

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

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PUBLIC SERVICE
COMMISSION

In the Matter of:

2014 INTEGRATED RESOURCE PLAN OF) CASE No. 2014-00166
BIG RIVERS ELECTRIC CORPORATION)

ATTORNEY GENERAL'S COMMENTS
PUBLIC REDACTED VERSION

Comes now the intervenor, the Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention, and submits the following comments regarding Big Rivers Electric Corp. ["Big Rivers" or "BREC"]'s instant Integrated Resource Plan ["IRP"] filing.

A. Background

As noted in IRP filing § 1.3.4 on p. 7, BREC has created a new category of load it terms "Off-System Replacement Load,"¹ representing the load lost when two aluminum smelters which together comprised 850 MW ² of the company's total load terminated their respective retail electric service contracts. Those smelters have now

¹ The company defines Off-System Replacement Load as "future sales served from approximately 800 MW of capacity available to Big Rivers and its Members as a result of two aluminum smelters terminating their retail electric service contracts effective August 20, 2013, and January 31, 2014, respectively." IRP § 1.3.4, p. 7; and § 4.2.4, p. 37.

² See Direct Testimony of Mark Bailey, Case No. 2012-00535, p. 11, line 3 at: http://www.psc.ky.gov/PSCSCF/2012%20cases/2012-00535/20130115_Big-Rivers_Application_Volume_5_of_5.pdf

obtained market-based electric service.³ Replacement Load is included in the base case and all scenarios and sensitivities for the instant IRP.⁴

BREC, having foreseen the potential for the smelters' terminating their retail contracts, developed and subsequently implemented its "Load Concentration Analysis and Mitigation Plan" ["Mitigation Plan"],⁵ which, *inter alia* provided for: (a) large wholesale and retail base rate increases to BREC members and their remaining customers; (b) large-scale increases in Big Rivers' off-system sales to make-up for the lost retail sales revenues received by serving the smelters; (c) idling one or more generating plants until such time as system load increased or market prices for power increased to levels sufficient to warrant operation of idled plants; and (d) as a possible option, the sale of one or more generating plants.⁶

As BREC states in the instant filing, "The strategy to idle the Kenneth C. Coleman ["Coleman"] and D. B. Wilson ["Wilson"] generating stations was an integral part of the [Mitigation] Plan."⁷ Most importantly, the Commission recognized that the idling of Coleman was a key aspect of Big Rivers' base rate case, Case Number 2012-00535.⁸

³ See Case Nos. 2013-00221 and 2013-00413.

⁴ IRP § 4.2.4, p. 38.

⁵ IRP § 3, pp. 20-21, 37; and § 12.3, p. 113. The Mitigation Plan was one of the primary issues facing the Commission and the parties in the two base rate cases Big Rivers filed (Case Nos. 2012-00535 and 2013-00199) in an attempt to replace revenues the company lost as a result of the two smelters' departure from the company's system.

⁶ IRP § 4.2.4, p. 37. See also Case No. 2013-00199, Final Order dated April 25, 2014, pp. 44-45.

⁷ IRP § 3, p. 21. See also Case No. 2012-00535, Final Order dated Oct. 29, 2013, FN 7, p. 4.

⁸ In Case No. 2012-00535, Final Order dated Oct. 29, 2013 (pp. 19-20), the Commission ruled that while Coleman is idled, BREC's ratepayers would not be required to pay Coleman's depreciation expense because Coleman represented excess capacity. In Case No. 2013-00199, Final Order dated April 25, 2014

As circumstances developed since the date the Mitigation Plan was implemented, the Midcontinent Independent System Operator ["MISO"] designated Coleman as a "System Support Resource" ["SSR"], which meant all three generating units were required to operate for reliability purposes. MISO accordingly reimbursed Big Rivers' non-capital costs of operating Coleman Station while the unit operated in SSR status. That status was terminated when Century Aluminum's Hawesville smelter installed certain transmission-related equipment and secured MISO and SERC approval that allowed Big Rivers to idle Coleman Station on April 30, 2014 even with the Hawesville smelter operating.

Since that time, BREC states it has secured one or more a forward power sale(s) agreements, which it believes will be sufficient to warrant Wilson's continuing operation⁹ into the foreseeable future. However, the Coleman plant remains idled and, according to the company, likely will remain so until a projected restart date sometime between 2016-2019.¹⁰

Big Rivers' IRP filing shows that the company's total capacity is 1,819 MW,¹¹ or nearly 2.8 times more capacity than needed to serve its remaining native load of only 650 MW.¹² At the close of BREC's most-recent base rate case, 2013-00199, the Commission recognized that:

(pp. 9-16), the Commission likewise ruled that BREC's ratepayers would not be required to pay Wilson's depreciation expenses because it, too, represented excess capacity.

⁹ IRP § 3, pp. 21; and § 4.2.4, p. 37.

¹⁰ IRP § 4.2.4, p. 37.

¹¹ IRP § 1.3.2, p. 3.

¹² Case No. 2013-00199, Final Order dated April 25, 2014, pp. 43-44.

