12	0.06	N/A	0.09	0.14	0.16	0.25	0.33	0.64	1.04	1.61	2.34	2.76
11/20/12	0.15	N/A	0.08	0.14	0.16	0.27	0.36	0.67	1.09	1.66	2.40	2.82
11/21/12	0.17	N/A	0.10	0.14	0.17	0.27	0.37	0.69	1.11	1.69	2.42	2.83
11/23/12	0.16	N/A	0.10	0.14	0.19	0.29	0.37	0.70	1.12	1.70	2.42	2.83
11/26/12	0.14	N/A	0.10	0.15	0.17	0.27	0.36	0.68	1.09	1.66	2.39	2.80
11/27/12	0.17	N/A	0.10	0.15	0.18	0.27	0.36	0.66	1.07	1.64	2.38	2.79
11/28/12	0.17	N/A	0.10	0.14	0.18	0.27	0.35	0.64	1.05	1.63	2.36	2.79

11/29/12	0.16	N/A	0.09	0.15	0.18	0.25	0.35	0.63	1.04	1.62	2.37	2.79
11/30/12	0.11	N/A	0.08	0.13	0.18	0.25	0.34	0.61	1.04	1.62	2.37	2.81
12/03/12	0.13	N/A	0.10	0.14	0.18	0.25	0.34	0.63	1.05	1.63	2.37	2.80
12/04/12	0.07	N/A	0.10	0.15	0.18	0.25	0.34	0.63	1.04	1.62	2.36	2.78
12/05/12	0.07	N/A	0.10	0.14	0.18	0.25	0.32	0.61	1.02	1.60	2.35	2.78
12/06/12	0.07	N/A	0.10	0.14	0.18	0.25	0.32	0.60	1.00	1.59	2.33	2.76
12/07/12	0.06	N/A	0.09	0.14	0.18	0.25	0.33	0.63	1.04	1.64	2.39	2.81
12/10/12	0.05	N/A	0.09	0.14	0.18	0.24	0.33	0.62	1.04	1.63	2.38	2.80
12/11/12	0.04	N/A	0.08	0.13	0.16	0.24	0.32	0.64	1.06	1.66	2.41	2.83
12/12/12	0.04	N/A	0.07	0.10	0.14	0.25	0.32	0.66	1.11	1.72	2.48	2.90
12/13/12	0.02	N/A	0.06	0.11	0.14	0.27	0.34	0.70	1.15	1.74	2.49	2.90
12/14/12	0.01	N/A	0.04	0.09	0.13	0.24	0.34	0.70	1.15	1.72	2.46	2.87
12/17/12	0.01	N/A	0.05	0.10	0.13	0.25	0.37	0.74	1.20	1.78	2.53	2.94
12/18/12	0.04	N/A	0.06	0.12	0.16	0.28	0.39	0.78	1.25	1.84	2.59	3.00
12/19/12	0.03	N/A	0.05	0.10	0.15	0.28	0.39	0.77	1.24	1.82	2.58	2.99
12/20/12	0.02	N/A	0.06	0.10	0.15	0.28	0.39	0.77	1.24	1.81	2.57	2.98
12/21/12	0.02	N/A	0.06	0.12	0.15	0.26	0.38	0.75	1.20	1.77	2.52	2.93
12/24/12	0.03	N/A	0.06	0.11	0.16	0.26	0.38	0.77	1.22	1.79	2.53	2.94
12/26/12	0.05	N/A	0.09	0.13	0.16	0.26	0.39	0.76	1.20	1.77	2.52	2.94
12/27/12	0.01	N/A	0.08	0.12	0.15	0.26	0.37	0.72	1.15	1.74	2.48	2.89
12/28/12	0.00	N/A	0.01	0.10	0.15	0.27	0.36	0.72	1.15	1.73	2.47	2.88
12/31/12	0.02	N/A	0.05	0.11	0.16	0.25	0.36	0.72	1.18	1.78	2.54	2.95

* The 2-month constant maturity series begins on October 16, 2018, with the first auction of the 8-week Treasury bill.

30-year Treasury constant maturity series was discontinued on February 18, 2002 and reintroduced on February 9, 2006. From February 18, 2002 to February 8, 2006, Treasury published alternatives to a 30-year rate. See Long-Term Average Rate for more information.

Treasury discontinued the 20-year constant maturity series at the end of calendar year 1986 and reinstated that series on October 1, 1993. As a result, there are no 20-year rates available for the time period January 1, 1987 through September 30, 1993.

Treasury Yield Curve Rates: These rates are commonly referred to as "Constant Maturity Treasury" rates, or CMTs. Yields are interpolated by the Treasury from the daily yield curve. This curve, which relates the yield on a security to its time to maturity is based on the closing market bid yields on actively traded Treasury securities in the over-the-counter market. These market yields are calculated from composites of indicative, bid-side market quotations (not actual transactions) obtained by the Federal Reserve Bank of New York at or near 3:30 PM each trading day. The CMT yield values are read from the yield curve at fixed maturities, currently 1, 2, 3 and 6 months and 1, 2, 3, 5, 7, 10, 20, and 30 years. This method provides a yield for a 10 year maturity, for example, even if no outstanding security has exactly 10 years remaining to maturity.

Treasury Yield Curve Methodology: The Treasury yield curve is estimated daily using a cubic spline model. Inputs to the model are primarily indicative bid-side yields for on-the-run Treasury securities. Treasury reserves the option to make changes to the yield curve as appropriate and in its sole discretion. See our Treasury Yield Curve Methodology page for details.

Negative Yields and Nominal Constant Maturity Treasury Series Rates (CMTs): At times, financial market conditions, in conjunction with extraordinary low levels of interest rates, may result in negative yields for some Treasury securities trading in the secondary market. Negative yields for Treasury securities most often reflect highly technical factors in Treasury markets related to the cash and repurchase agreement markets, and are at times unrelated to the time value of money.

At such times, Treasury will restrict the use of negative input yields for securities used in deriving interest rates for the Treasury nominal Constant Maturity Treasury series (CMTs). Any CMT input points with negative yields will be reset to zero percent prior to use as inputs in the CMT derivation. This decision is consistent with Treasury not accepting negative yields in Treasury nominal security auctions.

In addition, given that CMTs are used in many statutorily and regulatory determined loan and credit programs as well as for setting interest rates on non-marketable government securities, establishing a floor of zero more accurately reflects borrowing costs related to various programs.

For more information regarding these statistics contact the Office of Debt Management by email at debt.management@do.treas.gov.

For other Public Debt information contact (202) 504-3550

Minutes of the Federal Open Market Committee
March 19–20, 2019

A joint meeting of the Federal Open Market Committee and the Board of Governors was held in the offices of the Board of Governors of the Federal Reserve System in Washington, D.C., on Tuesday, March 19, 2019, at 10:00 a.m. and continued on Wednesday, March 20, 2019, at 9:00 a.m.[1]

PRESENT:
Jerome H. Powell, Chair
John C. Williams, Vice Chair
Michelle W. Bowman
Lael Brainard
James Bullard
Richard H. Clarida
Charles L. Evans
Esther L. George
Randal K. Quarles
Eric Rosengren

Patrick Harker, Robert S. Kaplan, Neel Kashkari, Loretta J. Mester, and Michael Strine, Alternate Members of the Federal Open Market Committee

Thomas I. Barkin, Raphael W. Bostic, and Mary C. Daly, Presidents of the Federal Reserve Banks of Richmond, Atlanta, and San Francisco, respectively

James A. Clouse, Secretary
Matthew M. Luecke, Deputy Secretary
David W. Skidmore, Assistant Secretary
Michelle A. Smith, Assistant Secretary
Mark E. Van Der Weide, General Counsel
Michael Held, Deputy General Counsel
Steven B. Kamin, Economist
Thomas Laubach, Economist
Stacey Tevlin, Economist

Thomas A. Connors, Rochelle M. Edge, Eric M. Engen, Christopher J. Waller, William Wascher, and Beth Anne Wilson, Associate Economists

Simon Potter, Manager, System Open Market Account

Lorie K. Logan, Deputy Manager, System Open Market Account

Ann E. Misback, Secretary, Office of the Secretary, Board of Governors

Matthew J. Eichner,[2] Director, Division of Reserve Bank Operations and Payment Systems, Board of Governors; Michael S. Gibson, Director, Division of Supervision and Regulation, Board of Governors; Andreas Lehnert, Director, Division of Financial Stability, Board of Governors

Daniel M. Covitz, Deputy Director, Division of Research and Statistics, Board of Governors; Michael T. Kiley, Deputy Director, Division of Financial Stability, Board of Governors; Trevor A. Reeve, Deputy Director, Division of Monetary Affairs, Board of Governors

Jon Faust, Senior Special Adviser to the Chair, Office of Board Members, Board of Governors

Antulio N. Bomfim, Special Adviser to the Chair, Office of Board Members, Board of Governors

Brian M. Doyle, Wendy E. Dunn, Joseph W. Gruber, Ellen E. Meade, and John M. Roberts, Special Advisers to the Board, Office of Board Members, Board of Governors

Linda Robertson, Assistant to the Board, Office of Board Members, Board of Governors

Shaghil Ahmed, Senior Associate Director, Division of International Finance, Board of Governors; Joshua Gallin and David E. Lebow, Senior Associate Directors, Division of Research and Statistics, Board of Governors

Edward Nelson, Senior Adviser, Division of Monetary Affairs, Board of Governors; Jeremy B. Rudd, Senior Adviser, Division of Research and Statistics, Board of Governors

Marnie Gillis DeBoer[2] and David López-Salido, Associate Directors, Division of Monetary Affairs, Board of Governors

[1] The Federal Open Market Committee is referenced as the "FOMC" and the "Committee" in these minutes.

[2] Attended through the discussion of developments in financial markets and open market operations.

AG EXH. NO 14

Jeffrey D. Walker,[2] Deputy Associate Director, Division of Reserve Bank Operations and Payment Systems, Board of Governors

Andrew Figura, Assistant Director, Division of Research and Statistics, Board of Governors; Laura Lipscomb,[2] Zeynep Senyuz,[2] and Rebecca Zarutskie, Assistant Directors, Division of Monetary Affairs, Board of Governors

Michele Cavallo,[2] Section Chief, Division of Monetary Affairs, Board of Governors

Penelope A. Beattie,[3] Assistant to the Secretary, Office of the Secretary, Board of Governors

Mark A. Carlson, Senior Economic Project Manager, Division of Monetary Affairs, Board of Governors

David H. Small, Project Manager, Division of Monetary Affairs, Board of Governors

Martin Bodenstein, Marcel A. Priebsch, and Bernd Schlusche,[2] Principal Economists, Division of Monetary Affairs, Board of Governors

Mary-Frances Styczynski,[2] Lead Financial Institution and Policy Analyst, Division of Monetary Affairs, Board of Governors

Achilles Sangster II, Information Management Analyst, Division of Monetary Affairs, Board of Governors

Gregory L. Stefani, First Vice President, Federal Reserve Bank of Cleveland

David Altig, Kartik B. Athreya, Michael Dotsey, Glenn D. Rudebusch, Ellis W. Tallman, and Joseph S. Tracy, Executive Vice Presidents, Federal Reserve Banks of Atlanta, Richmond, Philadelphia, San Francisco, Cleveland, and Dallas, respectively

Antoine Martin,[2] Julie Ann Remache,[2] and Mark L.J. Wright, Senior Vice Presidents, Federal Reserve Banks of New York, New York, and Minneapolis, respectively

Roc Armenter,[2] Kathryn B. Chen,[2] Hesna Genay, Jonathan P. McCarthy, and Patricia Zobel,[2] Vice Presidents, Federal Reserve Banks of Philadelphia, New York, Chicago, New York, and New York, respectively

Samuel Schulhofer-Wohl, Senior Economist and Research Advisor, Federal Reserve Bank of Chicago

Daniel Cooper, Senior Economist and Policy Advisor, Federal Reserve Bank of Boston

Ellen Correia Golay,[2] Markets Officer, Federal Reserve Bank of New York

A. Lee Smith, Senior Economist, Federal Reserve Bank of Kansas City

Balance Sheet Normalization

Committee participants resumed their discussion from the January 2019 meeting on options for transitioning to the longer-run size of the balance sheet. The staff described options for ending the reduction in the Federal Reserve's securities holdings at the end of September 2019 and for potentially reducing the pace of redemptions of Treasury securities before that date. Reducing the pace of redemptions before ending them would be consistent with most previous changes in the Federal Reserve's balance sheet policy and would support a gradual transition to the long-run level of reserves. It could also reinforce the Committee's communications indicating that the FOMC was flexible in its plans for balance sheet normalization and that the process of balance sheet normalization would remain consistent with the attainment of the Federal Reserve's monetary policy objectives. However, continuing redemptions at the current pace through September might be simpler to communicate and would somewhat shorten the transition to the long-run level of reserves. The staff noted that reducing the pace of redemptions before September would leave reserves and the balance sheet slightly larger than continuing redemptions at the current pace through September. However, the longer-run level of reserves and size of the balance sheet would ultimately be determined by long-term demand for Federal Reserve liabilities. Staff projections of term premiums and macroeconomic outcomes did not differ substantially across the two options.

The staff also described a possible interim plan for reinvesting principal payments received from agency debt

[3] Attended Tuesday's session only.

and agency mortgage-backed securities (MBS) after balance sheet runoff ends and until the Committee decides on the longer-run composition of the System Open Market Account (SOMA) portfolio. Consistent with the Committee's long-standing aim to hold primarily Treasury securities in the longer run, any principal payments on agency debt and agency MBS would generally be reinvested in Treasury securities in the secondary market. These reinvestments would be allocated across sectors of the Treasury market roughly in proportion to the maturity composition of Treasury securities outstanding. However, the plan would maintain the existing $20 billion per month cap on MBS redemptions; principal payments on agency debt and agency MBS above $20 billion per month would continue to be reinvested in agency MBS. This cap would limit the pace at which the Federal Reserve's agency MBS holdings could decline if prepayments accelerated; the staff projected that the redemption cap on agency debt and agency MBS was unlikely to be reached after 2019.

The staff noted that, once balance sheet runoff ended, the average level of reserves would tend to decline gradually, in line with trend growth in the Federal Reserve's nonreserve liabilities, until the Committee chose to resume growth of the balance sheet in order to maintain a level of reserves consistent with efficient and effective policy implementation.

Participants judged that ending the runoff of securities holdings at the end of September would reduce uncertainty about the Federal Reserve's plans for its securities holdings and would be consistent with the Committee's decision at its January 2019 meeting to continue implementing monetary policy in a regime of ample reserves. Participants discussed advantages and disadvantages of slowing balance sheet runoff before the September stopping date. A slowing in the pace of redemptions would accord with the Committee's general practice of adjusting its holdings of securities smoothly and predictably, which might reduce the risk that market volatility would arise in connection with the conclusion of the runoff of securities holdings. However, these advantages needed to be weighed against the additional complexity of a plan that would end balance sheet runoff in steps rather than all at once.

Participants reiterated their support for the FOMC's intention to return to holding primarily Treasury securities in the long run. Participants judged that adopting an interim approach for reinvesting agency debt and agency MBS principal payments into Treasury securities across a range of maturities was appropriate while the Committee continued to evaluate potential long-run maturity structures for the Federal Reserve's portfolio of Treasury securities. Many participants offered preliminary views on advantages and disadvantages of alternative compositions for the SOMA portfolio. Participants expected to further discuss the longer-run composition of the portfolio at upcoming meetings.

Participants commented on considerations related to allowing the average level of reserves to decline in line with trend growth in nonreserve liabilities for a time after the end of balance sheet runoff. Several participants preferred to stabilize the average level of reserves by resuming purchases of Treasury securities relatively soon after the end of runoff, because they saw little benefit to further declines in reserve balances or because they thought the Committee should minimize the risk of interest rate volatility that could occur if the supply of reserves dropped below a point consistent with efficient and effective implementation of policy. Some others preferred to allow the average level of reserves to continue to decline for a longer time after balance sheet runoff ends because such declines could allow the Committee to learn more about underlying reserve demand, because they judged that such a process was not likely to result in excessive volatility in money market rates, or because they judged that moving to lower levels of reserves was more consistent with the Committee's previous communications indicating that it would hold no more securities than necessary for implementing monetary policy efficiently and effectively. Participants noted that the eventual resumption of purchases of securities to keep pace with growth in demand for the Federal Reserve's liabilities, whenever it occurred, would be a normal part of operations to maintain the ample-reserves monetary policy implementation regime and would not represent a change in the stance of monetary policy. Some participants suggested that, at future meetings, the Committee should discuss the potential benefits and costs of tools that might reduce reserve demand or support interest rate control.

