

A NiSource Company

P.O. Box 14241 2001 Mercer Road Lexington, KY 40512-4241

RECEWED

MAR 3 1 2010

PUBLIC SERVICE COMMISSION

March 31, 2010

Mr. Jeff Derouen
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
P. O. Box 615
Frankfort, KY 40602

Dear Mr. Derouen,

Pursuant to the Commission's Order of February 26, 2001 in Case No. 2000-429, Columbia Gas of Kentucky, Inc. hereby files its annual report for the Statistical Meter Testing Plan. An original and three copies are enclosed.

If you have any questions, please call me at (859) 288-0242. Thank you.

Sincerely,

Judy M. Cooper

Director, Regulatory Policy



A NiSource Company

# Columbia Gas of Kentucky, Inc.

# 2010 Meter Sampling Annual Report, for program year 2009

Columbia Gas of Kentucky, Inc. A NiSource Company P.O. Box 14241 2001 Mercer Road Lexington, KY 40512-4241

March 2010

	2010 Meter Sample Annual Report	
2	Exhibit A Identification of Control Groups	
3	Exhibit B Domestic Meters Test Results	
4	Exhibit C Large Volume Meters Test Results	
5	Exhibit D Percentage of Domestic Meter Accuracy by Family	
6	Exhibit E Percentage of Large Volume Meter Accuracy by Family	
7	Exhibit F Cost Savings	
	Exhibit G Test Results of New Meters	



		,	



A NiSource Company

P.O. Box 14241 2001 Mercer Road Lexington, KY 40512-4241

### COLUMBIA GAS OF KENTUCKY INC.

# **2009 METER SAMPLING ANNUAL REPORT**

Columbia Gas of Kentucky completed the fourteenth year of their meter-sampling program in December 2009.

A total of 4823 meters making up 33 homogenous groups were sampled in 2009. One poor performing sub-group was also removed and retired. Details are listed in the Evaluation of Data and Corrective Actions below.

In 2009 Columbia Gas of Kentucky service personnel made 43,540 visits to our customers' premises working orders that involved inspecting house lines and / or appliances. Columbia inspected 47,955 meter set assemblies in conjunction with the Customer Service Line Survey program.

No regulator failure in 2009 resulted in overpressure being delivered to the customer's piping.

Columbia continues to promote safety through: News Releases

• 4/15/09 – Call before you dig release

### **Bill Inserts**

- Monthly The "Welcome to Columbia Gas of Kentucky" insert is sent to new customers and includes information about maintenance of customer-owned buried gas lines and Kentucky 811.
- 1/09 For Your Safety & Comfort bill insert to all residential and small commercial customers included information about carbon monoxide poisoning prevention.

- 1/09 Gaslines customer newsletter included articles about heating equipment maintenance and preventing carbon monoxide poisoning and the dangers associated with energy theft.
- 2/09 Scratch-n-sniff bill insert provides odor of gas awareness to all residential and small commercial customers. Insert also runs in initial customer bills.
- 4/09 Gaslines customer newsletter included article about how to detect a natural gas leak and what to do if one is suspected. Also included article about Kentucky 811.
- 6/09 Bill message to all residential and small commercial customers in meter locations 02, 10, 26, 68 and 70 regarding customer-owned gas lines.
- 7/09 Your Service customer newsletter included article about gas connectors.
- 10/09 Your Service customer newsletter included articles about what to do in case of flooding and carbon monoxide.

### Web Site

- Safety tips (English & Spanish)
- Kentucky 811 information and link
- Contact Us form where customers can email safety-related and other questions to CKY staff
- Current and previous issues of Gaslines/Your Service customer newsletter and other bill inserts
- Press releases

### **Community Outreach**

- Customer letters, door hangers and neighborhood presentations associated with large pipeline replacement projects
- Sponsored Lexington Legends game with Kentucky 811 on 6/27/09 to promote Call Before You Dig
- Developed new safety video for speaking engagements
- Revised safety brochure developed and mailed to affected public as identified by RP1162 Public Awareness Plan
- Pipeline safety flyer developed and emailed to public officials in service area

### Message On Hold

 Customers waiting to speak with a customer service representative hear messages on a variety of topics, including Call Before You Dig, carbon monoxide, how to recognize a gas leak and what to do, meter tampering, appliance safety, etc.

### Advertising

Safety ad focusing on Call Before You Dig was placed in print and online publications in April-June. Print publication locations included: Lexington, Ashland, Floyd County, Maysville, Winchester, Paris, Frankfort, Mt. Sterling, and Irvine. Online banner ads appeared on wkyt.com and Kentucky.com.

### **Excavator/Emergency Responder Training**

Sponsored natural gas safety training sessions for excavators and first responders in May-June. Locations included: Mt. Sterling, Olive Hill, Prestonsburg, Hazard, Richmond, Lexington and Maysville.

Columbia Gas of Kentucky feels we are continuing to improve the quality of measurement provided to our customer through the meter-sampling program. In 2009 we improved the overall performance of meters removed for meter sampling. We have seen a 3.2% improvement of domestic meters that test within tolerance and a 7.1% improvement of large volume meters that test within tolerance since our meter sampling program began.

### **Evaluation of Data**

- A total of 4622 domestic meters making up 27 homogenous Control Groups were sampled in 2009.
  - Of the 4622 meters sampled 88 tested outside the required accuracy of +/- 2% and were classified a failed meter.
  - 1.9% of the domestic meters pulled for meter sampling failed
  - All 27 homogenous Control Groups passed the requirements of American National Standards Institute / American Society for Quality Control Z 1.4
  - A total of 212 Large Volume meters making up 6 homogenous Control Groups were sampled in 2009.

- Of the 212 Large Volume meters sampled, 0 tested outside the required accuracy of +/- 2% and were classified a failed meter
- 0.0% of Columbia Gas of Kentucky's Large Volume meters failed.
- All 6 Large Volume homogenous Control Groups passed the requirements of American National Standards Institute / American Society for Quality Control Z 1.4

### **Failed Group**

• In 2008, based on the requirements of American National Standards Institute / American Society for Quality Control Z 1.4, Control group NSP02 consisting of new Sprague Metris 760 meters purchased in 1997 failed. As stated in the evaluation data these meters were removed and retired prior to December 2009. RSP02 consisting of repaired Sprague Metris 760 meters repaired and installed between 2000 and 2004 passed the requirements of American National Standards Institute / American Society for Quality Control Z 1.4 by one meter. Columbia classified this group as failed due to the small number of meters tested in the group and removed and retired this group also in 2009. There now are no Sprague Metris 760 Meters in service in Kentucky.

### **Aggressive Group**

• As a result of the 2008 Sampling Program, the sub-group KYRAMAG from Control Group KYRAM01, was identified as a group of poor performing meters. This group consisted of repaired American meters installed in 1987, was removed and retired. The sub-group consisted of 286 domestic American meters, 17 or 5.9% failed the required accuracy of +/- 2%.

### **Aggressive Removal of Poor Performers**

KYRAM02 continues to perform well within accepted tolerance but not as well as other families, Columbia has made a decision to remove and retire a sub-group of 583 meters by the end of 2010. The sub-group will consist of repaired American 602 and 604 meters installed between 1988 & 1989 and be identified as KYRAMAG.

### **Corrective Action**

- Control Group KYRAM01 was removed from service and retired in 2009.
- Sub-group KYRAM02 from poor performing, repaired American meters installed between 1988 & 1989 will be removed and retired by the end of 2010.
- Group RSP02 was performing poorly and was classified as failed and therefore was removed and retired in 2009.
- Columbia Gas of Kentucky will continue to in-test and retire, when pulled from service, meters that have established a poor performance record even though their group has not failed. In previous filings we have listed individual meters that are retired due to poor performance. We are now intesting and retiring all meters that are not temperature compensated. This eliminates a poor performing meters from being re- installed.

### Regulator Failures

- Columbia Gas of Kentucky had 30 regulator failures in 2009. Due to full internal relief of the regulator, none resulted in an overpressure situation for the customer.
  - 12 regulators had gas leakage from the vent.
  - 18 regulators would not adjust or lock up correctly.

Should you have any questions contact Timothy McKune at (859) 288-0241.

Timothy McKune

**Compliance Specialist** 

Columbia Gas of Kentucky

	·

### **EXHIBIT A**

# IDENTIFICATION OF EACH CONTROL GROUP OR METER FAMILIES

A five-character number identifies each Control Group or Family. 1-2-3-4-5

1 Identifies if Control Group or Family is new or repaired meters

N = New

R = Repaired

2-3 Identifies Meter Manufacturer

AM = American

RO = Rockwell

LA = Lancaster

SP = Sprague

4-5 Identifies the age of the Group or Family

 $\begin{tabular}{ll} Example-Identifier~RAM01~indicates~a~Repaired~American~Meter.~The~01\\ represents~the~oldest~group~of~repaired~American~meters.~A~detail~of~the~age~of~each~group~is~found~in~Exhibit~D~\&~E. \end{tabular}$ 

Large Volume meters 500 - 1500 CFH follow the same format with a "B" in front of the identifier.

# 2009 COLUMBIA GAS OF KENTUCKY DOMESTIC METER SAMPLING TEST RESULTS

Page 1 & 2 of Exhibit B gives a summary of each Domestic (0 - 500 CFH) Family. Listed on page 1 & 2 of exhibit are:

- 1. Name of the Family Codes
- 2. Total number of meters in that family on the customer's premises
- 3. Total number of meters in that family required to be sampled
- 4. Total number of meters sampled
- 5. Total number of meters in-testing outside the required +/- 2%
- 6. Total number of meters allowed to fail
- 7. Passed/Failed Status of Meter Family
- 8. Percentage of meters failed per Family
- 9. Number of meters failed fast
- 10. Number of meters failed slow

Page 3 of Exhibit B identifies in graph form the percentages of meters within tolerance since Columbia Gas of Kentucky began sampling in 1996. This is a combined listing of all domestic meter groups.