Following the discussion, the Chair proposed that the Committee communicate its intentions regarding balance sheet normalization by publishing a statement at the conclusion of the meeting. All participants agreed that it was appropriate to issue the proposed statement.

BALANCE SHEET NORMALIZATION
PRINCIPLES AND PLANS

(Adopted March 20, 2019)

In light of its discussions at previous meetings and the progress in normalizing the size of the Federal Reserve's securities holdings and the level of reserves in the banking system, all participants agreed that it is appropriate at this time for the Committee to provide additional information regarding its plans for the size of its securities holdings and the transition to the longer-run operating regime. At its January meeting, the Committee stated that it intends to continue to implement monetary policy in a regime in which an ample supply of reserves ensures that control over the level of the federal funds rate and other short-term interest rates is exercised primarily through the setting of the Federal Reserve's administered rates and in which active management of the supply of reserves is not required. The Statement Regarding Monetary Policy Implementation and Balance Sheet Normalization released in January as well as the principles and plans listed below together revise and replace the Committee's earlier Policy Normalization Principles and Plans.

- To ensure a smooth transition to the longer-run level of reserves consistent with efficient and effective policy implementation, the Committee intends to slow the pace of the decline in reserves over coming quarters provided that the economy and money market conditions evolve about as expected.
    - The Committee intends to slow the reduction of its holdings of Treasury securities by reducing the cap on monthly redemptions from the current level of $30 billion to $15 billion beginning in May 2019.
    - The Committee intends to conclude the reduction of its aggregate securities holdings in the System Open Market Account (SOMA) at the end of September 2019.
    - The Committee intends to continue to allow its holdings of agency debt and agency mortgage-backed securities (MBS) to decline, consistent with the aim of holding primarily Treasury securities in the longer run.
        - Beginning in October 2019, principal payments received from agency debt and agency MBS will be reinvested in Treasury securities subject to a maximum amount of $20 billion per month; any principal payments in excess of that maximum will continue to be reinvested in agency MBS.
        - Principal payments from agency debt and agency MBS below the $20 billion maximum will initially be invested in Treasury securities across a range of maturities to roughly match the maturity composition of Treasury securities outstanding; the Committee will revisit this reinvestment plan in connection with its deliberations regarding the longer-run composition of the SOMA portfolio.
        - It continues to be the Committee's view that limited sales of agency MBS might be warranted in the longer run to reduce or eliminate residual holdings. The timing and pace of any sales would be communicated to the public well in advance.
    - The average level of reserves after the FOMC has concluded the reduction of its aggregate securities holdings at the end of September will likely still be somewhat above the level of reserves necessary to efficiently and effectively implement monetary policy.
        - In that case, the Committee currently anticipates that it will likely hold the size of the SOMA portfolio roughly constant for a time. During such a period, persistent gradual increases in currency and other non-reserve liabilities would be accompanied by corresponding gradual declines in reserve balances to a level consistent with efficient and effective implementation of monetary policy.
    - When the Committee judges that reserve balances have declined to this level, the SOMA portfolio will hold no more securities than necessary for efficient and effective policy implementation. Once that point is reached, the Committee will begin increasing its securities holdings to keep pace with trend growth of the Federal Reserve's non-reserve liabilities and maintain an appropriate level of reserves in the system.

Developments in Financial Markets and Open Market Operations

The manager of the SOMA discussed developments in global financial markets over the intermeeting period. In the United States, equity indexes moved higher and credit spreads tightened. Market participants attributed these moves largely to a perceived shift in the FOMC's approach to policy following communications stressing that the Committee would be patient in assessing the need for future adjustments in the target range for the federal funds rate and would be flexible on balance sheet policy.

In Europe, measures announced by the European Central Bank (ECB) in March, including an extension of forward guidance on interest rates and the announcement of another round of targeted long-term refinancing operations, were followed by a decline in euro-area equity markets, particularly bank stocks, as well as declines in euro-area rates. Market contacts attributed the price reaction to a perception that the measures were not as stimulative as might have been expected, given downward revisions in the ECB's growth and inflation forecasts. In China, authorities moved toward an easier fiscal and monetary stance; China's aggregate credit growth had rebounded slightly in recent months relative to the declining trend observed last year. The Shanghai Composite index had risen notably since the turn of the year, driven in part by fiscal and monetary stimulus measures as well as perceived progress on trade negotiations. Developments around Brexit remained a source of market uncertainty. Consistent with ongoing investor uncertainty over the outcome, risk reversals on the pound–dollar currency pair continued to point to higher demand for protection against pound depreciation relative to the dollar.

The deputy manager provided an overview of money market developments and policy implementation over the intermeeting period. The effective federal funds rate (EFFR) continued to be very stable at a level equal to the interest rate on excess reserves. Rates in overnight secured markets continued to exhibit some volatility, particularly on month-end dates. Market participants attributed some of the volatility in overnight secured rates to persistently high net dealer inventories of Treasury securities and to Treasury issuance coinciding with the month-end statement dates. Over the upcoming intermeeting period, with the combination of changes in the Treasury's balances at the Federal Reserve and additional asset redemptions, reserves were expected to decline to a new low of around $1.4 trillion by early May, with some notable fluctuations in reserves on days associated with tax flows.

The deputy manager also discussed the transition to a long-run regime of ample reserves, following the Committee's January announcement that it intends to continue to implement monetary policy in such a regime. Once the size of the Federal Reserve's balance sheet has normalized, the Open Market Desk will at some point need to conduct open market operations to maintain a level of reserves in the banking system that the Committee deems appropriate. In doing so, the Desk will need to assess banks' demand for reserves as well as forecast other Federal Reserve liabilities and plan operations to maintain a supply of reserves sufficient to ensure that control over short-term interest rates is exercised primarily through the setting of administered rates.

The deputy manager described a possible operational approach in an ample-reserves regime based on establishing a minimum operating level that would be a lower bound on the daily level of reserves. The assessment of the minimum operating level of reserves would be based on a range of information, including surveys of banks and market participants, data on banks' reserve holdings, and market monitoring. Under the proposed approach, the Desk would plan open market operations to maintain the daily level of reserves above the minimum operating level. Consistent with the Committee's intention to maintain a regime that does not require active management of the supply of reserves, the Desk could plan these open market operations over a medium-term horizon. The average level of reserves over the medium term would then be above the minimum operating level, providing a buffer of reserves to absorb daily changes in nonreserve liabilities.

Following the manager and deputy manager's report, some participants commented on various aspects of the minimum operating level approach. Decisions regarding how far to allow reserves to decline would need to balance important tradeoffs. On the one hand, a lower minimum operating level might increase the risk of excessive interest rate volatility. On the other hand, a lower minimum operating level could provide more opportunities to learn about underlying reserve demand or could be viewed as more consistent with moving to the smallest securities holdings necessary for efficient and effective monetary policy implementation. However, the scope for reducing the level of reserves much further after the end of balance sheet runoff might be fairly limited.

By unanimous vote, the Committee ratified the Desk's domestic transactions over the intermeeting period.

There were no intervention operations in foreign currencies for the System's account during the intermeeting period.

Staff Review of the Economic Situation

The information available for the March 19–20 meeting indicated that labor market conditions remained strong, although growth in real gross domestic product (GDP) appeared to have slowed markedly in the first quarter of this year from its solid fourth-quarter pace. Consumer price inflation, as measured by the 12-month percentage change in the price index for personal consumption expenditures (PCE), was somewhat below 2 percent in December, held down in part by recent declines in consumer energy prices, while PCE price inflation for items other than food and energy was close to 2 percent; more recent readings on PCE price inflation were delayed by the earlier federal government shutdown. Survey-based measures of longer-run inflation expectations were little changed on balance.

Increases in total nonfarm payroll employment remained solid, on average, in recent months; employment rose only a little in February but had expanded strongly in January. The national unemployment rate edged down, on net, over the past two months to 3.8 percent in February, and both the labor force participation rate and the employment-to-population ratio rose slightly on balance. The unemployment rates for African Americans, Asians, and Hispanics in February were at or below their levels at the end of the previous economic expansion, though persistent differentials in unemployment rates across groups remained. The share of workers employed part time for economic reasons moved down in February and was below the lows reached in late 2007. The rate of private-sector job openings in January was the same as its fourth-quarter average and remained elevated, while the rate of quits edged up in January; the four-week moving average of initial claims for unemployment insurance benefits through early March was still near historically low levels. Average hourly earnings for all employees rose 3.4 percent over the 12 months ending in February, a significantly faster pace than a year earlier. The employment cost index for private-sector workers increased 3 percent over the 12 months ending in December, somewhat faster than a year earlier. Total labor compensation per hour in the business sector increased 2.9 percent over the four quarters of 2018, about the same rate as a year earlier.

Industrial production declined in January and rebounded only somewhat in February. Moreover, manufacturing output decreased over both months, as production in the motor vehicle and parts sector contracted notably in January and declines were more broad based in February. Production in the mining and utilities sectors expanded, on net, over the past two months. Automakers' assembly schedules suggested that the production of light motor vehicles would be roughly flat in the near term, and new orders indexes from national and regional manufacturing surveys pointed to only modest gains in overall factory output in the coming months.

Household spending looked to be slowing around the turn of the year. Real PCE decreased markedly in December after a solid increase in the previous month, and the components of the nominal retail sales data used by the Bureau of Economic Analysis (BEA) to estimate PCE rebounded only partially in January. Key factors that influence consumer spending—including a low unemployment rate, ongoing gains in real labor compensation, and still elevated measures of households' net worth—were supportive of a pickup in consumer spending to a solid pace in the near term. In addition, consumer sentiment, as measured by the University of Michigan Surveys of Consumers, stepped up in February and early March to an upbeat level.

Real residential investment appeared to be softening further in the first quarter, likely reflecting, in part, decreases in the affordability of housing arising from both the net increase in mortgage interest rates over the past year and ongoing house price appreciation. Starts of new single-family homes increased slightly, on net, over December and January, while starts of multifamily units declined. Building permit issuance for new single-family homes—which tends to be a good indicator of the underlying trend in construction of such homes—moved down over those two months. In addition, sales of both new and existing homes decreased in January.

Growth in real private expenditures for business equipment and intellectual property looked to be slowing in the first quarter. Nominal shipments of nondefense capital goods excluding aircraft rose in December and January, while available indicators pointed to a decrease in transportation equipment spending in the first quarter after a strong fourth-quarter gain. Forward-looking indicators of business equipment spending—such as orders for nondefense capital goods excluding aircraft and readings on business sentiment—pointed to sluggish increases in the near term. Nominal business expenditures for nonresidential structures outside of the drilling and mining sector increased in December and January. In addition, the number of crude oil and natural gas rigs in operation—an indicator of business spending for structures in the drilling and mining sector—expanded, on balance, in February and through the middle of March.

Total real government purchases appeared to be moving sideways in the first quarter. Relatively strong increases in real federal defense purchases were likely to be roughly offset by an expected decline in real nondefense purchases stemming from the effects of the partial federal government shutdown. Real purchases by state and local governments looked to be rising modestly in the first quarter, as the payrolls of those governments expanded a bit in January and February, and nominal state and local construction spending rose, on net, in December and January.

The nominal U.S. international trade deficit narrowed in November before widening in December to the largest deficit since 2008. Exports declined in November and December, as exports of industrial supplies and automotive products fell in both months. Imports decreased in November before partially recovering in December, with imports of consumer goods and industrial supplies driving this swing. The BEA estimated that the change in net exports was a drag of about ¼ percentage point on the rate of real GDP growth in the fourth quarter.

Total U.S. consumer prices, as measured by the PCE price index, increased 1.7 percent over the 12 months ending in December, slightly slower than a year earlier, as consumer energy prices declined a little and consumer food prices rose only modestly. Core PCE price inflation, which excludes changes in consumer food and energy prices, was 1.9 percent over that same period, somewhat higher than a year earlier. The consumer price index (CPI) rose 1.5 percent over the 12 months ending in February, while core CPI inflation was 2.1 percent. Recent readings on survey-based measures of longer-run inflation expectations—including those from the Michigan survey, the Blue Chip Economic Indicators, and the Desk's Survey of Primary Dealers and Survey of Market Participants—were little changed on balance.

Economic growth in foreign economies slowed further in the fourth quarter. This development reflected slowing in the Canadian economy and some emerging market economies (EMEs), including Brazil and Mexico, along with continued economic weakness in the euro area and China. In the advanced foreign economies (AFEs), recent data suggested that economic activity, especially in the manufacturing sector, remained subdued in the first quarter of this year. Economic activity also remained weak in many EMEs, particularly in Mexico and emerging Asia excluding China, although some data pointed to a modest pickup in China. Inflation in foreign economies slowed further early this year, partly reflecting lower retail energy prices across both AFEs and EMEs.

Staff Review of the Financial Situation

Investor sentiment toward risky assets continued to improve over the intermeeting period. Market participants cited accommodative monetary policy communications and optimism for a trade deal between the United States and China as factors that contributed to the improvement. Broad equity price indexes increased notably, corporate bond spreads narrowed, and measures of equity market volatility declined. Meanwhile, financing conditions for businesses and households improved slightly and generally remained supportive of economic activity.

FOMC communications issued following the January meeting were generally viewed by market participants as more accommodative than expected. Subsequent communications—including the minutes of the January FOMC meeting, the Chair's semiannual testimony to the Congress, and speeches by FOMC participants—were interpreted as reflecting a patient approach to monetary policy in the near term and a likely conclusion to the Federal Reserve's balance sheet reduction by the end of this year. The market-implied path for the federal funds rate in 2019 declined slightly over the period, while investors continued to expect no change to the target range for the federal funds rate at the March FOMC meeting. The market-implied path of the federal funds rate for 2020 and 2021 shifted down a little.

Yields on nominal Treasury securities declined a bit across the Treasury yield curve over the intermeeting period. Communications from FOMC participants that were more accommodative than expected amid muted readings on inflation, communications from other major central banks that, on balance, were also regarded as more accommodative than expected, and generally mixed economic data releases reportedly contributed to the decrease in yields and outweighed improved risk sentiment. The spread between the yields on nominal 10- and 2-year Treasury securities was little changed over the period and remained in the lower end of its historical range of recent decades. Measures of inflation compensation derived from Treasury Inflation-Protected Securities increased modestly, on net, although they remained below levels seen last fall.

Major U.S. equity price indexes increased over the intermeeting period, with broad-based gains across sectors. Improved prospects for a trade deal between the United States and China and accommodative monetary policy were cited as driving factors that outweighed weaker-than-expected announcements of corporate earnings for the fourth quarter of 2018 and earnings projections for 2019. Consistent with reports about a potential trade deal, stock prices of firms with greater exposure to China generally outperformed the S&P 500 index. Option-implied volatility on the S&P 500 index at the one-month horizon—the VIX—declined and reached its lowest point this year. Spreads on investment- and speculative-grade corporate bonds narrowed, consistent with the gains in equity prices, but were still wider than levels observed last fall.

Conditions in short-term funding markets generally remained stable over the intermeeting period. The EFFR was consistently equal to the rate of interest on excess reserves, while take-up in the overnight reverse repurchase agreement facility remained low. Yield spreads on commercial paper and negotiable certificates of deposit generally narrowed further from their elevated year-end levels, likely reflecting an increase in investor demand for short-term financial assets. Meanwhile, the statutory federal government debt ceiling was reestablished at $22 trillion on March 1.

The prices of foreign risky assets broadly tracked the positive moves in similar U.S. assets over the intermeeting period. Communications by major central banks, which were, on net, more accommodative than expected, along with optimism regarding trade negotiations between the United States and China, contributed to the upward price moves and more than offset the effects of continued concerns about foreign economic growth. In particular, global equity prices generally ended the period higher, and dedicated emerging market funds continued to see inflows. At the same time, long-term AFE yields declined somewhat, on net, on communications from major foreign central banks and investors' concerns about foreign economic growth.