Page 4 shows the test results of the 2009 aggressive family.

# 2009 COLUMBIA GAS OF KENTUCKY METER SAMPLING RESULTS

Samples taken between 2009-01-01 and 2009-12-31

"A" Class Meters 0-500 CFH

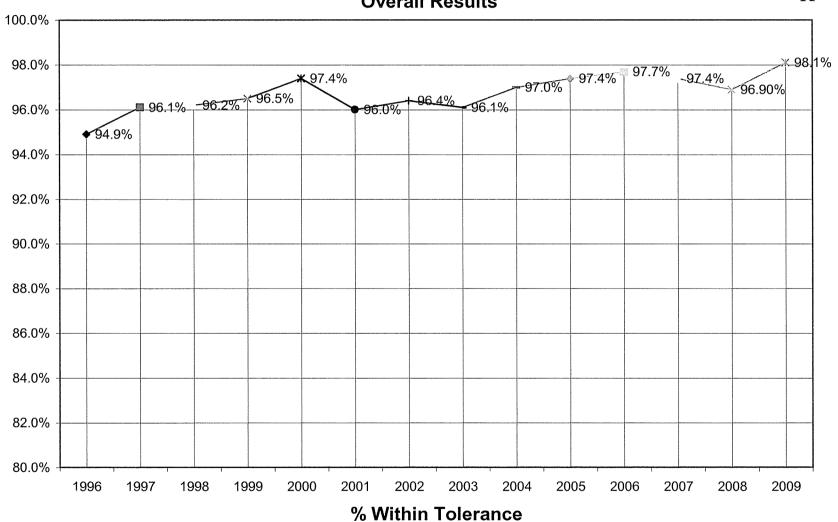
A Class Me	ters 0-500 CF								
FAMILY CODES	TOTAL MTRS. IN FAMILY	TOTAL MTRS REQ'D IN PROGRAM	TOTAL SAMPLED	TOTAL FAILED METERS	TOTAL REJECTS ALLOWABLE	2009 FAMILY STATUS	RATIO FAILED	NUMBER FAILED FAST	NUMBER FAILED SLOW
	(a)	(b)	(c)	(d)	(e)	(f)	(d/c=g)	(h)	(1)
NAM01	2059	125	140	3	14	PASSED	2.1%	2	1
NAM02	4816	200	211	1	21	PASSED	0.5%	1	0
NAM03	3576	200	210	0	21	PASSED	0.0%	0	0
NAM04	2710	125	132	0	14	PASSED	0.0%	0	0
NAM05	724	80	83	0	10	PASSED	0.0%	0	0
NAM06	6039	200	206	0	21	PASSED	0.0%	0	0
NAM06A	2298	125	129	2	14	PASSED	1.6%	1	1
NAM07	6060	200	202	2	21	PASSED	1.0%	1	1
NAM08	6902	200	200	3	21	PASSED	1.5%	3	0
NAM09	3612	200	208	1	21	PASSED	0.5%	0	1
NLA01	1303	125	135	5	14	PASSED	3.7%	1	4
NLA02	5787	200	210	0	21	PASSED	0.0%	0	0
NRO01	4845	200	202	3	21	PASSED	1.5%	3	0
NRO02	8129	200	217	13	21	PASSED	6.0%	11	2
NSP01	56	32	45	2	2	PASSED	4.4%	0	2

Samples taken between 2009-01-01 and 2009-12-31 "A" Class Meters 0-500 CFH

FAMILY CODES	TOTAL MTRS. IN FAMILY (a)	TOTAL MTRS REQ'D IN PROGRAM (b)	TOTAL SAMPLED	TOTAL FAILED METERS (d)	TOTAL REJECTS ALLOWABLE (e)	2009 FAMILY STATUS (f)	RATIO FAILED (d/c=g)	NUMBER FAILED FAST (h)	NUMBER FAILED SLOW (I)
RAM01	40	8	9	0	1	PASSED	0.0%	0	0
RAM02	1400	125	133	12	14	PASSED	9.0%	10	2
RAM03	1876	125	127	3	14	PASSED	2.4%	3	0
RAM04	5469	200	200	4	21	PASSED	2.0%	3	1
RAM05	5961	200	200	5	21	PASSED	2.5%	2	3
RAM06	6720	200	209	5	21	PASSED	2.4%	3	2
RLA03	3401	200	205	2	21	PASSED	1.0%	1	1
RRO01	4675	200	200	4	21	PASSED	2.0%	1	3
RRO02	5019	200	203	7	21	PASSED	3.4%	1	6
RRO03	4390	200	202	5	21	PASSED	2.5%	1	4
RRO04	3349	200	202	3	21	PASSED	1.5%	2	1
RSP01	5355	200	202	3	21	PASSED	1.5%	0	3
TOTAL	106571	4470	4622	88			1.9%	50	38

# Columbia Gas of Kentucky Inc. "A" Meter Program Overall Results





# 2009 COLUMBIA GAS OF KENTUCKY AGGRESIVE FAMILY RESULTS

Results of 2009 Aggresive family changed due to historical poor performance

FAMILY CODES	TOTAL MTRS. IN FAMILY	TOTAL REMOVED	TOTAL FAILED METERS	RATIO FAILED
KYRAMAG	286	286	17	5.9%
TOTAL	286	286	17	5.9%

		•

### **EXHIBIT C**

## 2009 COLUMBIA GAS OF KENTUCKY LARGE VOLUME METER SAMPLING TEST RESULTS

Page 1 of Exhibit C gives a summary of each Large Volume (500 - 1500 CFH) Family. Listed on page 1 of exhibit are:

- 1. Name of the Family Codes
- 2. Total number of meters in that family on the customer's premises
- 3. Total number of meters in that family required to be sampled
- 4. Total number of meters sampled
- 5. Total number of meters in-testing outside the required +/- 2%
- 6. Total number of meters allowed to fail
- 7. Passed/Failed Status of Meter Family
- 8. Percentage of meters failed per Family
- 9. Number of meters failed fast
- 10. Number of meters failed slow

Page 2 of Exhibit C identifies in graph form the percentages of meters within tolerance since Columbia Gas of Kentucky began sampling in 1996. This is a combined listing of all large volume groups.

# 2009 COLUMBIA GAS OF KENTUCKY METER SAMPLING RESULTS

Samples taken between 2009-01-01 and 2009-12-31

### "A" Class Meters 0-500 CFH

FAMILY CODES	TOTAL MTRS. IN FAMILY (a)	TOTAL MTRS REQ'D IN PROGRAM (b)	TOTAL SAMPLED	TOTAL FAILED METERS (d)	TOTAL REJECTS ALLOWABLE (e)	2009 FAMILY STATUS (f)	RATIO FAILED (d/c=g)	NUMBER FAILED FAST (h)	NUMBER FAILED SLOW (I)
NAM01	2059	125	140	3	14	PASSED	2.1%	2	1
NAM02	4816	200	211	1	21	PASSED	0.5%	1	0
NAM03	3576	200	210	0	21	PASSED	0.0%	0	0
NAM04	2710	125	132	0	14	PASSED	0.0%	0	0
NAM05	724	80	83	0	10	PASSED	0.0%	0	0
NAM06	6039	200	206	0	21	PASSED	0.0%	0	0
NAM06A	2298	125	129	2	14	PASSED	1.6%	1	1
NAM07	6060	200	202	2	21	PASSED	1.0%	1	1
NAM08	6902	200	200	3	21	PASSED	1.5%	3	0
NAM09	3612	200	209	1	21	PASSED	0.5%	0	1
NLA01	1303	125	135	5	14	PASSED	3.7%	1	4
NLA02	5787	200	210	0	21	PASSED	0.0%	0	0
NRO01	4845	200	202	3	21	PASSED	1.5%	3	0
NRO02	8129	200	202	13	21	PASSED	6.4%	11	2
NSP01	56	32	45	2	2	PASSED	4.4%	0	2

### Samples taken between 2009-01-01 and 2009-12-31

### "A" Class Meters 0-500 CFH

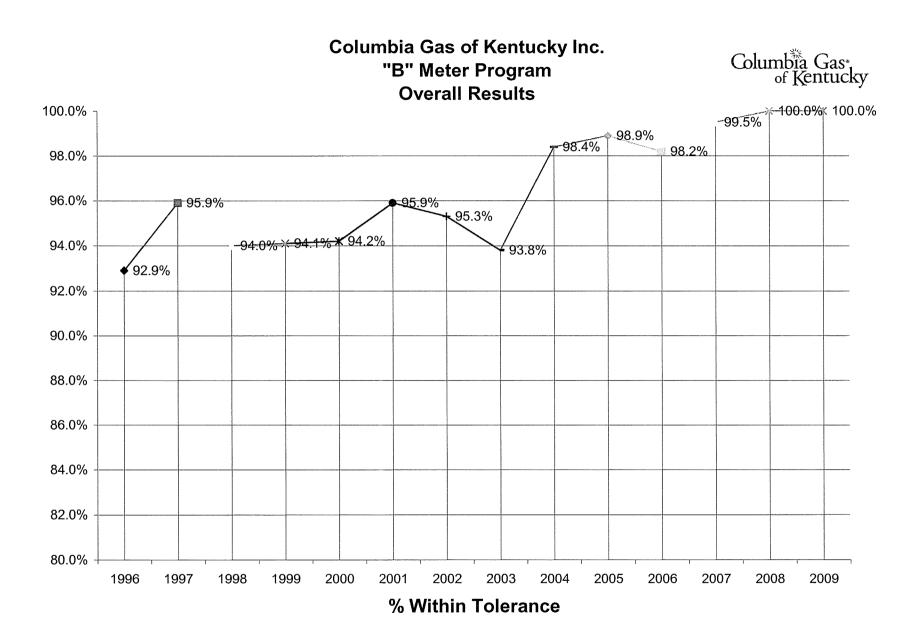
FAMILY CODES	TOTAL MTRS. IN FAMILY (a)	TOTAL MTRS REQ'D IN PROGRAM (b)	TOTAL SAMPLED (c)	TOTAL FAILED METERS (d)	TOTAL REJECTS ALLOWABLE (e)	2009 FAMILY STATUS (f)	RATIO FAILED (d/c=g)	NUMBER FAILED FAST (h)	NUMBER FAILED SLOW (I)
RAM01	40	8	9	0	1	PASSED	0.0%	0	0
RAM02	1400	125	133	12	14	PASSED	9.0%	10	2
RAM03	1876	125	129	3	14	PASSED	2.3%	3	0
RAM04	5469	200	200	4	21	PASSED	2.0%	3	1
RAM05	5961	200	200	5	21	PASSED	2.5%	2	3
RAM06	6720	200	209	5	21	PASSED	2.4%	3	2
RLA03	3401	200	205	2	21	PASSED	1.0%	1	1
RRO01	4675	200	200	4	21	PASSED	2.0%	1	3
RRO02	5019	200	203	7	21	PASSED	3.4%	1	6
RRO03	4390	200	203	5	21	PASSED	2.5%	1	4
RRO04	3349	200	202	3	21	PASSED	1.5%	2	1
RSP01	5355	200	202	3	21	PASSED	1.5%	0	3
TOTAL	106571	4470	4611	88			1.9%	50	38

# 2009 COLUMBIA GAS OF KENTUCKY METER SAMPLING RESULTS

Samples taken between 2009-01-01 and 2009-12-31

### "B" Class Meters 500 - 1500 CFH

FAMILY CODES	TOTAL MTRS. IN FAMILY (a)	TOTAL MTRS REQ'D IN PROGRAM (b)	TOTAL SAMPLED (c)	TOTAL FAILED METERS (d)	TOTAL REJECTS ALLOWABLE (e)	2008 FAMILY STATUS (f)	RATIO FAILED (d/c=g)	NUMBER FAILED FAST (h)	NUMBER FAILED SLOW (!)
BNAM01	540	80	81	0	10	PASSED	0.0%		
BNRO01	13	5	5	0	0	PASSED	0.0%		
BNSP01	7	2	2	0	0	PASSED	0.0%		
BRAM01	687	80	82	0	10	PASSED	0.0%		
BRRO01	174	32	33	0	5	PASSED	0.0%		
BRSP01	52	8	9	0	0	PASSED	0.0%		
TOTAL	1473	207	212	0			0.0%	0	0



### **EXHIBIT D**

# PERCENTAGE OF DOMESTIC METER ACCURACY BY FAMILY

Exhibit D - represents the percentage of meters sampled in 2009 that were within the +/- 2% rate, identified by homogenous group. We also show previous results of meter families sampled in prior years.

NAM01 = New American meters purchased between 1981 & 1990

NAM02 = New American meters purchased between 1991 & 1993

NAM03 = New American meters purchased in 1994

NAM04 = New American meters purchased in 1995

NAM05 = New American meters purchased in 1996

NAM06 = New American meters purchased in 1999 & 2000

NAM06A= New American meters purchased in 2001

NAM07 = New American meters purchased in 2003

NAM08 = New American meters purchased in 2005

NAM09 = New American meters purchased in 2007

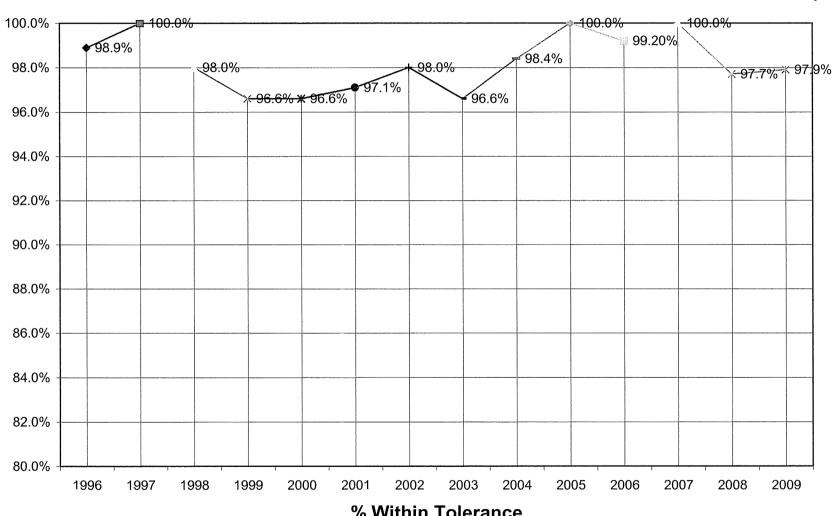
NLA01 = New Lancaster meters purchased in 1987

NLA02 = New Lancaster meters purchased between 1989, 1990, & 1992

- NRO01 = New Rockwell meters purchased between 1983 & 1996
- NRO02 = New Rockwell meters purchased between 1997 & 1999
- NSP01 = New Sprague meters purchased between 1982 & 1997
- RAM01 = Repaired American meters installed in 1987
- RAM02 = Repaired American meters installed in 1988 & 1989
- RAM03 = Repaired American meters installed in 1990 & 1991
- RAM04 = Repaired American meters installed between 1992 & 1994
- RAM05 = Repaired American meters installed between 1995 & 1999
- RAM06 = Repaired American meters installed in 2000, 2001, 2003, 2005, & 2007
- RLA03 = Repaired Lancaster meters installed between 1987 & 2003
- RRO01 = Repaired Rockwell meters installed between 1981 & 1989
- RRO02 = Repaired Rockwell meters installed between 1990 & 1993
- RRO03 = Repaired Rockwell meters installed in 1994 & 1999
- RRO04 = Repaired Rockwell meters installed in 2000, 2001, 2003, 2005, & 2007,
- RSP01 = Repaired Sprague meters installed between 1983 & 2007