The broad dollar index appreciated slightly as the extension of accommodative policies and revised guidance by major foreign central banks weighed on AFE currencies. An exception was the British pound, which strengthened a bit against the dollar, as market participants viewed recent Parliamentary votes as reducing the likelihood of a no-deal Brexit.

Financing conditions for nonfinancial businesses continued to be accommodative overall. Gross issuance of both investment-grade and high-yield corporate bonds was strong in January and February, recovering from the low levels observed late last year. Issuance in the institutional syndicated leveraged loan market also recovered in the first two months of the year, as new issuance in February was in line with average monthly new issuance in 2018, and spreads narrowed somewhat from their December levels. The credit quality of nonfinancial corporations continued to show signs of deterioration, although actual defaults remained low overall. Commercial and industrial lending showed continued strength in January and February. Small business credit market conditions were little changed, and credit conditions in municipal bond markets stayed accommodative on net.

Private-sector analysts revised down their projections for 2019 and year-ahead corporate earnings a bit. The pace of gross equity issuance was sluggish in January but ticked up in February, consistent with the uptick in the stock market.

In the commercial real estate (CRE) sector, financing conditions continued to be generally accommodative. Commercial mortgage-backed securities (CMBS) spreads declined over the intermeeting period, with triple-B spreads moving down to near their late-November levels. Issuance of non-agency CMBS remained strong through February, and CRE lending by banks grew at a strong pace in February following relatively sluggish growth in January.

Residential mortgage financing conditions remained accommodative on balance. Purchase mortgage origination activity was flat in December but edged up in January, as mortgage rates remained lower than the peak reached last November.

Financing conditions in consumer credit markets were little changed in recent months and remained generally supportive of household spending. Credit card loan growth remained strong through December, though the pace slowed during 2018 amid tighter lending standards by commercial banks. Auto loan growth remained steady through the end of 2018.

Staff Economic Outlook

The U.S. economic projection prepared by the staff for the March FOMC meeting was revised down a little on balance. This revision reflected the effects of weaker-than-expected incoming data on both aggregate domestic spending and foreign economic growth that were only partially offset by a somewhat higher projected path for domestic equity prices and a lower projected trajectory for interest rates. The staff forecast that U.S. real GDP growth would slow markedly in the first quarter, reflecting a softening in growth of both consumer spending and business investment. But the staff judged that the first-quarter slowdown would be transitory and that real GDP growth would bounce back solidly in the second quarter. In the medium-term projection, real GDP growth was forecast to run at a rate similar to the staff's estimate of potential output growth in 2019 and 2020—a somewhat lower trajectory, on net, for real GDP than in the previous projection—and then slow to a pace below potential output growth in 2021. The staff revised up slightly its assumed underlying trend in the labor force participation rate, raising the level of potential output a bit, which contributed—along with the lower projected path for real GDP—to an assessment that resource utilization was a little less tight than in the previous forecast. The unemployment rate was projected to decline a little further below the staff's estimate of its longer-run natural rate but to bottom out by the end of this year and begin to edge up in 2021. With labor market conditions judged to still be tight, the staff continued to assume that projected employment gains would manifest in smaller-than-usual downward pressure on the unemployment rate and in larger-than-usual upward pressure on the labor force participation rate.

The staff's forecast for inflation was revised down slightly for the March FOMC meeting, reflecting some recent softer-than-expected readings on consumer prices. Core PCE price inflation was expected to remain at 1.9 percent over this year as a whole and then to edge up to 2 percent for the remainder of the medium term. Total PCE price inflation was forecast to run a bit below core inflation over the next three years, reflecting projected declines in energy prices.

The staff viewed the uncertainty around its projections for real GDP growth, the unemployment rate, and inflation as generally similar to the average of the past 20 years. The staff also saw the risks to the forecasts for real GDP growth and the unemployment rate as roughly balanced. On the upside, household spending and business investment could expand faster than the staff projected, supported by the tax cuts enacted at the end of 2017, still strong overall labor market conditions, and upbeat consumer sentiment. In addition, financial conditions might not tighten as much as assumed in the staff forecast. On the downside, the recent softening in a number of economic indicators could be the harbinger of a substantial deterioration in economic activity. Moreover, trade policies and foreign economic developments could move in directions that have significant negative effects on U.S. economic growth. Risks to the inflation projection also were seen as balanced. The upside risk that inflation could increase more than expected in an economy that is still projected to be operating notably above potential for an extended period was counterbalanced by the downside risk that longer-term inflation expectations may be lower than was assumed in the staff forecast, as well as the possibility that the dollar could appreciate if foreign economic conditions deteriorated.

Participants' Views on Current Conditions and the Economic Outlook

In conjunction with this FOMC meeting, members of the Board of Governors and Federal Reserve Bank presidents submitted their projections of the most likely outcomes for real GDP growth, the unemployment rate, and inflation for each year from 2019 through 2021 and over the longer run, based on their individual assessments of the appropriate path for the federal funds rate. The longer-run projections represented each participant's assessment of the rate to which each variable would be expected to converge, over time, under appropriate monetary policy and in the absence of further shocks to the economy. These projections and policy assessments are described in the Summary of Economic Projections (SEP), which is an addendum to these minutes.

Participants agreed that information received since the January meeting indicated that the labor market had remained strong but that growth of economic activity had slowed from its solid rate in the fourth quarter. Payroll employment was little changed in February, but job gains had been solid, on average, in recent months, and the unemployment rate had remained low. Recent indicators pointed to slower growth of household spending and business fixed investment in the first quarter. On a 12-month basis, overall inflation had declined, largely as a result of lower energy prices; inflation for items other than food and energy remained near 2 percent. On balance, market-based measures of inflation compensation had remained low in recent months, and survey-based measures of longer-term inflation expectations were little changed.

Participants continued to view a sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective as the most likely outcomes over the next few years. Underlying economic fundamentals continued to support sustained expansion, and most participants indicated that they did not expect the recent weakness in spending to persist beyond the first quarter. Nevertheless, participants generally expected the growth rate of real GDP this year to step down from the pace seen over 2018 to a rate at or modestly above their estimates of longer-run growth. Participants cited various factors as likely to contribute to the step-down, including slower foreign growth and waning effects of fiscal stimulus. A number of participants judged that economic growth in the remaining quarters of 2019 and in the subsequent couple of years would likely be a little lower, on balance, than they had previously forecast. Reasons cited for these downward revisions included disappointing news on global growth and less of a boost from fiscal policy than had previously been anticipated.

In their discussion of the household sector, participants noted that softness in consumer spending had contributed importantly to the projected slowing in economic growth in the current quarter. Many participants pointed to the weakness in retail sales in December as notable, although they recognized that the data for January had shown a partial recovery in retail sales. Participants also observed that much of the recent softness likely reflected temporary factors, such as the partial federal government shutdown and December's volatility in financial markets, and that consumer sentiment had recovered after these factors had receded. Consequently, many participants expected consumer spending to proceed at a stronger pace in coming months, supported by favorable underlying factors, including a strong labor market, solid growth in household incomes, improvements in financial conditions and in households' balance sheet positions, and upbeat consumer sentiment. Participants noted, however, that the continued softness in the housing sector was a concern.

Participants also commented on the apparent slowing of growth in business fixed investment in the first quarter. Factors cited as consistent with the recent softness in investment growth included downward revisions in forecasts of corporate earnings; relatively low energy prices that provided less incentive for new drilling and exploration; flattening capital goods orders; reports from contacts of softer export sales and of weaker economic activity abroad; elevated levels of uncertainty about government policies, including trade policies; and the likely effect of recent financial market volatility on business sentiment. However, many participants pointed to signs that the weakness in investment would likely abate. Some contacts in manufacturing and other sectors reported that business conditions were favorable, with strong demand for labor, business sentiment had recovered from its recent decline, and recent reductions in mortgage interest rates would provide some support for construction activity. Agricultural activity remained weak in various areas of the country, with the weakness in part reflecting adverse effects of trade policy on commodity prices. Recent widespread severe flooding had also adversely affected the agricultural sector.

Participants noted that the latest readings on overall inflation had been somewhat softer than expected. However, participants observed that these readings largely reflected the effects of earlier declines in crude oil prices and that core inflation remained near 2 percent. Most participants, while seeing inflation pressures as muted, expected the overall rate of inflation to firm somewhat and to be at or near the Committee's longer-run objective of 2 percent over the next few years. Many participants indicated that, while inflation had been close to 2 percent last year, it was noteworthy that it had not shown greater signs of firming in response to strong labor market conditions and rising nominal wage growth, as well as to the short-term upward pressure on prices arising from tariff increases. Low rates of price increases in sectors of the economy that were not cyclically sensitive were cited by a couple of participants as one reason for the recent easing in inflation. A few participants observed that the pickup in productivity growth last year was a welcome development helping to bolster potential output and damp inflationary pressures.

In their discussion of indicators of inflation expectations, participants noted that market-based measures of inflation compensation had risen modestly over the intermeeting period, although they remained low. A couple of participants stressed that recent readings on survey measures of inflation expectations were also still at low levels. Several participants suggested that longer-term inflation expectations could be at levels somewhat below those consistent with the Committee's 2 percent inflation objective and that this might make it more difficult to achieve that objective on a sustained basis.

In their discussion of the labor market, participants cited evidence that conditions remained strong, including the very low unemployment rate, a further increase in the labor force participation rate, a low number of layoffs, near-record levels of job openings and help-wanted postings, and solid job gains, on average, in recent months. Participants observed that, following strong job gains in January, there had been little growth in payrolls in February, although a few participants pointed out that the February reading had likely been affected by adverse weather conditions. A couple of participants noted that, over the medium term, some easing in payroll growth was to be expected as economic growth slowed to its longer-run trend rate. Reports from business contacts predominantly pointed to continued strong labor demand, with firms offering both higher wages and more nonwage benefits to attract workers. Economy-wide wage growth was seen as being broadly consistent with recent rates of labor productivity growth and with inflation of 2 percent. A few participants cited the combination of muted inflation pressures and expanding employment as a possible indication that some slack remained in the labor market.

Participants commented on a number of risks associated with their outlook for economic activity. A few participants noted that there remained a high level of uncertainty associated with international developments, including ongoing trade talks and Brexit deliberations, although a couple of participants remarked that the risks of adverse outcomes were somewhat lower than in January. Other downside risks included the possibility of sizable spillovers from a greater-than-expected economic slowdown in Europe and China, persistence of the softness in spending, or a sharp falloff in fiscal stimulus. A few participants observed that an economic deterioration in the United States, if it occurred, might be amplified by significant debt service burdens for many firms. Participants also mentioned a number of upside risks regarding the outlook for economic activity, including outcomes in which various sources of uncertainty were resolved favorably, consumer and business sentiment rebounded sharply, or the recent strengthening in labor productivity growth signaled a pickup in the underlying trend. Upside risks to the outlook for inflation included the possibility that wage pressures could rise unexpectedly and lead to greater-than-expected price increases.

In their discussion of financial developments, participants observed that a good deal of the tightening over the latter part of last year in financial conditions had since been reversed; Federal Reserve communications since the beginning of this year were seen as an important contributor to the recent improvements in financial conditions. Participants noted that asset valuations had recovered strongly and also discussed the decline that had occurred in recent months in yields on longer-term Treasury securities. Several participants expressed concern that the yield curve for Treasury securities was now quite flat and noted that historical evidence suggested that an inverted yield curve could portend economic weakness; however, their discussion also noted that the unusually low level of term premiums in longer-term interest rates made historical relationships a less reliable basis for assessing the implications of the recent behavior of the yield curve. Several participants pointed to the increased debt issuance and higher leverage of nonfinancial corporations as a development that warranted continued monitoring.

In their discussion of monetary policy decisions at the current meeting, participants agreed that it would be appropriate to maintain the current target range for the federal funds rate at 2¼ to 2½ percent. Participants judged that the labor market remained strong, but that information received over the intermeeting period, including recent readings on household spending and business fixed investment, pointed to slower economic growth in the early part of this year than in the fourth quarter of 2018. Despite these indications of softer first-quarter growth, participants generally expected economic activity to continue to expand, labor markets to remain strong, and inflation to remain near 2 percent. Participants also noted significant uncertainties surrounding their economic outlooks, including those related to global economic and financial developments. In light of these uncertainties as well as continued evidence of muted inflation pressures, participants generally agreed that a patient approach to determining future adjustments to the target range for the federal funds rate remained appropriate. Several participants observed that the characterization of the Committee's approach to monetary policy as "patient" would need to be reviewed regularly as the economic outlook and uncertainties surrounding the outlook evolve. A couple of participants noted that the "patient" characterization should not be seen as limiting the Committee's options for making policy adjustments when they are deemed appropriate.

With regard to the outlook for monetary policy beyond this meeting, a majority of participants expected that the evolution of the economic outlook and risks to the outlook would likely warrant leaving the target range unchanged for the remainder of the year. Several of these participants noted that the current target range for the federal funds rate was close to their estimates of its longer-run neutral level and foresaw economic growth continuing near its longer-run trend rate over the forecast period. Participants continued to emphasize that their decisions about the appropriate target range for the federal funds rate at coming meetings would depend on their ongoing assessments of the economic outlook, as informed by a wide range of data, as well as on how the risks to the outlook evolved. Several participants noted that their views of the appropriate target range for the federal funds rate could shift in either direction based on incoming data and other developments. Some participants indicated that if the economy evolved as they currently expected, with economic growth above its longer-run trend rate, they would likely judge it appropriate to raise the target range for the federal funds rate modestly later this year.

Several participants expressed concerns that the public had, at times, misinterpreted the medians of participants' assessments of the appropriate level for the federal funds rate presented in the SEP as representing the consensus view of the Committee or as suggesting that policy was on a preset course. Such misinterpretations could complicate the Committee's communications regarding its view of appropriate monetary policy, particularly in circumstances when the future course of policy is unusually uncertain. Nonetheless, several participants noted that the policy rate projections in the SEP are a valuable component of the overall information provided about the monetary policy outlook. The Chair noted that he had asked the subcommittee on communications to consider ways to improve the information contained in the SEP and to improve communications regarding the role of the federal funds rate projections in the SEP as part of the policy process.

Participants also discussed alternative interpretations of subdued inflation pressures in current economic circumstances and the associated policy implications. Several participants observed that limited inflationary pressures during a period of historically low unemployment could be a sign that low inflation expectations were exerting downward pressure on inflation relative to the Committee's 2 percent inflation target; in addition, subdued inflation pressures could indicate a less tight labor market than suggested by common measures of resource utilization. Consistent with these observations, several participants noted that various indicators of inflation expectations had remained at the lower end of their historical range, and a few participants commented that they had recently revised down their estimates of the longer-run unemployment rate consistent with 2 percent inflation. In light of these considerations, some participants noted that the appropriate response of the federal funds rate to signs of labor market tightening could be modest provided that signs of inflation pressures continued to be limited. Some participants regarded their judgments that the federal funds rate was likely to remain on a very flat trajectory as reflecting other factors, such as low estimates of the longer-run neutral real interest rate or risk-management considerations. A few participants observed that the appropriate path for policy, insofar as it implied lower interest rates for longer periods of time, could lead to greater financial stability risks. However, a couple of these participants noted that such financial stability risks could be addressed through appropriate use of countercyclical macroprudential policy tools or other supervisory or regulatory tools.

Committee Policy Action

In their discussion of monetary policy for the period ahead, members judged that the information received since the Committee met in January indicated that the labor market remained strong but that growth of economic activity had slowed from its solid rate in the fourth quarter. Payroll employment was little changed in February, but job gains had been solid, on average, in recent months, and the unemployment rate had remained low. Recent indicators pointed to slower growth of household spending and business fixed investment in the first quarter. On a 12-month basis, overall inflation had declined, largely as a result of lower energy prices; inflation for items other than food and energy remained near 2 percent. On balance, market-based measures of inflation compensation had remained low in recent months, and survey-based measures of longer-term inflations expectations were little changed.

In their consideration of the economic outlook, members noted that financial conditions had improved since the beginning of year, but that some time would be needed to assess whether indications of weak economic growth in the first quarter would persist in subsequent quarters. Members also noted that inflationary pressures remained muted and that a number of uncertainties bearing on the U.S. and global economic outlook still awaited resolution. However, members continued to view sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective as the most likely outcomes for the U.S. economy in the period ahead. In light of global economic and financial developments and muted inflation pressures, members concurred that the Committee could be patient as it determined what future adjustments to the target range for the federal funds rate may be appropriate to support those outcomes.