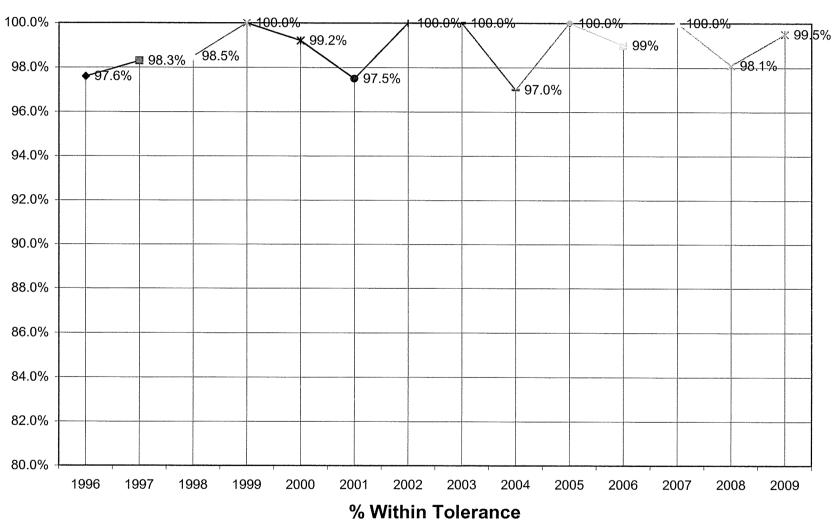




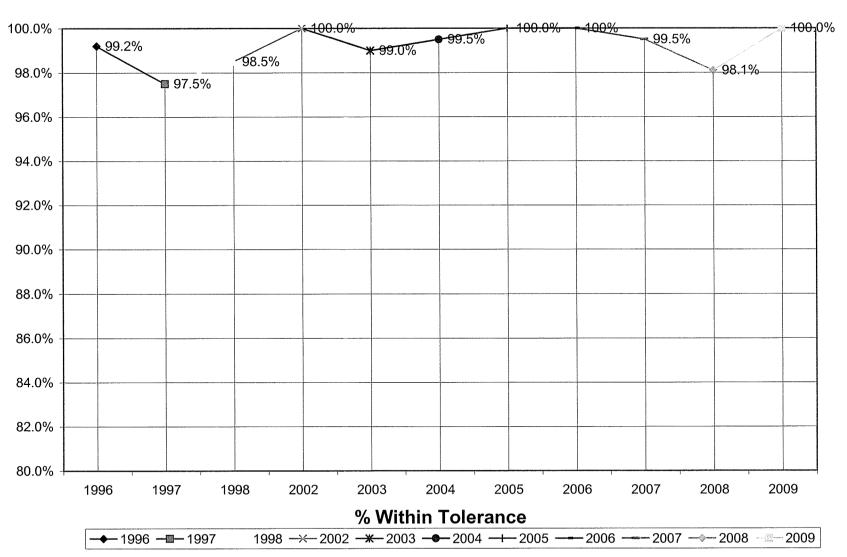
% Within Tolerance



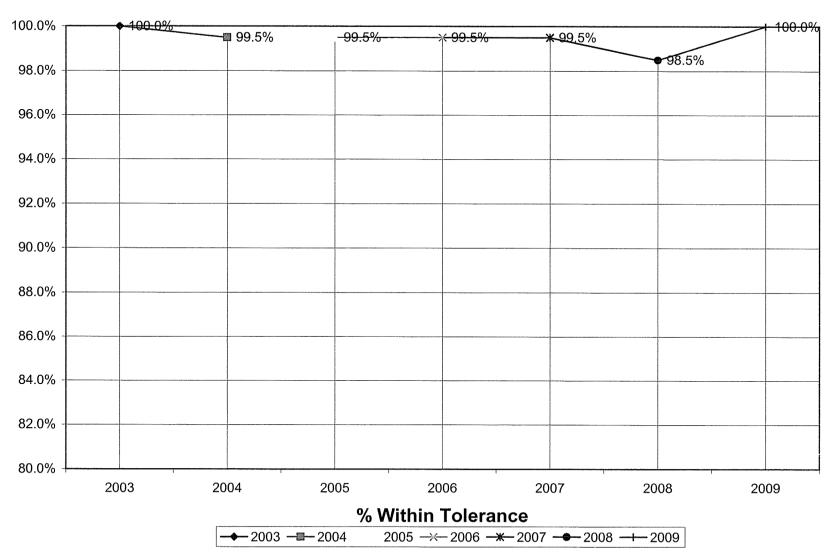






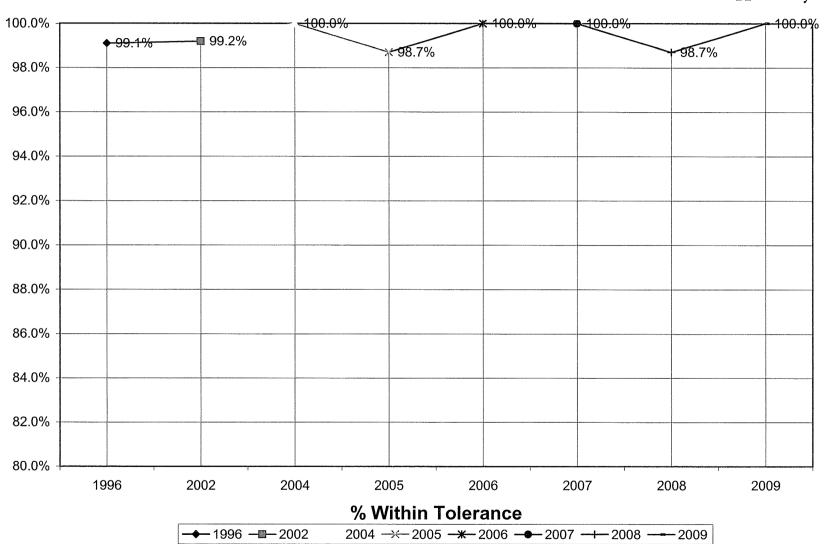




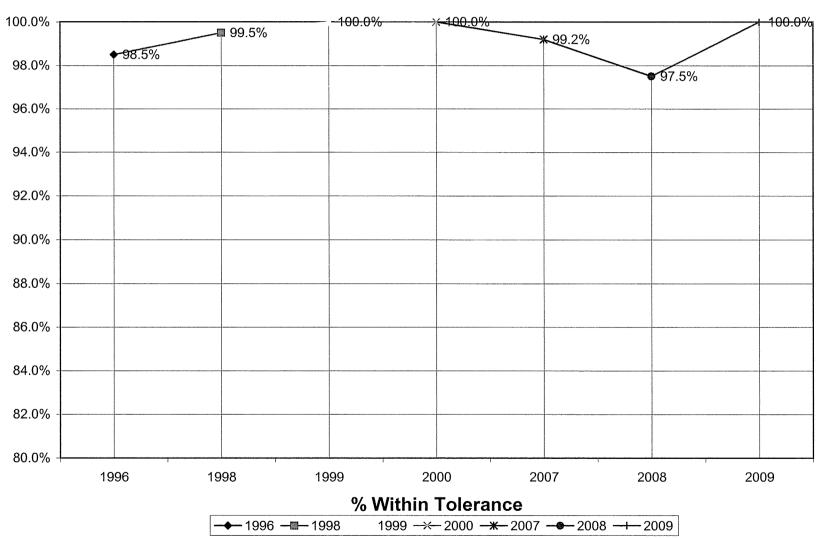






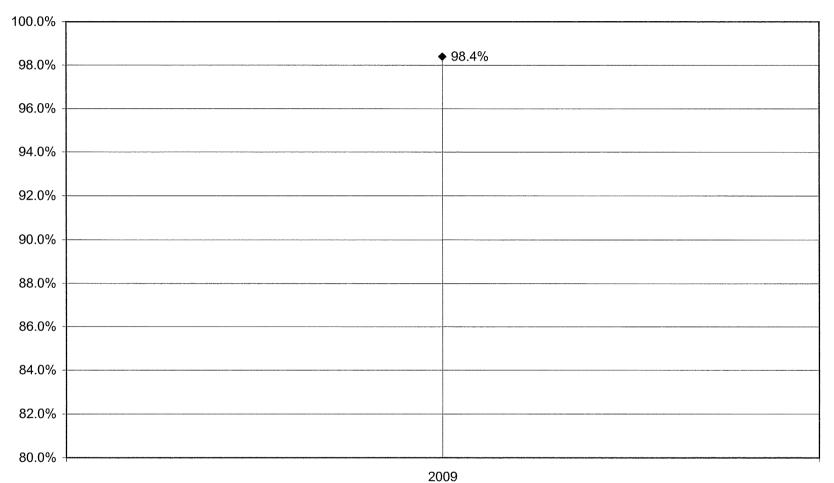






## NAM06A



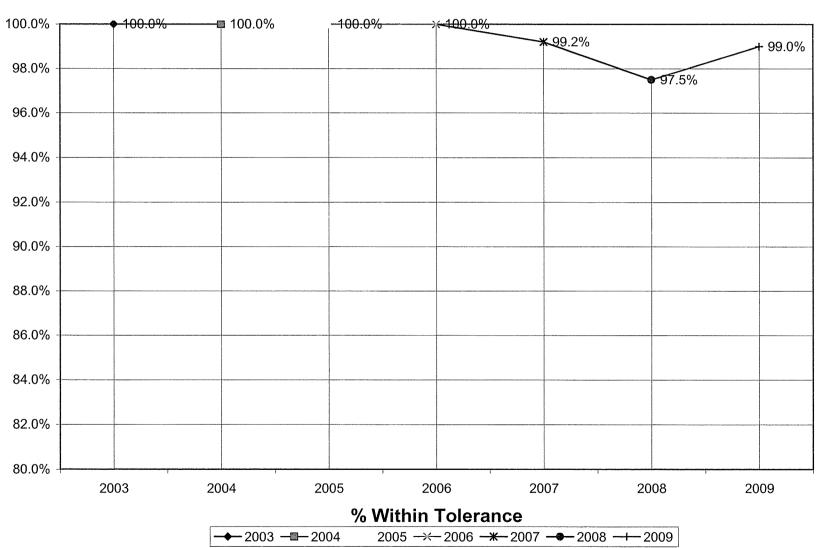


% Within Tolerance

→ 2009

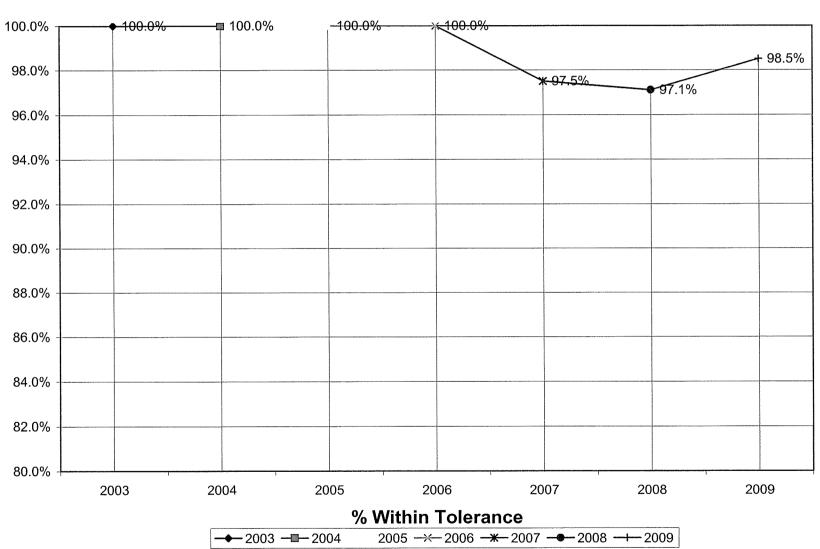




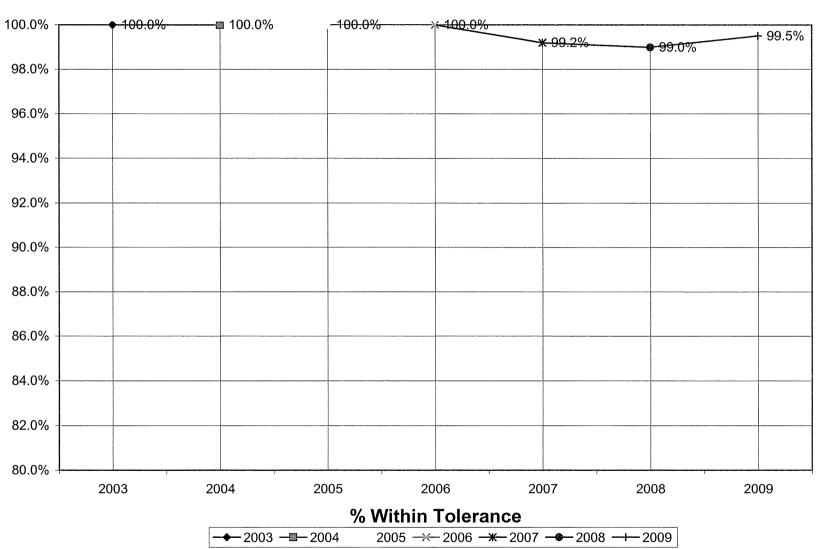






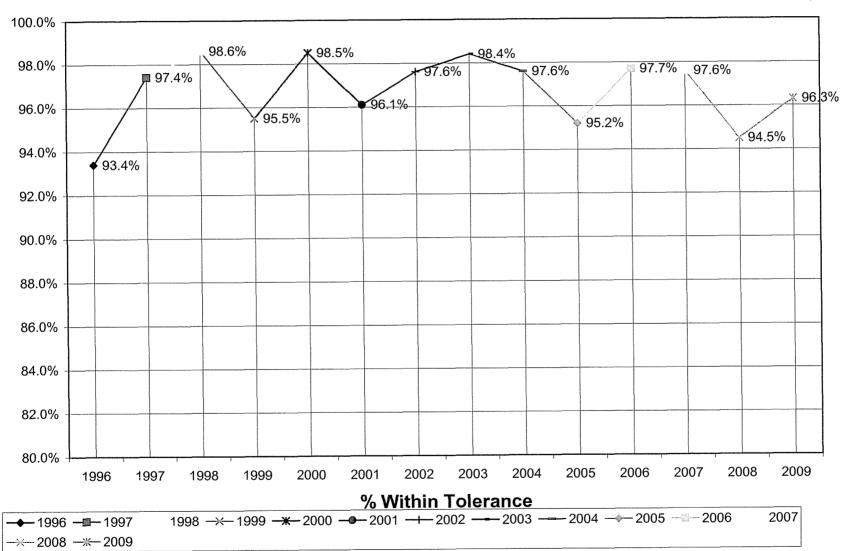






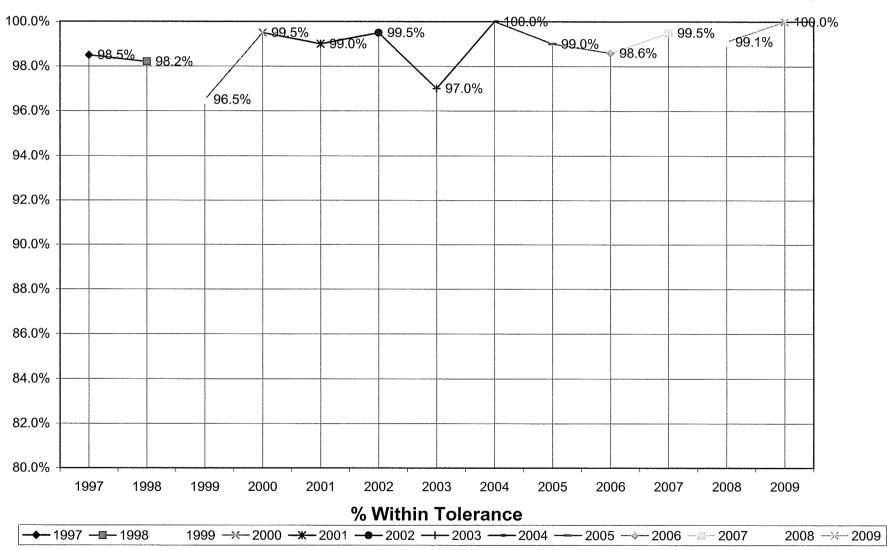
#### NLA01





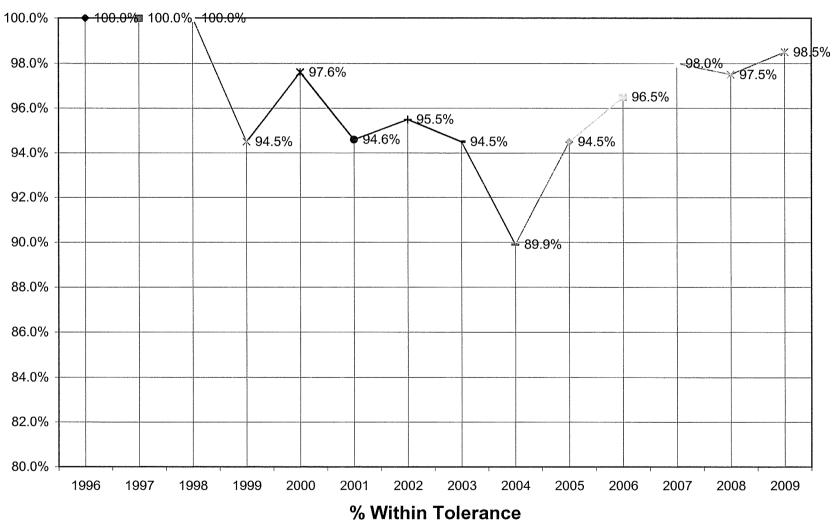






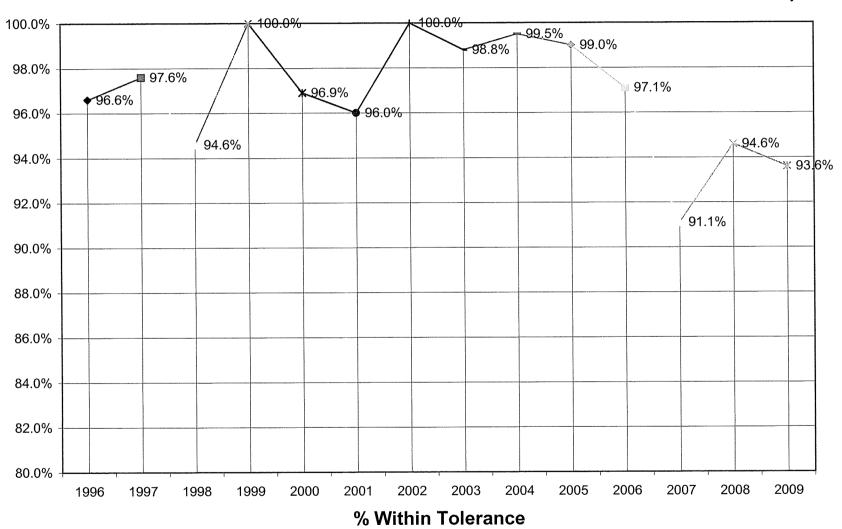






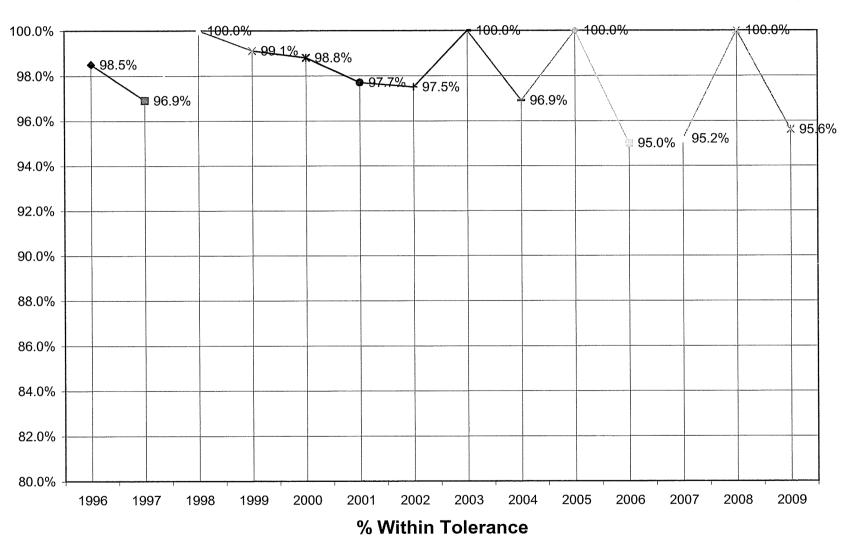


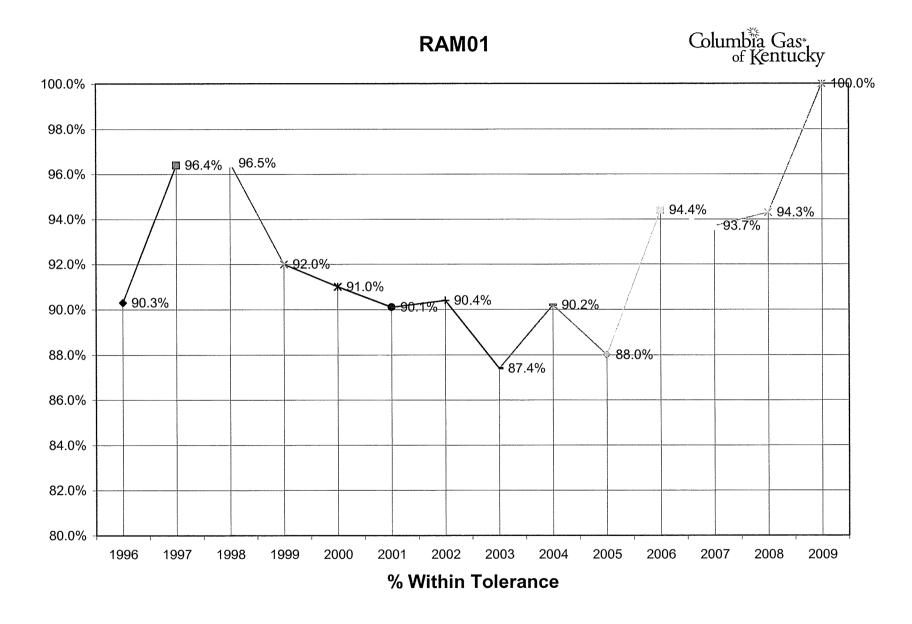






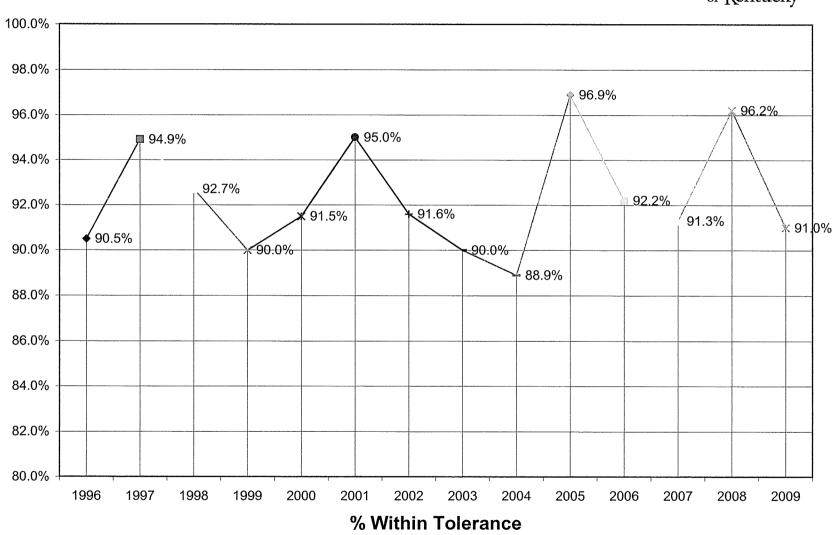