After assessing current conditions and the outlook for economic activity, the labor market, and inflation, members decided to maintain the target range for the federal funds rate at 2¼ to 2½ percent. Members agreed that in determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee would assess realized and expected economic conditions relative to the Committee's maximum-employment and symmetric 2 percent inflation objectives. They reiterated that this assessment would take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. More generally, members noted that decisions regarding near-term adjustments of the stance of monetary policy would appropriately remain dependent on the evolution of the outlook as informed by incoming data.

With regard to the postmeeting statement, members agreed to characterize the labor market as remaining strong. While payroll employment had been little changed in February, job gains had been solid, on average, in recent months, and the unemployment rate had remained low. Members also agreed to note that growth in economic activity appeared to have slowed from its solid rate in the fourth quarter, consistent with recent indicators of household spending and business fixed investment. The description of overall inflation was revised to recognize that inflation had declined, largely as a result of lower energy prices, while still noting that inflation for items other than food and energy remained near 2 percent.

At the conclusion of the discussion, the Committee voted to authorize and direct the Federal Reserve Bank of New York, until instructed otherwise, to execute transactions in the SOMA in accordance with the following domestic policy directive, to be released at 2:00 p.m.:

> "Effective March 21, 2019, the Federal Open Market Committee directs the Desk to undertake open market operations as necessary to maintain the federal funds rate in a target range of 2¼ to 2½ percent, including overnight reverse repurchase operations (and reverse repurchase operations with maturities of more than one day when necessary to accommodate weekend, holiday, or similar trading conventions) at an offering rate of 2.25 percent, in amounts limited only by the value of Treasury securities held outright in the System Open Market Account that are available for such operations and by a per-counterparty limit of $30 billion per day.
>
> The Committee directs the Desk to continue rolling over at auction the amount of principal payments from the Federal Reserve's holdings of Treasury securities maturing during each calendar month that exceeds $30 billion, and to continue reinvesting in agency mortgage-backed securities the amount of principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities received during each calendar month that exceeds $20 billion. Small deviations from these amounts for operational reasons are acceptable.
>
> The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities transactions."

The vote also encompassed approval of the statement below to be released at 2:00 p.m.:

> "Information received since the Federal Open Market Committee met in January indicates that the labor market remains strong but that growth of economic activity has slowed from its solid rate in the fourth quarter. Payroll employment was little changed in February, but job gains have been solid, on average, in recent months, and the unemployment rate has remained low. Recent indicators point to slower growth of household spending and business fixed investment in the first quarter. On a 12-month basis, overall inflation has declined, largely as a result of lower energy prices; inflation for items other than food and energy remains near 2 percent. On balance, market-based measures of inflation compensation have remained low in recent months, and survey-based measures of longer-term inflation expectations are little changed.
>
> Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. In support of these goals, the Committee decided to maintain the target range for the federal funds rate at 2¼ to 2½ percent. The Committee continues to view sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective as the most likely outcomes. In light of global economic and financial developments and muted inflation pressures, the Committee will be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate to support these outcomes.
>
> In determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee will assess realized

and expected economic conditions relative to its maximum employment objective and its symmetric 2 percent inflation objective. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments."

Voting for this action: Jerome H. Powell, John C. Williams, Michelle W. Bowman, Lael Brainard, James Bullard, Richard H. Clarida, Charles L. Evans, Esther L. George, Randal K. Quarles, and Eric Rosengren.

Voting against this action: None.

Consistent with the Committee's decision to leave the target range for the federal funds rate unchanged, the Board of Governors voted unanimously to leave the interest rates on required and excess reserve balances unchanged at 2.40 percent and voted unanimously to approve establishment of the primary credit rate at the existing level of 3.00 percent, effective March 21, 2019.

It was agreed that the next meeting of the Committee would be held on Tuesday–Wednesday, April 30–May 1, 2019. The meeting adjourned at 10:00 a.m. on March 20, 2019.

Notation Vote

By notation vote completed on February 19, 2019, the Committee unanimously approved the minutes of the Committee meeting held on January 29–30, 2019.

James A. Clouse
Secretary

Summary of Economic Projections

In conjunction with the Federal Open Market Committee (FOMC) meeting held on March 19–20, 2019, meeting participants submitted their projections of the most likely outcomes for real gross domestic product (GDP) growth, the unemployment rate, and inflation for each year from 2019 to 2021 and over the longer run. Each participant's projections were based on information available at the time of the meeting, together with his or her assessment of appropriate monetary policy—including a path for the federal funds rate and its longer-run value—and assumptions about other factors likely to affect economic outcomes. The longer-run projections represent each participant's assessment of the value to which each variable would be expected to converge, over time, under appropriate monetary policy and in the absence of further shocks to the economy.[1] "Appropriate monetary policy" is defined as the future path of policy that each participant deems most likely to foster outcomes for economic activity and inflation that best satisfy his or her individual interpretation of the statutory mandate to promote maximum employment and price stability.

Participants who submitted longer-run projections generally expected that, under appropriate monetary policy, growth of real GDP in 2019 would run at or somewhat above their individual estimates of its longer-run rate. Most participants continued to expect real GDP growth to edge down over the projection horizon, with almost all participants projecting growth in 2021 to be at or below their estimates of its longer-run rate. All participants who submitted longer-run projections continued to expect that the unemployment rate would run at or below their estimates of its longer-run level through 2021. Almost all participants projected that inflation, as measured by the four-quarter percentage change in the price index for personal consumption expenditures (PCE), would increase slightly over the next two years, and most participants expected that it would be at or slightly above the Committee's 2 percent objective in 2020 and 2021. Compared with the Summary of Economic Projections (SEP) from December 2018, all participants marked down somewhat their projections for real GDP growth in 2019, and most revised down slightly their projections for total inflation in 2019. Table 1 and figure 1 provide summary statistics for the projections.

As shown in figure 2, most participants expected that the evolution of the economy, relative to their objectives of maximum employment and 2 percent inflation, would likely warrant keeping the federal funds rate at its current level through the end of 2019. The medians of participants' assessments of the appropriate level of the federal funds rate in 2020 and 2021 were close to the median assessment of its longer-run level. Compared with the December submissions, the median projections for the federal funds rate for the end of 2019, 2020, and 2021 were 50 basis points lower.

A substantial majority of participants continued to view the uncertainty around their projections as broadly similar to the average of the past 20 years. While a majority of participants viewed the risks to the outlook as balanced, a couple more participants than in December viewed the risks to inflation as weighted to the downside.

The Outlook for Economic Activity

As shown in table 1, the median of participants' projections for the growth rate of real GDP in 2019, conditional on their individual assessments of appropriate monetary policy, was 2.1 percent. Most participants continued to expect GDP growth to slow throughout the projection horizon, with the median projection at 1.9 percent in 2020 and at 1.8 percent in 2021, a touch lower than the median estimate of its longer-run rate of 1.9 percent. Relative to the December SEP, the medians of the projections for real GDP growth in 2019 and 2020 were 0.2 percentage point and 0.1 percentage point lower, respectively. Most participants mentioned a recent patch of weaker data on domestic economic activity, and some pointed to a softer global growth outlook, as factors behind the downward revisions to their near-term growth estimates.

The median of projections for the unemployment rate in the fourth quarter of 2019 was 3.7 percent, about ½ percentage point below the median assessment of its longer-run level. The median projections for 2020 and 2021 were 3.8 percent and 3.9 percent, respectively. These median unemployment rates were a little higher than those from the December SEP. Nevertheless, most participants continued to project that the unemployment rate in 2021 would be below their estimates of its longer-run level. The median estimate of the longer-run rate of

[1] One participant did not submit longer-run projections for real GDP growth, the unemployment rate, or the federal funds rate.

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assessments of projected appropriate monetary policy, March 2019

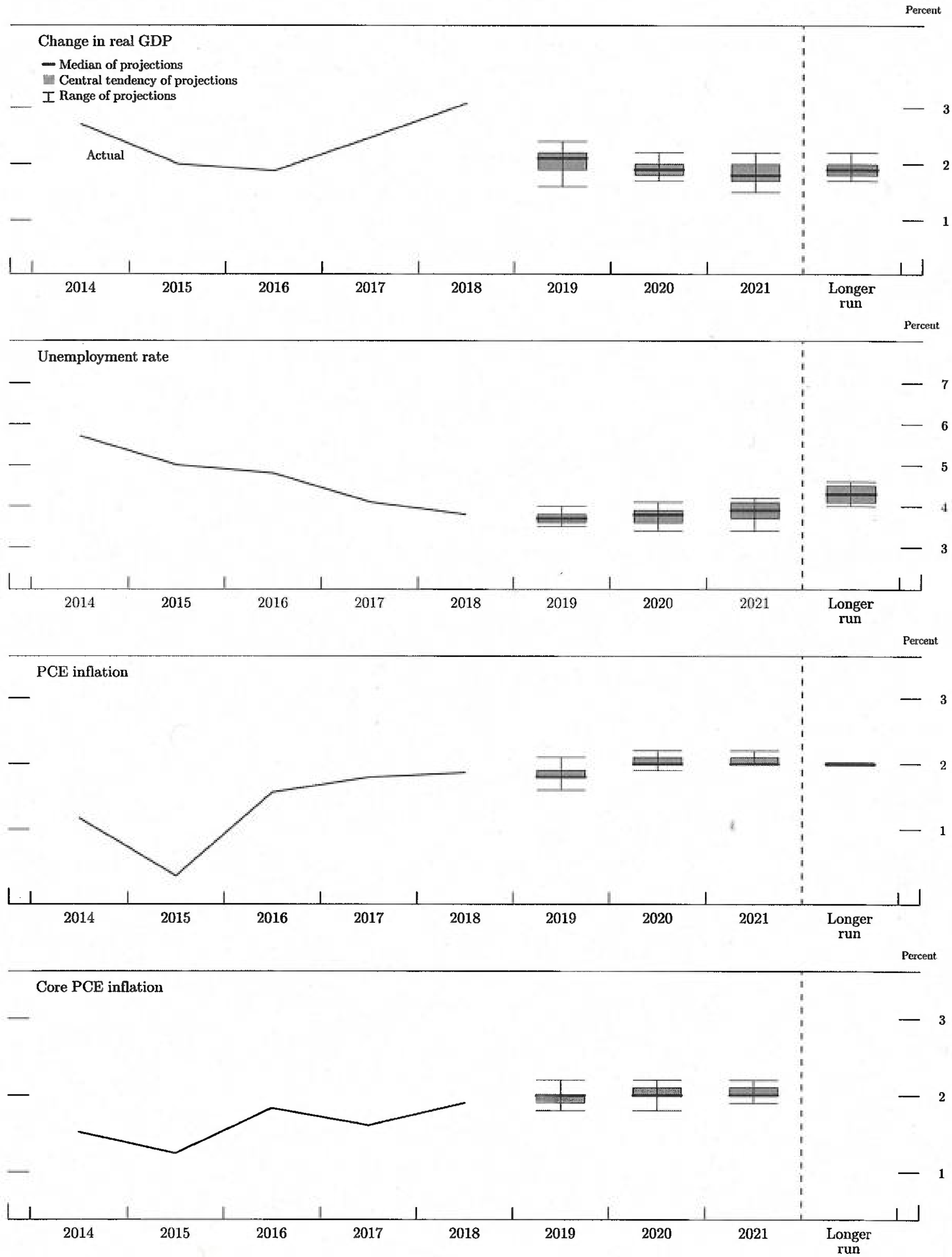
Percent

Variable	Median[1]				Central tendency[2]				Range[3]			
	2019	2020	2021	Longer run	2019	2020	2021	Longer run	2019	2020	2021	Longer run
Change in real GDP	2.1	1.9	1.8	1.9	1.9 – 2.2	1.8 – 2.0	1.7 – 2.0	1.8 – 2.0	1.6 – 2.4	1.7 – 2.2	1.5 – 2.2	1.7 – 2.2
December projection	2.3	2.0	1.8	1.9	2.3 – 2.5	1.8 – 2.0	1.5 – 2.0	1.8 – 2.0	2.0 – 2.7	1.5 – 2.2	1.4 – 2.1	1.7 – 2.2
Unemployment rate	3.7	3.8	3.9	4.3	3.6 – 3.8	3.6 – 3.9	3.7 – 4.1	4.1 – 4.5	3.5 – 4.0	3.4 – 4.1	3.4 – 4.2	4.0 – 4.6
December projection	3.5	3.6	3.8	4.4	3.5 – 3.7	3.5 – 3.8	3.6 – 3.9	4.2 – 4.5	3.4 – 4.0	3.4 – 4.3	3.4 – 4.2	4.0 – 4.6
PCE inflation	1.8	2.0	2.0	2.0	1.8 – 1.9	2.0 – 2.1	2.0 – 2.1	2.0	1.6 – 2.1	1.9 – 2.2	2.0 – 2.2	2.0
December projection	1.9	2.1	2.1	2.0	1.8 – 2.1	2.0 – 2.1	2.0 – 2.1	2.0	1.8 – 2.2	2.0 – 2.2	2.0 – 2.3	2.0
Core PCE inflation[4]	2.0	2.0	2.0		1.9 – 2.0	2.0 – 2.1	2.0 – 2.1		1.8 – 2.2	1.8 – 2.2	1.9 – 2.2	
December projection	2.0	2.0	2.0		2.0 – 2.1	2.0 – 2.1	2.0 – 2.1		1.9 – 2.2	2.0 – 2.2	2.0 – 2.3	
Memo: Projected appropriate policy path												
Federal funds rate	2.4	2.6	2.6	2.8	2.4 – 2.6	2.4 – 2.9	2.4 – 2.9	2.5 – 3.0	2.4 – 2.9	2.4 – 3.4	2.4 – 3.6	2.5 – 3.5
December projection	2.9	3.1	3.1	2.8	2.6 – 3.1	2.9 – 3.4	2.6 – 3.1	2.5 – 3.0	2.4 – 3.1	2.4 – 3.6	2.4 – 3.6	2.5 – 3.5

NOTE: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The projections for the federal funds rate are the value of the midpoint of the projected appropriate target range for the federal funds rate or the projected appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. The December projections were made in conjunction with the meeting of the Federal Open Market Committee on December 18–19, 2018. One participant did not submit longer-run projections for the change in real GDP, the unemployment rate, or the federal funds rate in conjunction with the December 18–19, 2018, meeting, and one participant did not submit such projections in conjunction with the March 19–20, 2019, meeting.