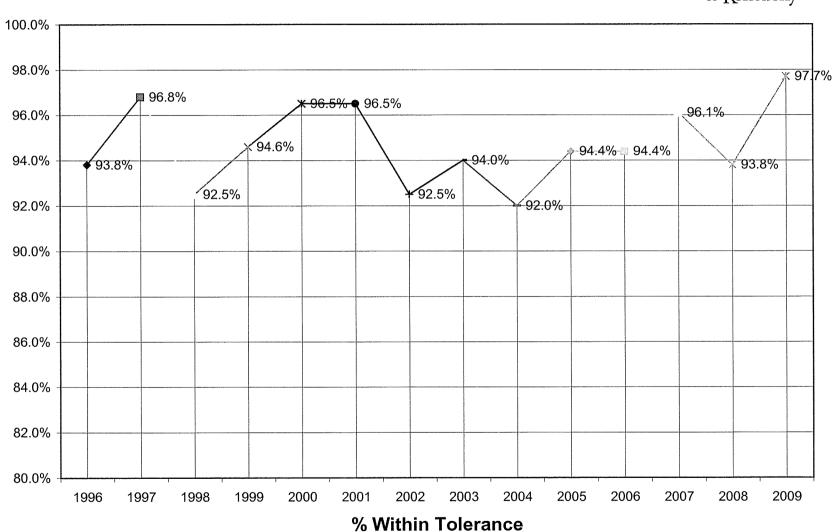






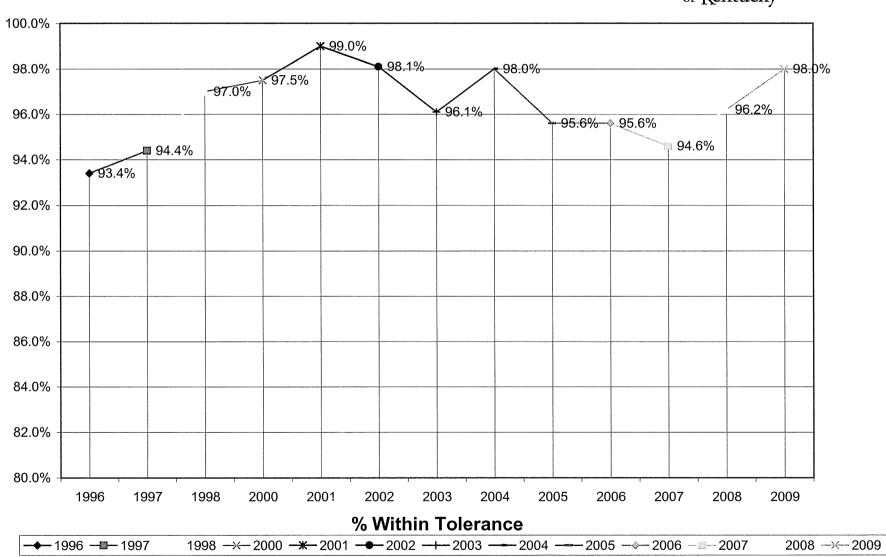






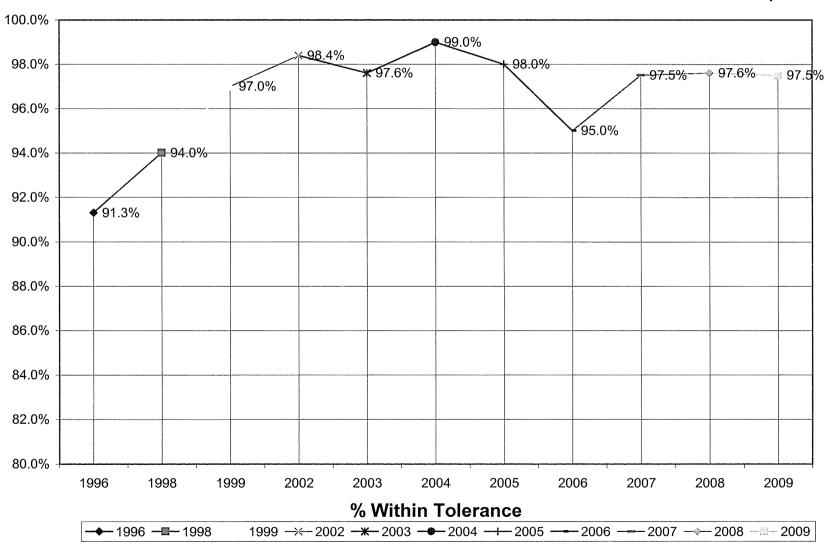






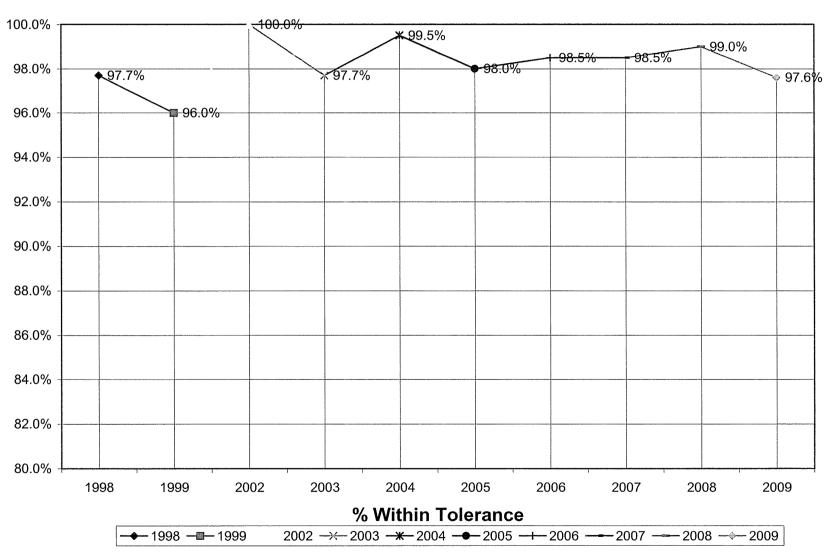






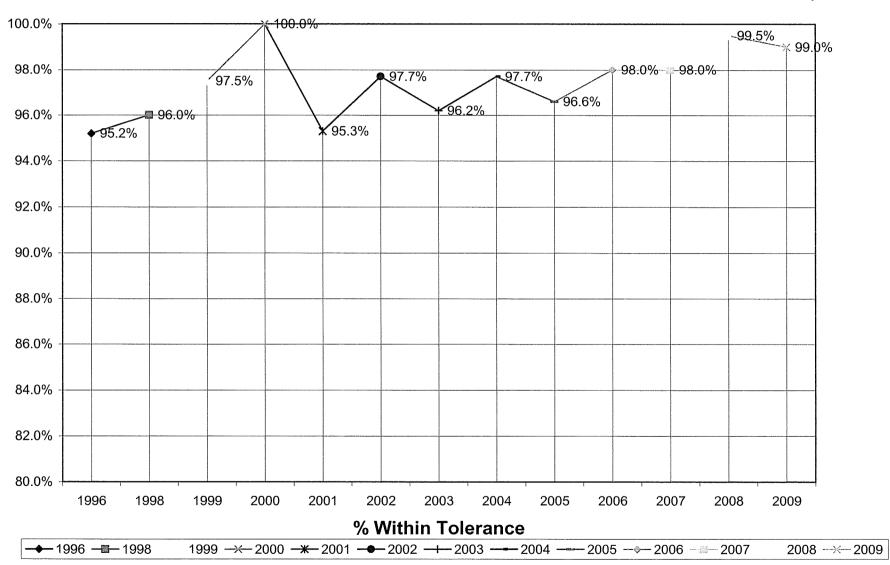
## RAM06





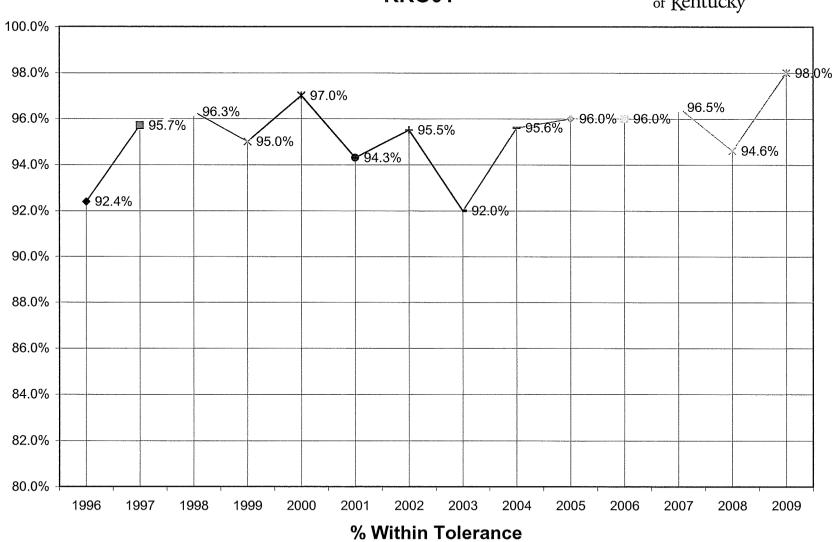


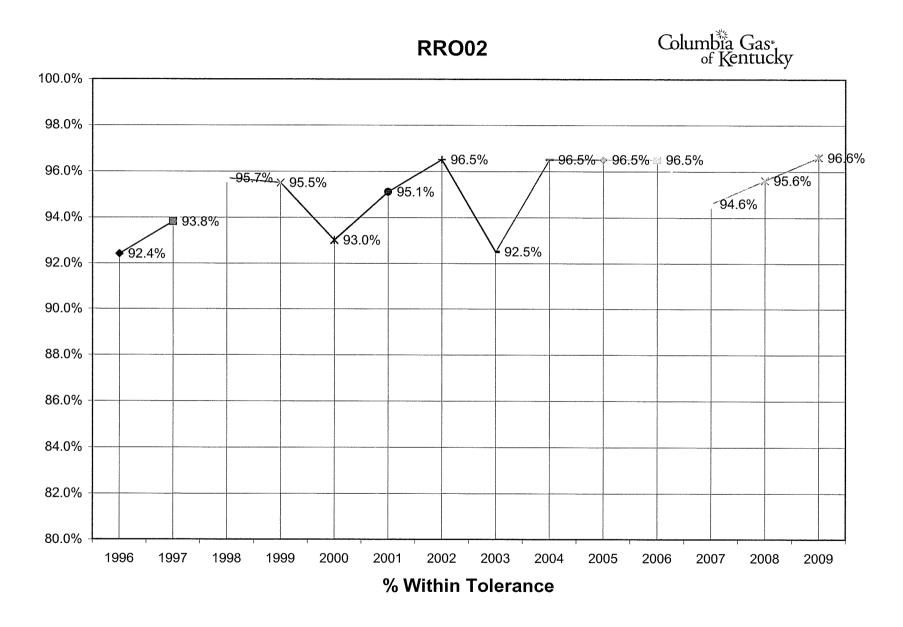






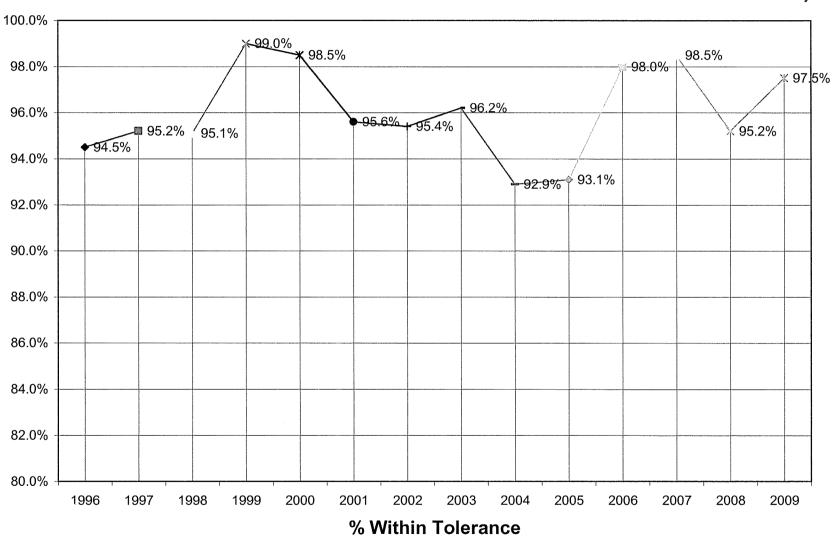


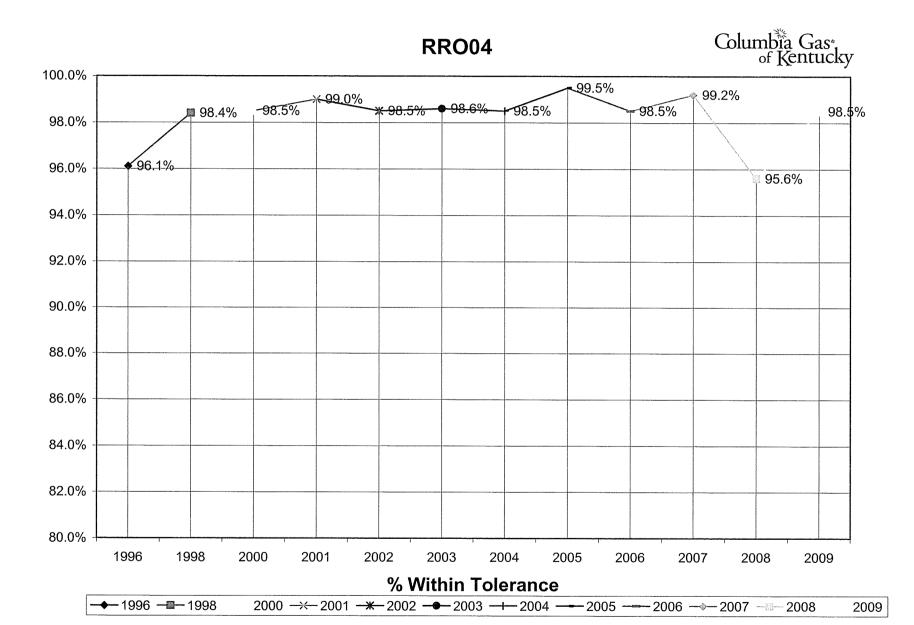


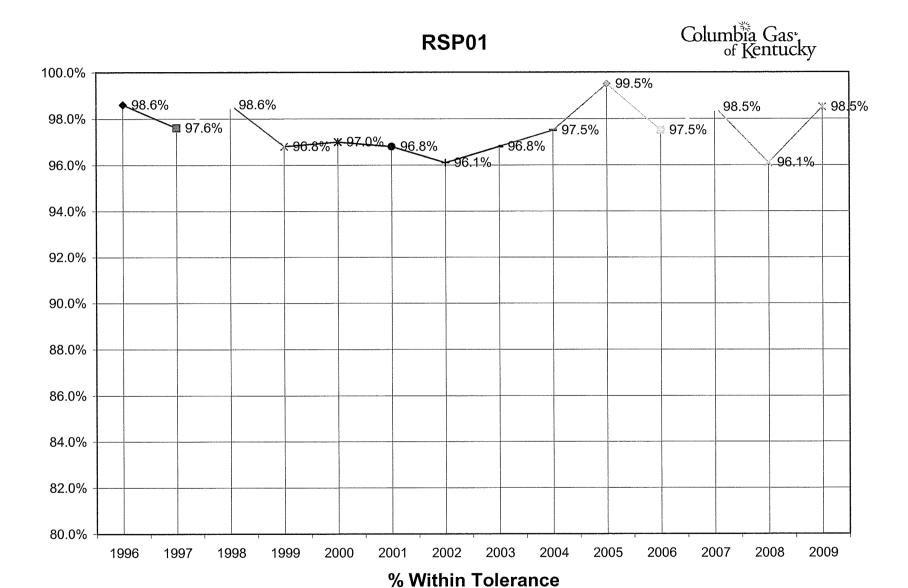












#### **EXHIBIT E**

# PERCENTAGE OF LARGE VOLUME METER ACCURACY BY FAMILY

Exhibit E - represents the percentage of Large Volume meters sampled in 2009 that were within the +/- 2% rate, identified by homogenous group. We also show previous results of meter families sampled in prior years.