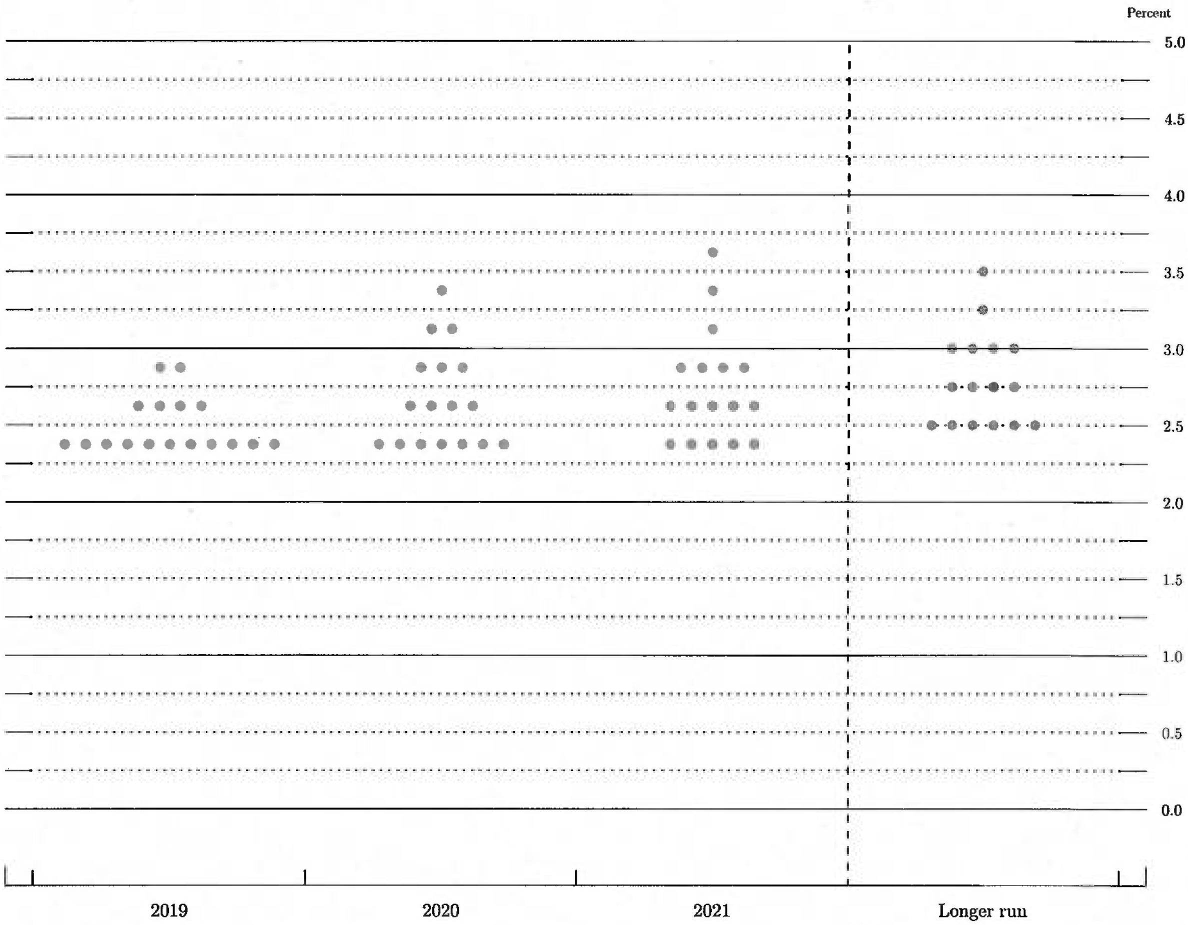
1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.
2. The central tendency excludes the three highest and three lowest projections for each variable in each year.
3. The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.
4. Longer-run projections for core PCE inflation are not collected.

Figure 1. Medians, central tendencies, and ranges of economic projections, 2019–21 and over the longer run



NOTE: Definitions of variables and other explanations are in the notes to table 1. The data for the actual values of the variables are annual.

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



NOTE: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. One participant did not submit longer-run projections for the federal funds rate.

unemployment was 4.3 percent, which was slightly lower than in December.

Figures 3.A and 3.B show the distributions of participants' projections for real GDP growth and the unemployment rate from 2019 to 2021 and in the longer run. The distribution of individual projections for real GDP growth for 2019 shifted down relative to that in the December SEP, while the distributions for 2020, 2021, and the longer-run rate of GDP growth changed only slightly. The distributions of individual projections for the unemployment rate in 2019 and 2020 moved modestly higher relative to those in December, and the distribution in 2021 edged higher as well. Meanwhile, the distribution for the longer-run unemployment rate shifted down a touch.

The Outlook for Inflation

As shown in table 1, the medians of projections for total PCE price inflation were 1.8 percent in 2019 and 2.0 percent in both 2020 and 2021, each a touch lower than in the December SEP. The medians of projections for core PCE price inflation over the 2019–21 period were 2.0 percent, the same as in December.

Figures 3.C and 3.D provide information on the distributions of participants' views about the outlook for inflation. The distributions of projections for total PCE price inflation and core PCE price inflation in 2019, 2020, and 2021 shifted down slightly from the December SEP. Almost all participants expected that total and core PCE price inflation would be between 1.8 and 2.2 percent throughout the projection horizon.

Appropriate Monetary Policy

Figure 3.E shows distributions of participants' judgments regarding the appropriate target—or midpoint of the target range—for the federal funds rate at the end of each year from 2019 to 2021 and over the longer run. The distributions for 2019 through 2021 shifted toward lower values. Compared with the projections prepared for the December SEP, the median federal funds rate was 50 basis points lower each year over the 2019–21 period. At the end of 2019, the median of federal funds rate projections was 2.38 percent, consistent with no rate increases over the course of 2019. Thereafter, the medians of the projections were 2.63 percent at the end of both 2020 and 2021, slightly lower than the median of the longer-run projections of the federal funds rate of 2.75 percent. Muted inflationary pressures and risk-management considerations were both cited as factors contributing to the downward revisions in participants' assessments of the appropriate path for the policy rate. The distribution of individual projections for the longer-run federal funds rate ticked down from December.

Table 2. Average historical projection error ranges
Percentage points

Variable	2019	2020	2021
Change in real GDP[1]	±1.4	±1.9	±1.9
Unemployment rate[1]	±0.5	±1.3	±1.7
Total consumer prices[2]	±0.9	±1.0	±1.1
Short-term interest rates[3]	±0.9	±2.0	±2.5

NOTE: Error ranges shown are measured as plus or minus the root mean squared error of projections for 1999 through 2018 that were released in the spring by various private and government forecasters. As described in the box "Forecast Uncertainty," under certain assumptions, there is about a 70 percent probability that actual outcomes for real GDP, unemployment, consumer prices, and the federal funds rate will be in ranges implied by the average size of projection errors made in the past. For more information, see David Reifschneider and Peter Tulip (2017), "Gauging the Uncertainty of the Economic Outlook Using Historical Forecasting Errors: The Federal Reserve's Approach," Finance and Economics Discussion Series 2017-020 (Washington: Board of Governors of the Federal Reserve System, February), https://dx.doi.org/10.17016/FEDS.2017.020.

1. Definitions of variables are in the general note to table 1.

2. Measure is the overall consumer price index, the price measure that has been most widely used in government and private economic forecasts. Projections are percent changes on a fourth quarter to fourth quarter basis.

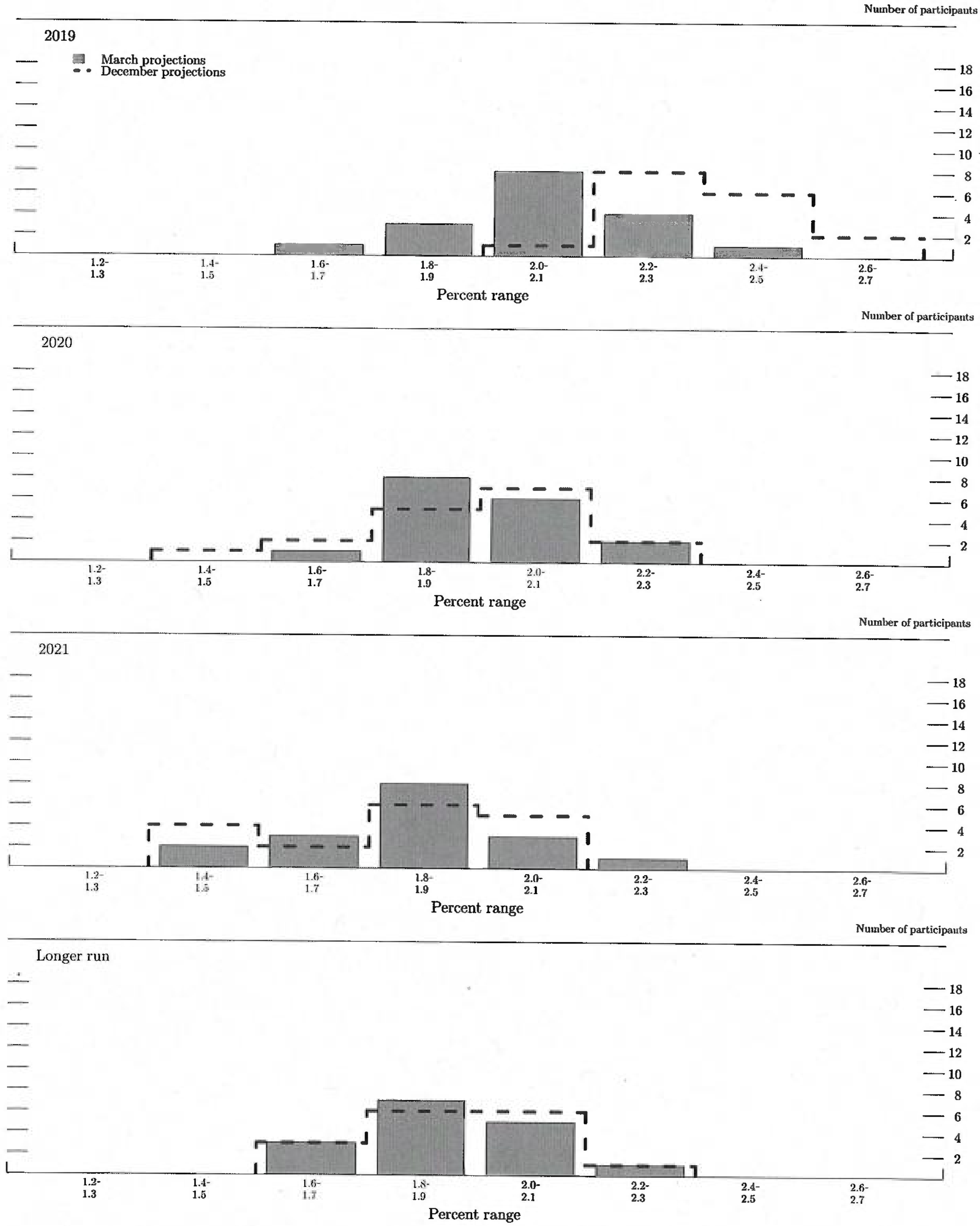
3. For Federal Reserve staff forecasts, measure is the federal funds rate. For other forecasts, measure is the rate on 3-month Treasury bills. Projection errors are calculated using average levels, in percent, in the fourth quarter.

Uncertainty and Risks

In assessing the appropriate path of the federal funds rate, FOMC participants take account of the range of possible economic outcomes, the likelihood of those outcomes, and the potential benefits and costs should they occur. As a reference, table 2 provides measures of forecast uncertainty—based on the forecast errors of various private and government forecasts over the past 20 years—for real GDP growth, the unemployment rate, and total PCE price inflation. Those measures are represented graphically in the "fan charts" shown in the top panels of figures 4.A, 4.B, and 4.C. The fan charts display the SEP medians for the three variables surrounded by symmetric confidence intervals derived from the forecast errors reported in table 2. If the degree of uncertainty attending these projections is similar to the typical magnitude of past forecast errors and the risks around the projections are broadly balanced, then future outcomes of these variables would have about a 70 percent probability of being within these confidence intervals. For all three variables, this measure of uncertainty is substantial and generally increases as the forecast horizon lengthens.

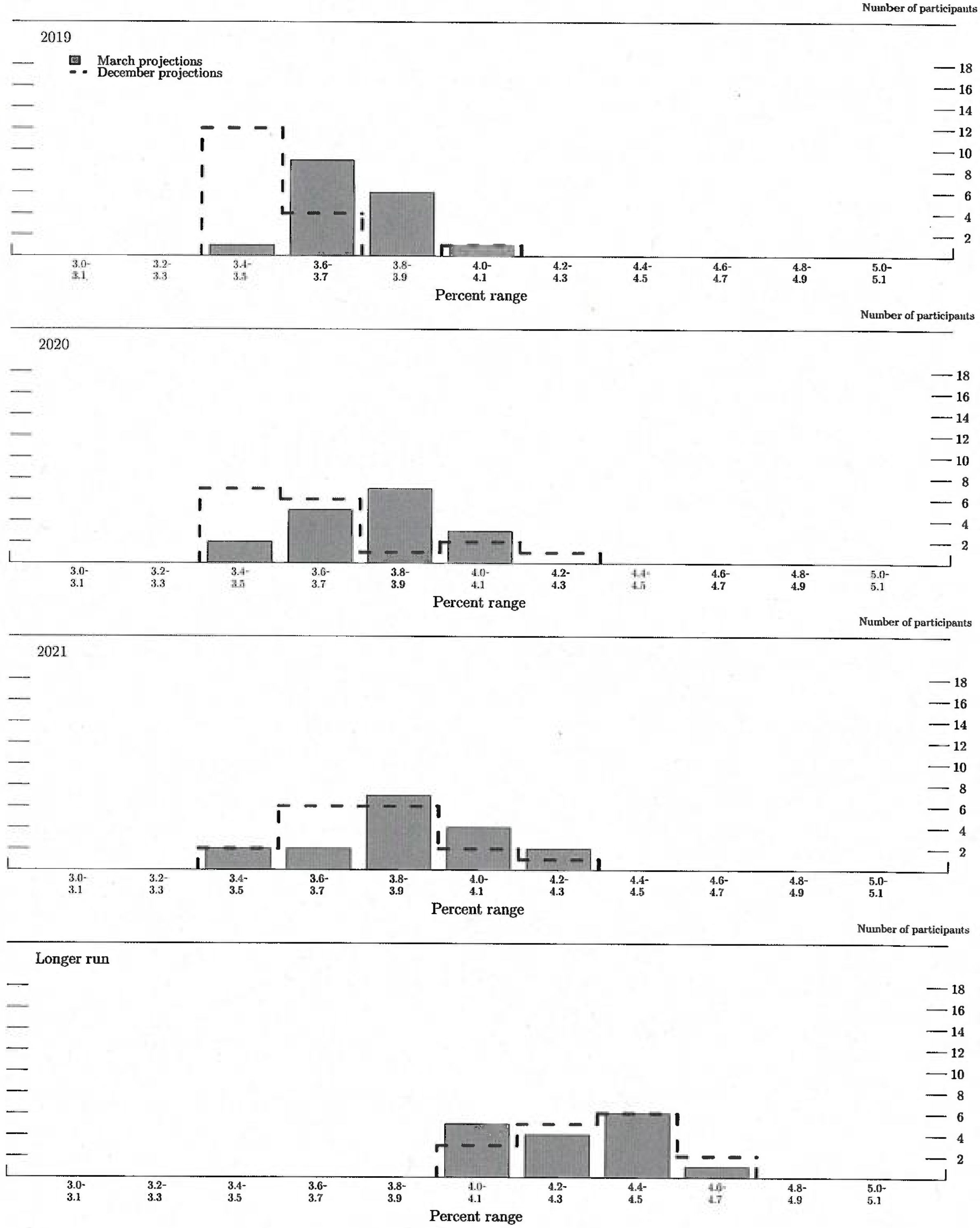
Participants' assessments of the level of uncertainty surrounding their individual economic projections are shown in the bottom-left panels of figures 4.A, 4.B, and 4.C. A substantial majority of participants continued to

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2019–21 and over the longer run