BRAM01 = Repaired American meters installed between 1999 & 2007

BRRO01 = Repaired Rockwell meters installed between 1999 & 2006

BRSP01 = Repaired Sprague meters installed between 1999 & 2007

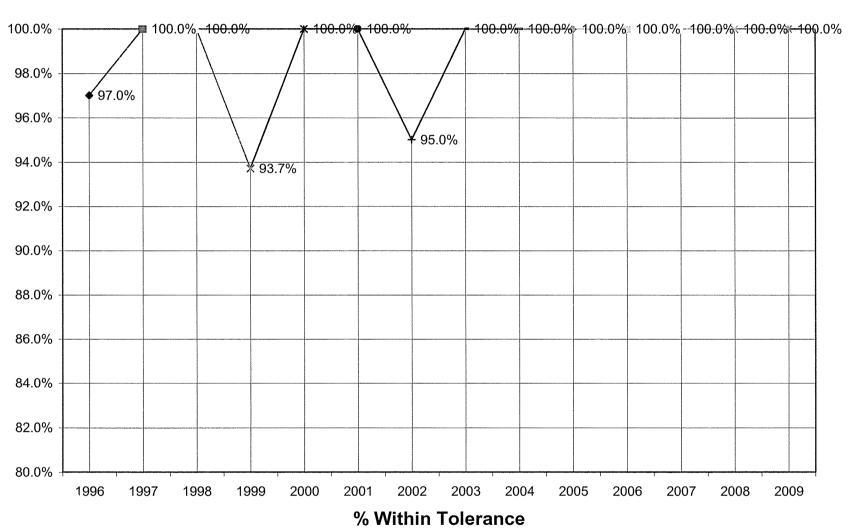
BNAM01 = New American meters purchased between 1999 & 2007

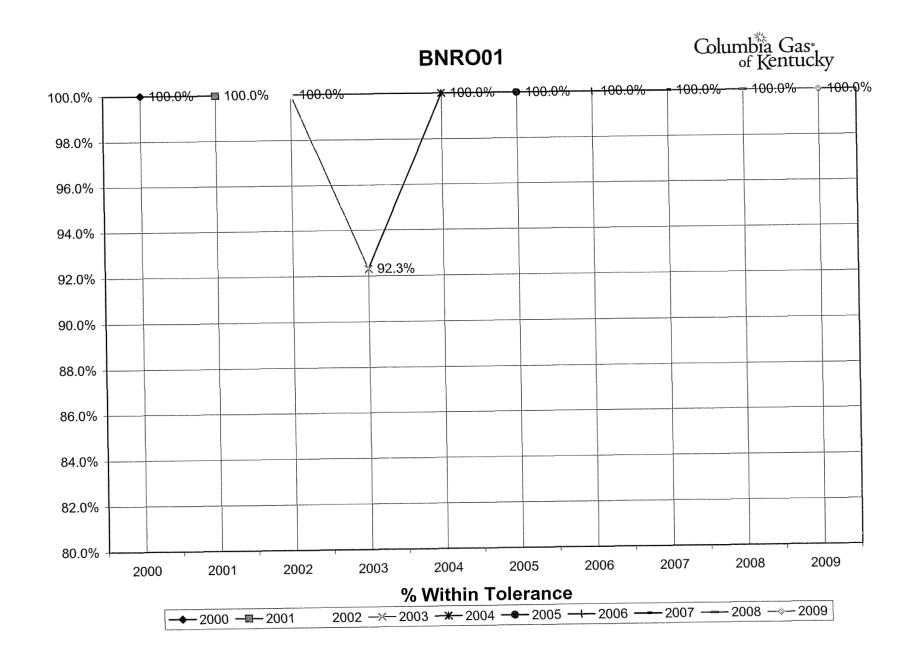
BNRO01 = New Rockwell meters purchased in 1999 & 2003

BNSP01 = New Sprague meters purchased in 1999

### BNAM01

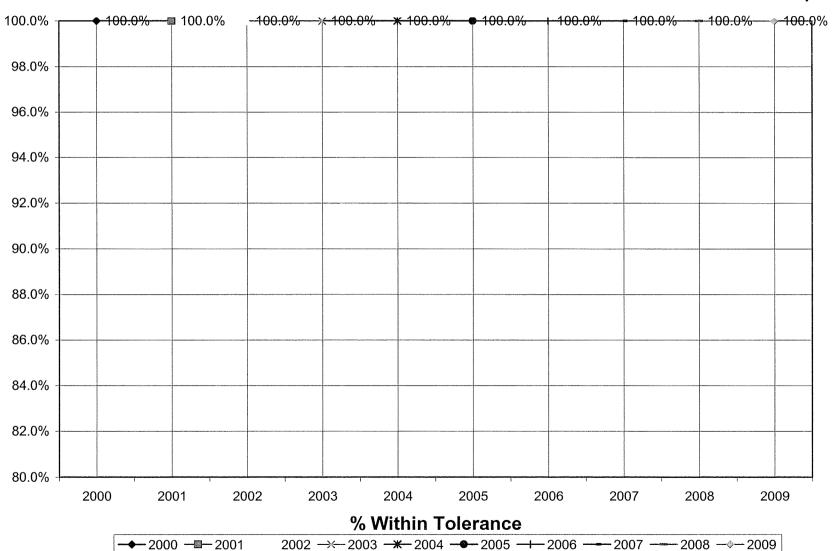






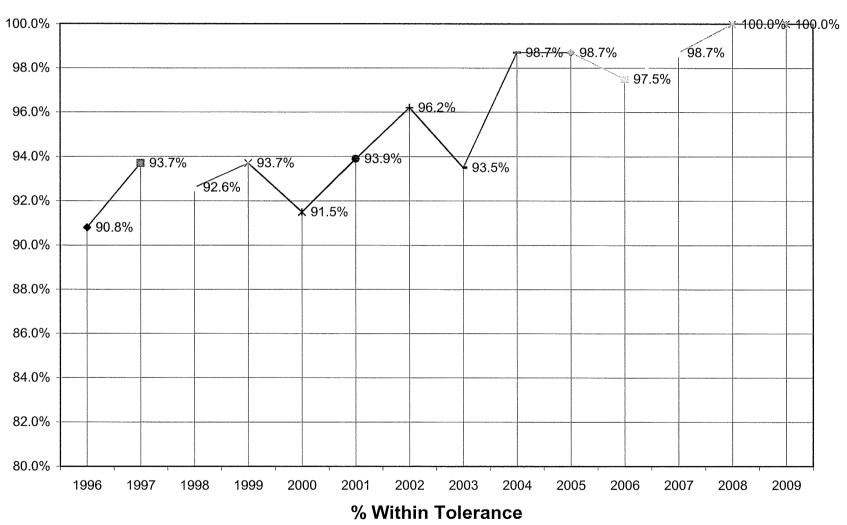






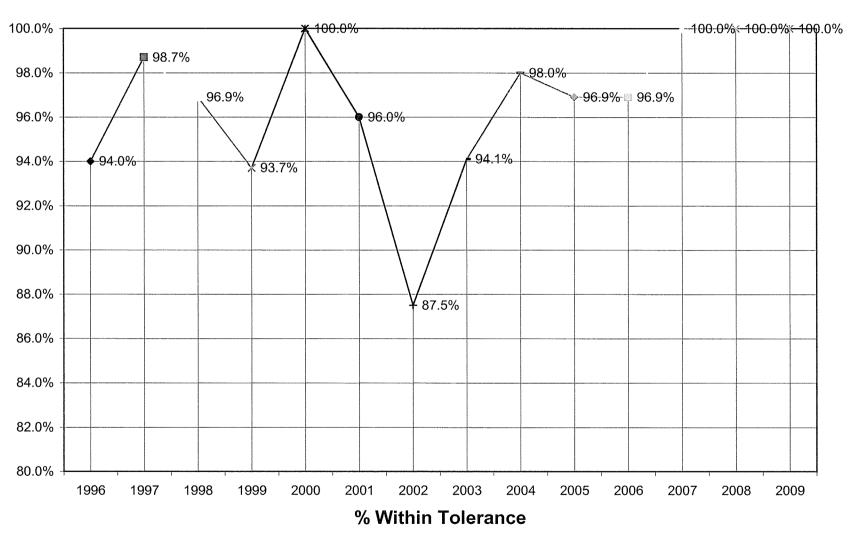






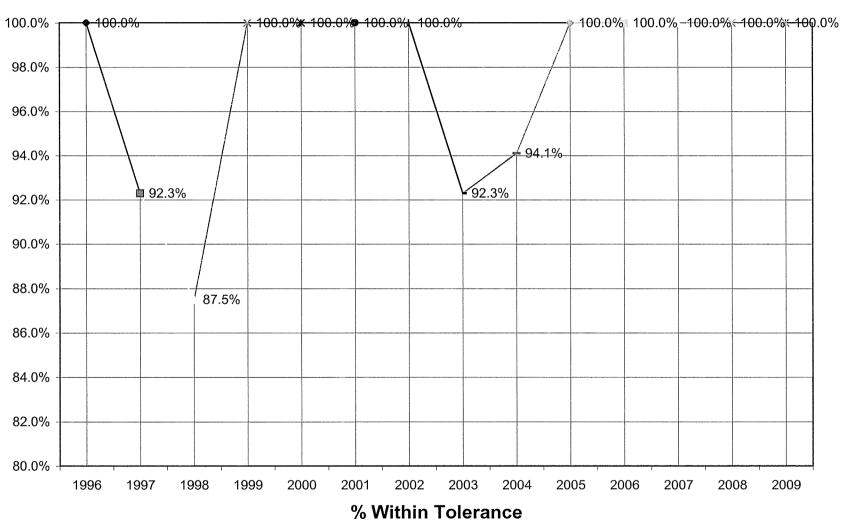












٠				

#### **EXHIBIT F**

## **COST SAVINGS**

The 2009 sampling program resulted in changing 5227 fewer meters than would have been changed under the 14-year plan Columbia Gas of Kentucky was following prior to meter sampling and changing 9,336 fewer meters than would have been required under a 10-year change-out program.

This represents yearly savings of \$1,269,696 compared to a 10-year plan

This represents yearly savings of \$710,872 compared to a 14-year plan

#### **EXHIBIT G**

## **TEST RESULTS OF NEW METERS**

Columbia Gas of Kentucky purchased 6288 new meters in 2009. The factory test sheets for the new meters purchased in 2009 are on file in the Lexington office.

No problems were found in the new 2009 purchases.