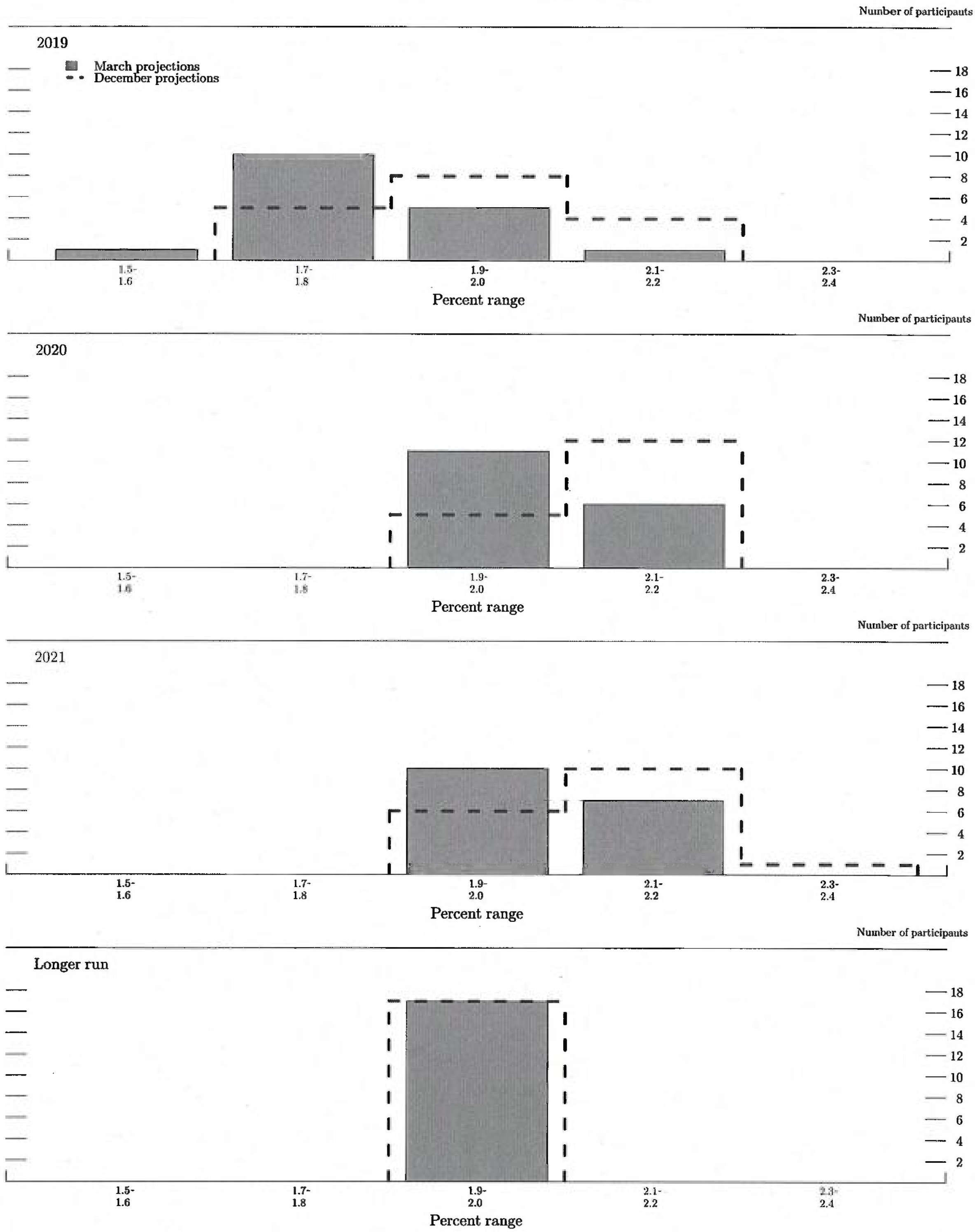
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2019–21 and over the longer run



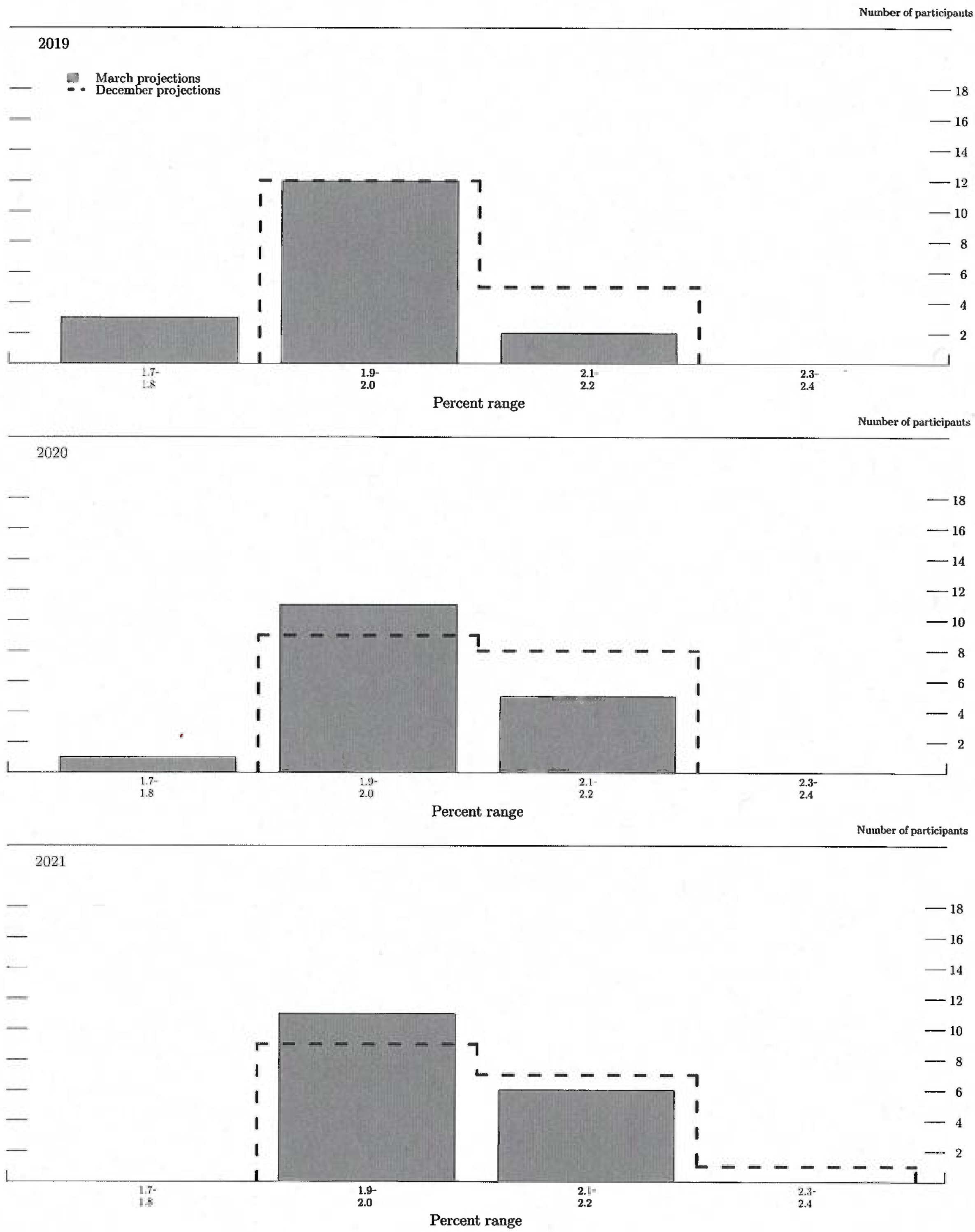
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2019–21 and over the longer run



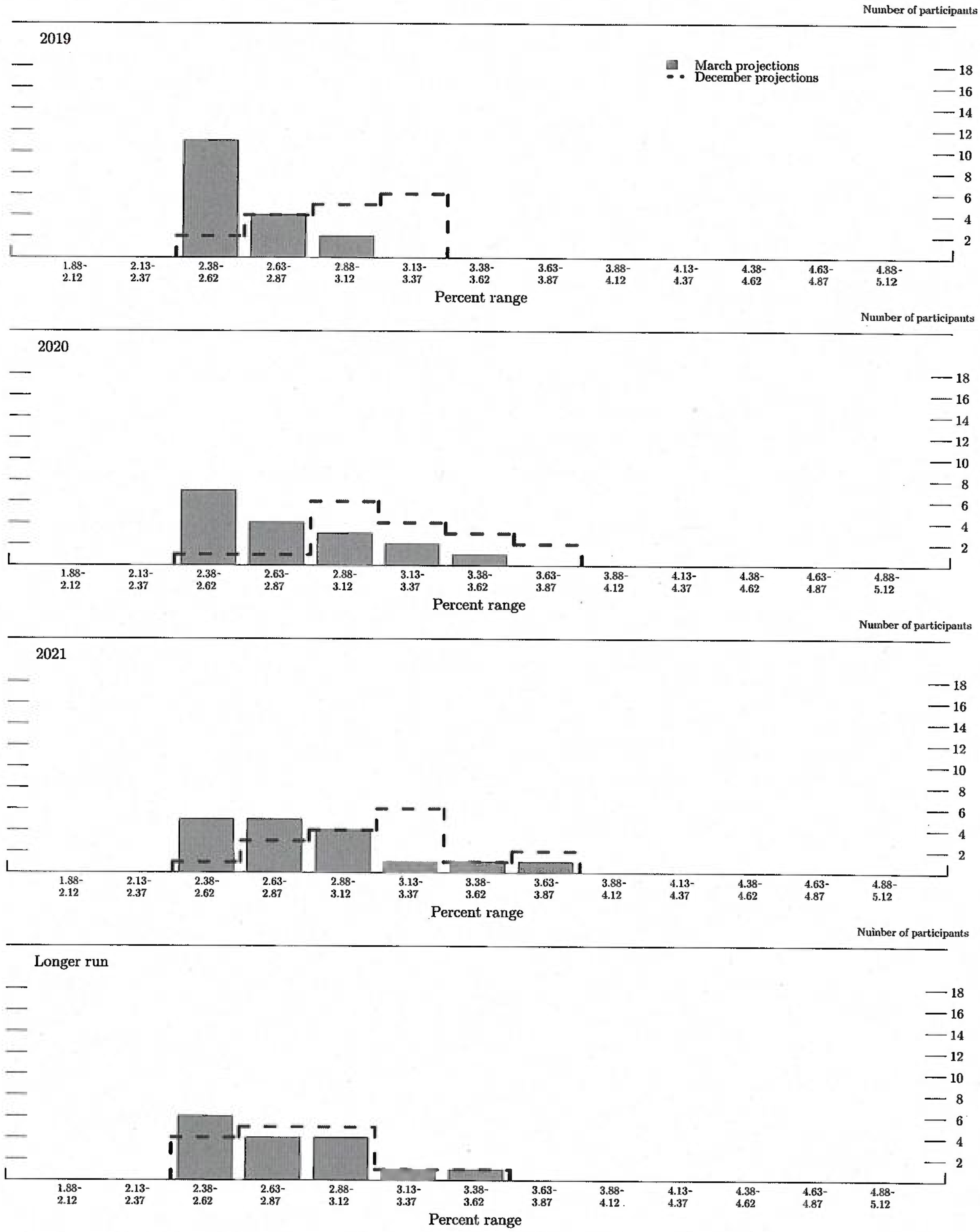
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2019–21



NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.E. Distribution of participants' judgments of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate, 2019–21 and over the longer run



NOTE: Definitions of variables and other explanations are in the notes to table 1.

view the degree of uncertainty attached to their economic projections for real GDP growth, unemployment, and inflation as broadly similar to the average of the past 20 years.[2]

Because the fan charts are constructed to be symmetric around the median projections, they do not reflect any asymmetries in the balance of risks that participants may see in their economic projections. Participants' assessments of the balance of risks to their current economic projections are shown in the bottom-right panels of figures 4.A, 4.B, and 4.C. A majority of participants judged the risks to the outlook for real GDP growth, the unemployment rate, total inflation, and core inflation as broadly balanced—in other words, as broadly consistent with a symmetric fan chart. The balance of risks to the projection for real GDP growth shifted a bit lower, with four participants assessing the risks as weighted to the downside and no participant seeing it weighted to the upside. The balance of risks to the projection for the unemployment rate moved a touch higher, with three participants judging the risks to the unemployment rate as weighted to the upside and two participants viewing the risks as weighted to the downside. In addition, the balance of risks to the inflation projections shifted down slightly relative to December. Two more participants than in December saw the risks to the inflation projections as weighted to the downside, and no participant judged the risks as weighted to the upside.

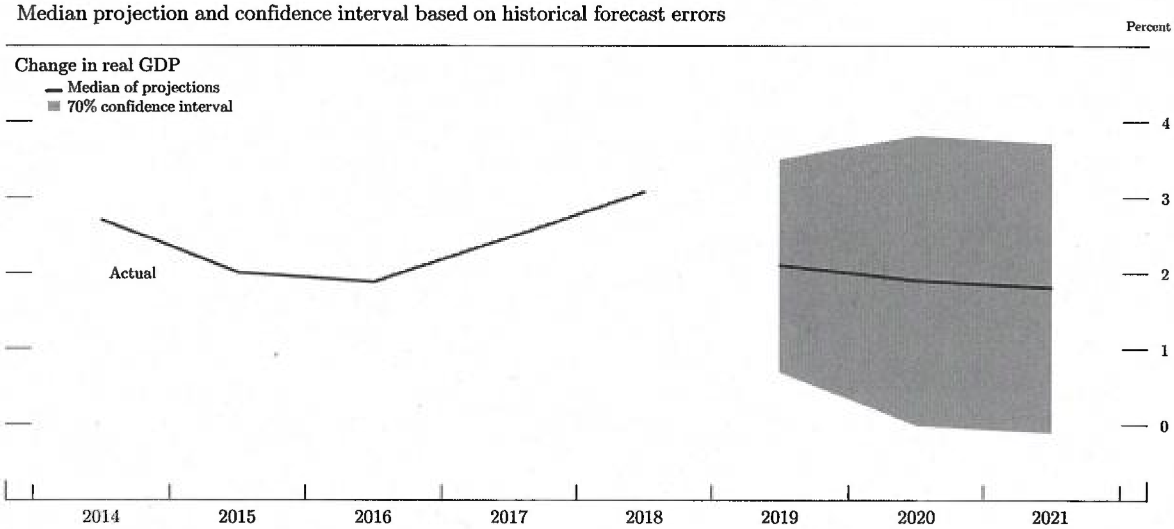
In discussing the uncertainty and risks surrounding their economic projections, trade tensions as well as developments abroad were mentioned by participants as sources of uncertainty or downside risk to the economic growth outlook. For the inflation outlook, the effect of trade restrictions was cited as an upside risk, while the concern that inflation expectations could be drifting below the FOMC's objective and the potential for a stronger dollar and weaker domestic demand to put downward pressure on inflation were viewed as downside risks. A number of participants mentioned that their assessments of risks remained roughly balanced in part as a result of their downward revisions to the appropriate federal funds rate path.

Participants' assessments of the appropriate future path of the federal funds rate are also subject to considerable uncertainty. Because the Committee adjusts the federal funds rate in response to actual and prospective developments over time in key economic variables such as real GDP growth, the unemployment rate, and inflation, uncertainty surrounding the projected path for the federal funds rate importantly reflects the uncertainties about the paths for these economic variables along with other factors. Figure 5 provides a graphical representation of this uncertainty, plotting the SEP median for the federal funds rate surrounded by confidence intervals derived from the results presented in table 2. As with the macroeconomic variables, the forecast uncertainty surrounding the appropriate path of the federal funds rate is substantial and increases for longer horizons.

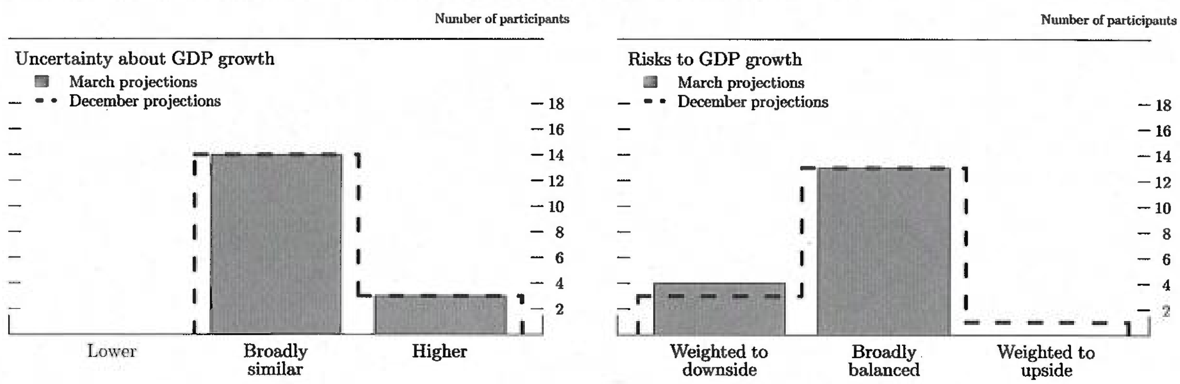
[2] At the end of this summary, the box "Forecast Uncertainty" discusses the sources and interpretation of uncertainty surrounding the economic forecasts and explains the approach used to assess the uncertainty and risks attending the participants' projections.

Figure 4.A. Uncertainty and risks in projections of GDP growth

Median projection and confidence interval based on historical forecast errors



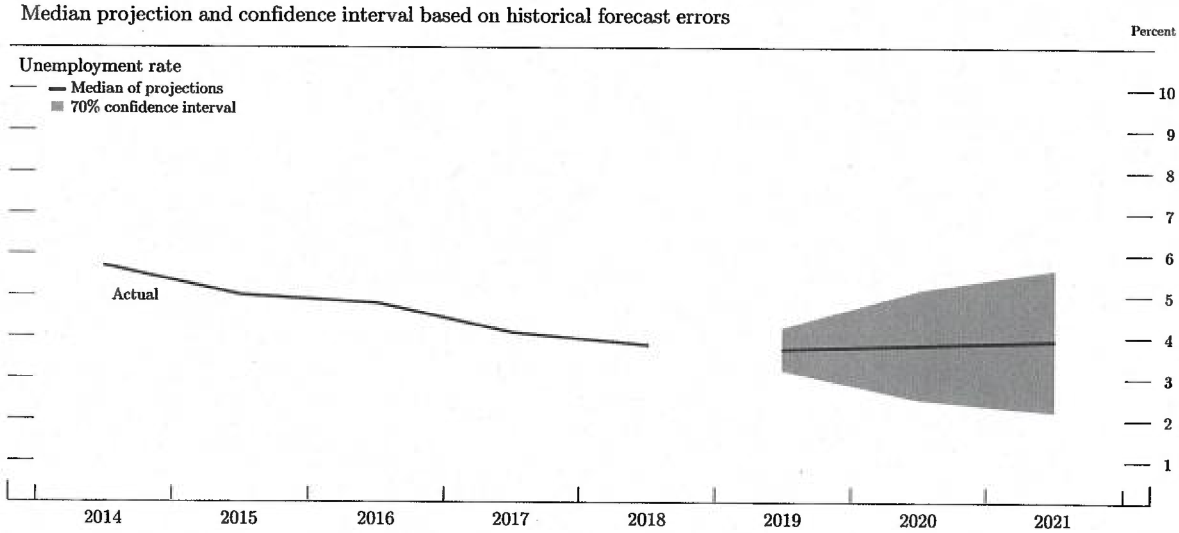
FOMC participants' assessments of uncertainty and risks around their economic projections



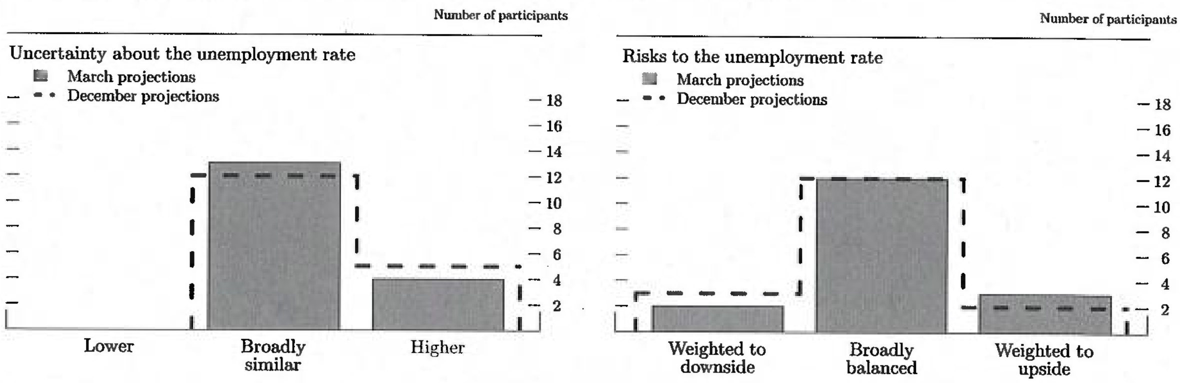
NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in real gross domestic product (GDP) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

Figure 4.B. Uncertainty and risks in projections of the unemployment rate

Median projection and confidence interval based on historical forecast errors

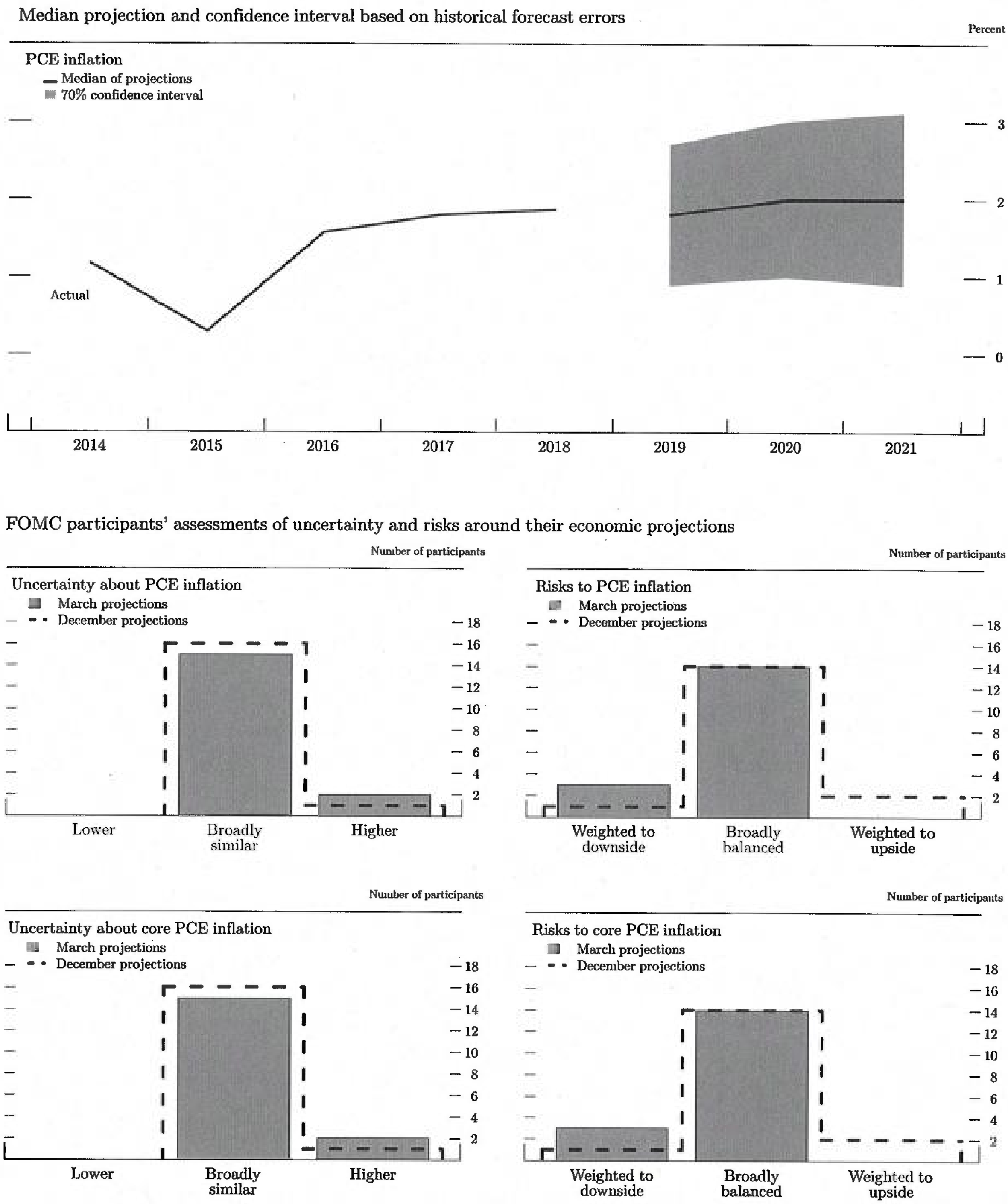


FOMC participants' assessments of uncertainty and risks around their economic projections



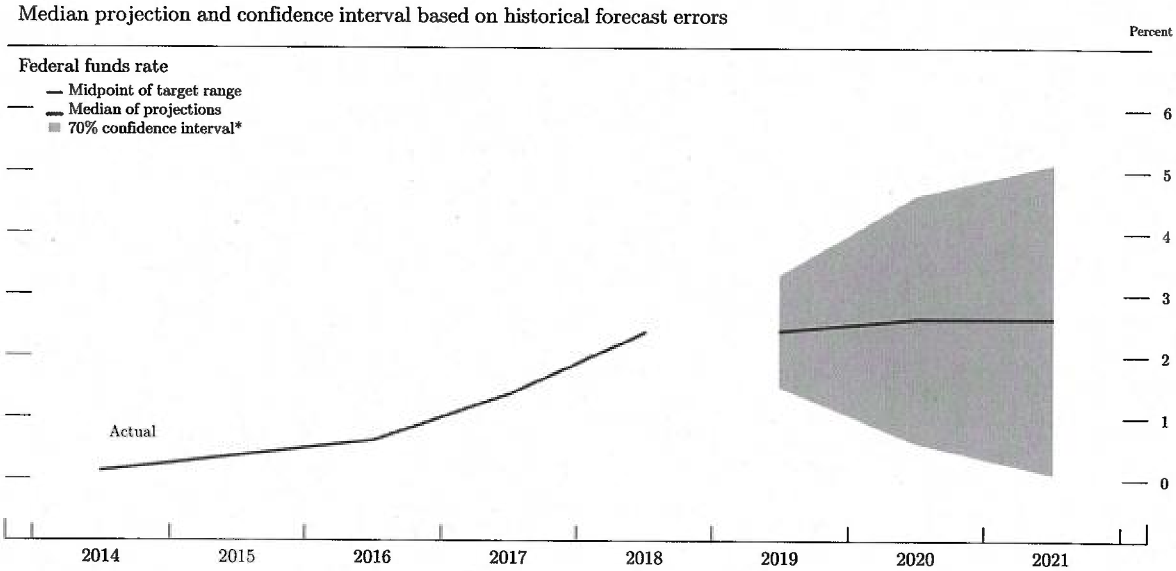
NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the average civilian unemployment rate in the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

Figure 4.C. Uncertainty and risks in projections of PCE inflation



NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in the price index for personal consumption expenditures (PCE) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

Figure 5. Uncertainty in projections of the federal funds rate



NOTE: The blue and red lines are based on actual values and median projected values, respectively, of the Committee's target for the federal funds rate at the end of the year indicated. The actual values are the midpoint of the target range; the median projected values are based on either the midpoint of the target range or the target level. The confidence interval around the median projected values is based on root mean squared errors of various private and government forecasts made over the previous 20 years. The confidence interval is not strictly consistent with the projections for the federal funds rate, primarily because these projections are not forecasts of the likeliest outcomes for the federal funds rate, but rather projections of participants' individual assessments of appropriate monetary policy. Still, historical forecast errors provide a broad sense of the uncertainty around the future path of the federal funds rate generated by the uncertainty about the macroeconomic variables as well as additional adjustments to monetary policy that may be appropriate to offset the effects of shocks to the economy.

The confidence interval is assumed to be symmetric except when it is truncated at zero—the bottom of the lowest target range for the federal funds rate that has been adopted in the past by the Committee. This truncation would not be intended to indicate the likelihood of the use of negative interest rates to provide additional monetary policy accommodation if doing so was judged appropriate. In such situations, the Committee could also employ other tools, including forward guidance and large-scale asset purchases, to provide additional accommodation. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections.

* The confidence interval is derived from forecasts of the average level of short-term interest rates in the fourth quarter of the year indicated; more information about these data is available in table 2. The shaded area encompasses less than a 70 percent confidence interval if the confidence interval has been truncated at zero.

Forecast Uncertainty

The economic projections provided by the members of the Board of Governors and the presidents of the Federal Reserve Banks inform discussions of monetary policy among policymakers and can aid public understanding of the basis for policy actions. Considerable uncertainty attends these projections, however. The economic and statistical models and relationships used to help produce economic forecasts are necessarily imperfect descriptions of the real world, and the future path of the economy can be affected by myriad unforeseen developments and events. Thus, in setting the stance of monetary policy, participants consider not only what appears to be the most likely economic outcome as embodied in their projections, but also the range of alternative possibilities, the likelihood of their occurring, and the potential costs to the economy should they occur.

Table 2 summarizes the average historical accuracy of a range of forecasts, including those reported in past *Monetary Policy Reports* and those prepared by the Federal Reserve Board's staff in advance of meetings of the Federal Open Market Committee (FOMC). The projection error ranges shown in the table illustrate the considerable uncertainty associated with economic forecasts. For example, suppose a participant projects that real gross domestic product (GDP) and total consumer prices will rise steadily at annual rates of, respectively, 3 percent and 2 percent. If the uncertainty attending those projections is similar to that experienced in the past and the risks around the projections are broadly balanced, the numbers reported in table 2 would imply a probability of about 70 percent that actual GDP would expand within a range of 1.6 to 4.4 percent in the current year and 1.1 to 4.9 percent in the second and third years. The corresponding 70 percent confidence intervals for overall inflation would be 1.1 to 2.9 percent in the current year, 1.0 to 3.0 percent in the second year, and 0.9 to 3.1 percent in the third year. Figures 4.A through 4.C illustrate these confidence bounds in "fan charts" that are symmetric and centered on the medians of FOMC participants' projections for GDP growth, the unemployment rate, and inflation. However, in some instances, the risks around the projections may not be symmetric. In particular, the unemployment rate cannot be negative; furthermore, the risks around a particular projection might be tilted to either the upside or the downside, in which case the corresponding fan chart would be asymmetrically positioned around the median projection.

Because current conditions may differ from those that prevailed, on average, over history, participants provide judgments as to whether the uncertainty attached to their projections of each economic variable is greater than, smaller than, or broadly similar to typical levels of forecast uncertainty seen in the past 20 years, as presented in table 2 and reflected in the widths of the confidence intervals shown in the top panels of figures 4.A through 4.C. Participants' current assessments of the uncertainty surrounding their projections are summarized in the bottom-left panels of those figures. Participants also provide judgments as to whether the risks to their projections are weighted to the upside, are weighted to the downside, or are broadly balanced. That is, while the symmetric historical fan charts shown in the top panels of figures 4.A through 4.C imply that the risks to participants' projections are balanced, participants may judge that there is a greater risk that a given variable will be above rather than below their projections. These judgments are summarized in the lower-right panels of figures 4.A through 4.C.

As with real activity and inflation, the outlook for the future path of the federal funds rate is subject to considerable uncertainty. This uncertainty arises primarily because each participant's assessment of the appropriate stance of monetary policy depends importantly on the evolution of real activity and inflation over time. If economic conditions evolve in an unexpected manner, then assessments of the appropriate setting of the federal funds rate would change from that point forward. The final line in table 2 shows the error ranges for forecasts of short-term interest rates. They suggest that the historical confidence intervals associated with projections of the federal funds rate are quite wide. It should be noted, however, that these confidence intervals are not strictly consistent with the projections for the federal funds rate, as these projections are not forecasts of the most likely quarterly outcomes but rather are projections of participants' individual assessments of appropriate monetary policy and are on an end-of-year basis. However, the forecast errors should provide a sense of the uncertainty around the future path of the federal funds rate generated by the uncertainty about the macroeconomic variables as well as additional adjustments to monetary policy that would be appropriate to offset the effects of shocks to the economy.

If at some point in the future the confidence interval around the federal funds rate were to extend below zero, it would be truncated at zero for purposes of the fan chart shown in figure 5; zero is the bottom of the lowest target range for the federal funds rate that has been adopted by the Committee in the past. This approach to the construction of the federal funds rate fan chart would be merely a convention; it would not have any implications for possible future policy decisions regarding the use of negative interest rates to provide additional monetary policy accommodation if doing so were appropriate. In such situations, the Committee could also employ other tools, including forward guidance and asset purchases, to provide additional accommodation.

While figures 4.A through 4.C provide information on the uncertainty around the economic projections, figure 1 provides information on the range of views across FOMC participants. A comparison of figure 1 with figures 4.A through 4.C shows that the dispersion of the projections across participants is much smaller than the average forecast errors over the past 20 years.

KENTUCKY AMERICAN WATER COMPANY
Case No. 2015-00418
PAYROLL ANALYSIS BY EMPLOYEE CLASSIFICATION (WATER SEGMENT ONLY)
FOR THE TWELVE MONTHS ENDED: April 30, 2016 (Base Period)
FOR THE TWELVE MONTHS ENDED: AUGUST 31, 2017 (Forecast Period)

Data: X Base Period X Forecast Period
Version: X Original _Updated _Revised

Exhibit 37, Schedule G-2
O&M\[Labor and Labor Related Exhibit.xlsx]Exh 37 G
Witness Responsible: Donald Petry

Line No.	Description	12 Mos. Oct 2011	% Change	12 Mos. Oct 2012	% Change	12 Mos. Oct 2013	% Change	12 Mos. Oct 2014	% Change	12 Mos. Oct 2015	% Change	Base Period	% Change	Forecasted Period
1														
2	Total Company													
3														
4	Employee Hours:													
5	Straight-Time Hours	308,364	-14.40%	263,948	-3.03%	255,938	0.84%	258,087	-1.60%	253,953	18.79%	301,660	-3.85%	290,040
6	Overtime Hours	22,157	-15.91%	18,632	18.68%	22,113	25.97%	27,857	-8.89%	25,379	-2.22%	24,816	-31.71%	16,947
7														
8	Total Employee Hours	330,521		282,580		278,052		285,943		279,332		326,476		306,987
9														
10	Ratio of Overtime Hours to													
11	Straight-Time Hours	7.19%		7.06%		8.64%		10.79%		9.99%		8.23%		5.84%
12														
13														
14	Labor Dollars:													
15	Straight-Time Dollars	$8,554,102	-11.64%	$7,558,311	-4.15%	$7,244,473	3.15%	$7,472,717	0.33%	$7,497,118	2.57%	$7,689,822	8.73%	$8,361,296
16	Overtime Dollars	792,859	-12.16%	696,430	21.59%	846,804	29.81%	1,099,258	-9.05%	999,769	-11.06%	889,192	-24.59%	670,560
17														
18	Total Labor Dollars	$9,346,962		$8,254,741		$8,091,278		$8,571,975		$8,496,888		$8,579,014		$9,031,855
19														
20	Ratio of Overtime Dollars to													
21	Straight-Time Dollars	9.27%		9.21%		11.69%		14.71%		13.34%		11.56%		8.02%
22														
23														
24	O&M Labor Dollars	7,872,456	-10.56%	7,040,971	-5.27%	6,669,921	3.40%	6,896,432	-0.54%	6,859,275	3.57%	7,103,811	3.50%	7,352,130
25	Ratio of Labor Dollars to													
26	Total Labor Dollars	84.22%		85.30%		82.43%		80.45%		80.73%		82.80%		81.40%
27														
28														
29	Total Employee Benefits	4,097,506	-3.93%	3,936,320	-7.34%	3,647,267	-28.64%	2,602,675	18.82%	3,092,588	5.96%	3,276,792	8.86%	3,566,984
30	Employee Benefits Expensed	3,386,175	-2.93%	3,286,867	-10.00%	2,958,221	-32.73%	1,989,865	22.74%	2,442,427	6.56%	2,602,700	11.39%	2,899,083
31	Ratio of Employee Benefits Expensed													
32	to Total Employee Benefits	79.30%		78.47%		79.85%		81.73%		83.18%		79.43%		81.28%
33														
34														
35	Total Payroll Taxes	683,138	-5.96%	642,435	-4.73%	612,039	-0.20%	610,832	11.03%	678,200	-4.03%	650,891	9.67%	713,863
36	Payroll Taxes Expensed	576,953	-5.82%	543,361	-7.26%	503,928	-5.98%	473,769	16.08%	549,960	-2.62%	535,550	7.59%	576,225
37	Ratio of Payroll Taxes Expensed													
38	to Total Payroll Taxes	79.30%		78.47%		79.85%		81.73%		83.18%		82.28%		80.72%
39														
40														
41	Average Employee Levels	142	-6.34%	133	-4.51%	127	-2.36%	124	4.03%	129	5.04%	136	2.58%	139
42														
43	Year-End Employee Levels	138	-7.97%	127	0.79%	128	-3.91%	123	7.32%	132	5.30%	139	0.00%	139

AG Hearing Exhibit No. 15

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

ELECTRONIC INVESTIGATION INTO THE EXCESSIVE WATER LOSS BY KENTUCKY'S JURISDICTIONAL WATER UTILITIES	)))	CASE NO. 2019-00041

MOTION TO DISMISS

Kentucky-American Water Company ("KAW"), by counsel, moves the Public Service Commission ("Commission") to enter an Order dismissing KAW from this proceeding for two reasons: (1) KAW's water loss is far below 35 percent, and a plain reading of the Commission's regulations and Commission precedent require that the Commission consider water loss on a utility-wide basis, and (2) KAW already has a plan in place to address water loss in its Southern Division. In support of this Motion, KAW states as follows:

1. On March 12, 2019, the Commission initiated an investigation "to review the excessive water loss by Kentucky's jurisdictional water utilities that report over 35 percent water loss in their annual reports on file with the Commission."[1] The Commission included KAW as a party to this proceeding, but stated that the investigation was "only for the former Eastern Rockcastle Water Association, Inc."[2]

2. KAW should be dismissed from this proceeding because KAW's system-wide unaccounted-for water loss is less than 20 percent, far below the 35 percent threshold the Commission identified in its Order. A plain reading of the Commission's regulations and Order require the Commission to calculate unaccounted-for water loss on a total-utility basis. 807 KAR 5:066 Section 6(3) states that for ratemaking purposes, a utility's unaccounted-for water

[1] Order at 1 (Ky. PSC Mar. 12, 2019).
[2] *Id.* at Appendix A.

LFUCG EXHIBIT 01

loss should not exceed 15% of "total water produced and purchased, excluding water used by a utility in its own operations." The Commission's Order in this investigation references this regulation and further cites a case defining unaccounted-for water loss as including the "total" amount of water produced and purchased by the utility. The regulations and Order do not contemplate the calculation of unaccounted-for water loss for only a portion of a utility's system.

3. Commission precedent also supports calculating unaccounted-for water loss on a system-wide basis. In a purchased water adjustment case, a utility proposed to use different unaccounted-for water loss percentages for portions of the utility's water system that were physically separated.[3] The Commission disagreed and required the utility to use the overall unaccounted-for water loss percentage for all portions of its system to determine the total allowable gallons upon which the purchased water adjustment is calculated.[4]

4. To the extent that KAW was named a party in this investigation because of the unaccounted-for water loss of the former Eastern Rockcastle Water Association, Inc. ("ERWA"), ERWA is no longer a separate entity. In Case No. 2017-00383, KAW and ERWA jointly requested approval of KAW's acquisition of ERWA's assets and authorization for KAW to provide water service to ERWA's customers, which the Commission approved.[5] The transaction between KAW and ERWA closed on February 28, 2018.[6] After that point, ERWA no longer existed as a stand-alone water provider and instead the former ERWA customers became KAW customers within the overall KAW system.

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[3] *Purchased Water Adjustment of Spears Water Company*, Case No. 89-281, Order (Ky. PSC Oct. 25, 1989).
[4] *Id.* at 2.
[5] *Electronic Verified Joint Application of Eastern Rockcastle Water Association, Inc. and Kentucky-American Water Company for the Transfer of Control and Assets*, Case No. 2017-00383, Order (Ky. PSC Jan. 19, 2018).
[6] *Electronic Verified Joint Application of Eastern Rockcastle Water Association, Inc. and Kentucky-American Water Company for the Transfer of Control and Assets*, Case No. 2017-00383, Letter from Ingram to Pinson (Ky. PSC Mar. 6, 2018).

5. KAW's participation in this proceeding is also unnecessary because KAW already has a plan in place to address the unaccounted-for water loss associated with the former ERWA system. This plan was provided to and accepted by the Commission in a letter from KAW dated March 18, 2019 in response to a periodic inspection of KAW's Southern Division on February 6, 2019. The letter and plan are attached as Exhibit 1.

6. Dismissing KAW from this proceeding follows the Commission's regulations and precedent and would save KAW from expending unnecessary resources to respond to discovery and participate in this proceeding. To avoid the costly preparation of responses to discovery that may be irrelevant if KAW is dismissed from this proceeding, KAW respectfully requests that the Commission issue an Order on this Motion prior to the due date of the Commission Staff's initial requests for information on April 12, 2019. In the Commission does not issue an Order on this Motion by April 12, 2019, KAW requests the Commission relieve it of the obligation to respond to the Commission Staff's initial requests for information until it rules on this Motion.

WHEREFORE, Kentucky-American Water Company respectfully requests that the Commission enter an Order dismissing Kentucky-American Water Company from this proceeding by April 12, 2019 or relieve Kentucky-American Water Company of the obligation to respond to the Commission Staff's initial requests for information until it rules on this Motion.

Date: April 2, 2019

Respectfully submitted,

Lindsey W. Ingram III
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Monica H. Braun
Monica.braun@skofirm.com
STOLL KEENON OGDEN PLLC
300 West Vine Street, Suite 2100
Lexington, Kentucky 40507-1801
Telephone: (859) 231-3000
Fax: (859) 259-3503

By: Lindsey W. Ingram III

Lindsey W. Ingram III
Monica H. Braun

CERTIFICATE

This certifies that Kentucky-American Water Company's electronic filing is a true and accurate copy of the documents to be filed in paper medium with the exception of documents for which confidential treatment is sought; that the electronic filing has been transmitted to the Commission on April 2, 2019; that a paper copy of the filing will be delivered to the Commission within two business days of the electronic filing; and that no party has been excused from participation by electronic means.

STOLL KEENON OGDEN PLLC

By: Lindsey W. Ingram III

Attorneys for Kentucky-American Water Company

KENTUCKY AMERICAN WATER

March 18, 2019

RECEIVED
MAR 1 8 2019
PUBLIC SERVICE COMMISSION

Commonwealth of Kentucky
Public Service Commission
Attn: Erin Donges
211 Sower Blvd
P.O. Box 615
Frankfort, KY 40602-0615

Re: Periodic Water Inspection
KAWC (Southern Division) Water System
Rockcastle County, KY

Dear Ms. Donges:

The Public Service Commission performed a periodic inspection of Kentucky American Water's ("KAW") Eastern Rockcastle water system in its Southern Division on February 6, 2019. This letter addresses the deficiencies noted during the inspection.

Deficiency 1: Utility does not meet the minimum storage capacity as required by 807 KAR 5:066, Section 4(4).

Response 1: KAW has begun the process of negotiating a contract revision with the three water suppliers for KAW's Southern Division. These contracts will have provisions for supplying KAW's system with KAW's average daily needs and increasing that supply under emergency conditions with the expectation these contracts will be in place by the end of the second quarter of 2019. This additional available capacity, when added to KAW's existing storage capacity, will satisfy the minimum requirements in 807 KAR 5:006, Section 4(4).

Deficiency 2: Utility does not have pressure charts that show a continuous 24-hour pressure recording for one week per month as required by 807 KAR 5:066, Section 5(2).

Response 2: KAW installed a pressure sensor and chart recorder at the Sand Hill Bladder tank site on the week of 2-11-19. The installed unit records system pressure on the discharge side of the tank continuously. The hard copies of weekly charts will be maintained at the system office. This sensor and chart recorder will satisfy the requirements of 807 KAR 5:066, Section 5(2).

Meter-setter mounted pressure loggers will be installed in other areas of the system by the end of April 2019. The data from these devices will be downloaded monthly and digital records will be kept on system shared drive. Other pressure recorders and various monitoring equipment will be installed later in 2019 with the installation of SCADA throughout KAW's Eastern Rockcastle system as referenced on page 16 of the PSC inspection report dated February 18, 2019.

Deficiency 3: The Utility is failing to operate its facilities so as to provide adequate and safe service to its customers as required by 807 KAR 5:066, Section 7, due to water loss exceeding 15 percent. (2019-44%)

Response 3: Attached is an updated version of the 2019 NRW Reduction Plan for KAW's Southern Division. The goal is to reduce NRW levels, beginning with five primary tasks. This is a living document, updated as progress is made in each of the tasks areas. The following is more information related to each task:

KENTUCKY
AMERICAN WATER

- Task 1 - We will continue to monitor the areas we currently have in place and refine them with sub areas as needed.
- Task 2 – Resources have been identified for sounding of creek crossings have begun.
- Task 3 – Resources for manual sounding are same as for Task 2 and have begun concurrently.
- Task 4 – Resources have been identified for elimination of theft. Pending available scheduling of contract maintenance crews, this task should begin in April.
- Task 5 – One fire department currently submits regular usage reports. A meeting between a KAW representative and a second fire department, not currently submitting usage reports, took place the week of March 4. Fire usage for 2018 and 2019 year to date have now been provided.
- Task 6 – Engagement with water providers for copies of their most recent master meter certification will begin by April.

KAW will submit a monthly water loss report for its entire operations which will include water loss data specific to its Southern Division on or about the first of each month beginning in April, 2019.

Finally, with respect to Deficiency No. 3, KAW disagrees with the statement that water loss in KAW's Southern Division results in a "fail [ure] to operate its facilities so as to provide adequate and safe service to its customers." KAW, in fact, does provide adequate and safe service to its customers in its Southern Division. Water loss exceeding 15% does not equate to a failure to provide adequate and safe service. Additionally, KAW disagrees with the statement that "The Utility purchased $57,153 of water that cannot be recovered for rate making purposes." We would be interested to review the data used to make that calculation. KAW believes that unaccounted-for water levels as set forth at 807 KAR 5:066, Section 6, refer to utility-wide unaccounted-for water, not just within a specific geographic division a utility may have. Additionally, that particular regulation also states that "an alternate level of reasonable unaccounted-for water may be established" upon application by a utility. This particular subject has been addressed in discovery in the pending base rate case at the Commission (Case No. 2018-00358).

If you have questions or need additional information, you may contact me at kevin.rogers@amwater.com or 859-268-6324.

Regards,

Kevin Rogers

Kevin Rogers
Vice President of Operations
Kentucky American Water

Enclosure: 2019 NRW Reduction Plan – KAW Southern Division

Scope of 2019 NRW Reduction Activities
KAW – Southern Division System

A. Background

Kentucky American Water has established a goal of reducing NRW volume levels as measured against a three year rolling average. This proposal establishes what activities must take place in 2019 to support the reduction of NRW in order that the yearly goal might be achievable.

B. Scope of Activities

Various leak detection methods and tools will be utilized to monitor the system for leakage and account for known, unbilled usage. Active acoustic methods of sounding will be employed for surveying purposes. This method is the most labor intensive but is very effective on all types of iron and AC piping materials and will be the primary approach utilized in surveying for leakage along with visual inspections to accommodate for the vast amount of PVC pipe in the system.

1. Task Number 1 - District Metering Areas, We will continue to monitor the areas we currently have in place and refine them with sub areas as needed. This information will identify the volume of NRW by area and allow better prioritization of our NRW reduction activities.

2. Task Number 2 - Sounding of Creek and River Crossings, Locations where main lines cross creeks will be inspected for leakage by manual sounding and visible inspections. Leaks that occur in or near creeks could go unnoticed without periodic investigations of these areas.

3. Task Number 3 - Manual Sounding of Distribution System, The hydrant and valve approach will be utilized to leak sound all of the distribution system in 2019.

4. Task Number 4 - Eliminating Potential Theft of Service, Inactive meter settings located in sparsely populated areas will be identified and retired to eliminate the potential for theft of service.

5. Task Number 5 - Fire Department Usage, Educational communication will be generated to re-affirm with the departments that water is to be used for firefighting purposes only. Each department will be visited by KAW personnel in 2019.

6. Task Number 6 - Master Meter Assessment, Water providers for the system will be engaged to confirm that meters are being tested by certified testers and performed annually.

Scope of 2019 NRW Reduction Activities
KAW – Southern Division System

C. Schedule

The dates provided in the schedule below represent the targets by which leak detection activities will be managed. These targets are contingent upon having the proposed level of staffing, necessary to complete all of the program objectives.

Task #	Task	Start Date	50% Complete	75% Complete	100% Complete
1	**District Metering Areas**	Ongoing			
2	**Creek Crossing & River Crossing Sounding (7)**	3/1/19			
3	**Manual Sounding of System**	3/1/19			
4	**Inactive Service Retirement (10)**	2/18/19			
5	**Fire Department Engagement**	2/4/19			3/8/19
6	**Master Meter Assessment**	*To be scheduled			

D. Other Requirements

An increase in staffing will be required to perform all the tasks noted in this proposal. One additional person from the Field Operations area will be required to assist in executing the manual survey work as well as special project assignments to meet the monthly and annual NRW operational targets. KAW is actively recruiting a position specifically assigned for this be a shared role with also some North Middletown duties.

E. Other Considerations

- Continue close monitoring of flushing activities to better manage losses.
- Work to further reduce the time it takes to repair leaks.
- Have employees continue to be on the lookout for leaks during everyday activities.
- Promote community awareness regarding what constitutes unauthorized usage.
- Partner with local law enforcement agencies to provide assistance in dealing with habitual theft occurrences.

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