“ . . . there are many issues to be considered in determining the optimal timing, pricing, terms, and conditions for marketing power **and/or selling generation assets**. These issues are complex in nature, and their proper analysis requires both detailed knowledge of wholesale power markets and Big Rivers' financial condition and status as a member-owned cooperative.”¹³

Accordingly, the Commission ordered a focused management audit of the company's strategic planning, management, and decision-making relating to its efforts to mitigate the loss of the smelter load, with the major focus to be on the steps that Big Rivers has undertaken or should undertake to mitigate any further financial impact relating to the loss of that load.¹⁴

B. Discussion

The primary legal standard pertaining to IRP filings is 807 KAR 5:058, which provides, in pertinent part:

“Resource Assessment and Acquisition Plan. (1) The plan shall include the utility's resource assessment and acquisition plan for providing an adequate and reliable supply of electricity to meet forecasted electricity requirements at the lowest possible cost. The plan shall consider the potential impacts of selected, key uncertainties and shall include assessment of potentially cost-effective resource options available to the utility.”¹⁵

Big Rivers' IRP filing clearly indicates that the company has far greater capacity than native load – so much so, that it has indefinitely idled all three generating units of the Coleman plant, representing 443 MW of capacity. However, this indefinite idling still leaves the company with far more capacity than it needs, and in fact with far

¹³ Id. at 47 [Emphasis Added].

¹⁴ Id. at 48 [Emphasis Added].

¹⁵ 807 KAR 5:058 § 8 [Emphasis added.]

greater reserve than MISO requires.¹⁶ Moreover, major environmental work would have to be done on Coleman if one or more of the plant's generating units were to return on-line within the time frame BREC contemplates. BREC's "Environmental Case 1" provides an estimate of \$ [REDACTED] in additional environmental capex in order to achieve compliance, including an additional \$ [REDACTED] in annual O & M costs.¹⁷ These additional expenses for an aging facility such as Coleman will make it much more difficult to dispatch the Coleman units on a consistent basis.

Clearly, Coleman is the lynch-pin in BREC's IRP, and as such its future constitutes a "key uncertaint[y]" of the type contemplated in 807 KAR 5:058 § 8. Accordingly, the company should have conducted a detailed assessment of potentially cost-effective options for this resource. However, the overall filing fails to pay proper attention to this crucial fact, focusing instead on the company's *overall* system. The future of the Coleman units are so critically interwoven to the company's *overall* future that the company should have included in the filing a Net Present Value Revenue Requirements ["NPVRR"] analysis regarding Coleman's value to BREC's three member-owner cooperatives. The Office of the Attorney General did provide an NPVRR analysis in BREC's most-recent base rate case, Case No. 2013-00199.¹⁸ The

¹⁶ IRP § 10.3, p. 110.

¹⁷ IRP § 8, Table 8.3, pp. 90-91.

¹⁸ See Attorney General's Pre-Filed Direct Testimony, Testimony of Larry W. Holloway, P.E., Exhibit Holloway-3 ("Member Benefit Analysis for Rate Treatment of Coleman and Wilson Costs"), the public-redacted version of which is available at: http://www.psc.ky.gov/PSCSCF/2013%20cases/2013-00199/20131029_Office%20of%20the%20Attorney%20General_Attorney%20General's%20Pre-Filed%20Testimony.pdf

Attorney General is providing in these comments an updated version of this NPVRR Analysis of the Coleman plant.

1. NPVRR Analysis of Coleman

The Attorney General's NPVRR analysis conducted in Case No. 2013-00199 was based in part upon energy price forecasts which BREC itself provided. In the instant filing, however, BREC has also provided forecasts of capacity sales, as well as increased projected spending for environmental upgrades; hence the Attorney General has included these into the NPVRR calculations.¹⁹ Additionally, BREC has stated that the financial models provided in the instant filing are the same models provided in Case No. 2013-00199.²⁰ BREC's financial model also assumes that: (a) Coleman returns to service in mid-2019; and (b) 800 MW of replacement load is obtained over the forecast period. Finally, the Attorney General used the same interest rate (█%) that BREC used in calculating Coleman's NPVRR. The Attorney General attaches hereto as exhibits the spreadsheets setting forth his analysis, which are summarized in the following Table 1:

¹⁹ While the Attorney General included MATS upgrades in his 2013-00199 analysis, IRP table 8.3 indicates additional investment of approximately \$█ for other types of environmental upgrades.

²⁰ See BREC responses to SC 1-1, AG 1-10, AG 1-16 and AG 2-9, all of which reference the company's response to PSC 2-14 in 2013-00199.

Table 1 - Comparison of Coleman Value Using BREC's IRP Rates of [REDACTED]%	
	NPVRR
Coleman Net Revenue (Costs) w/o Capacity Sales	(\$ [REDACTED])
2014 NPVRR of Base Case Capacity Sales	\$ [REDACTED]
Total	\$ [REDACTED]

As Table 1 illustrates, continued ownership of Coleman through 2027 results in a positive NPVRR of \$ [REDACTED].²¹ Stated in another manner, if BREC sold Coleman today for \$ [REDACTED] it would receive the same amount of net value that it could expect by retaining Coleman through 2027. In Case No. 2013-00199, BREC stated that during negotiations for the potential sale of Coleman, it was seeking \$ [REDACTED], or approximately \$ [REDACTED] than the plant's net book value (as of July 31, 2013) of \$180,092,893.²² Thus under the results of the NPVRR analysis, even if BREC recovered only [REDACTED]% of its asking price today, it would still be a net gain over the actual value Coleman is expected to generate over the IRP planning horizon.

Coleman's actual value, therefore, is [REDACTED] than its net book value.

This is a painful reality, but Big Rivers' continued adherence to its position that it must

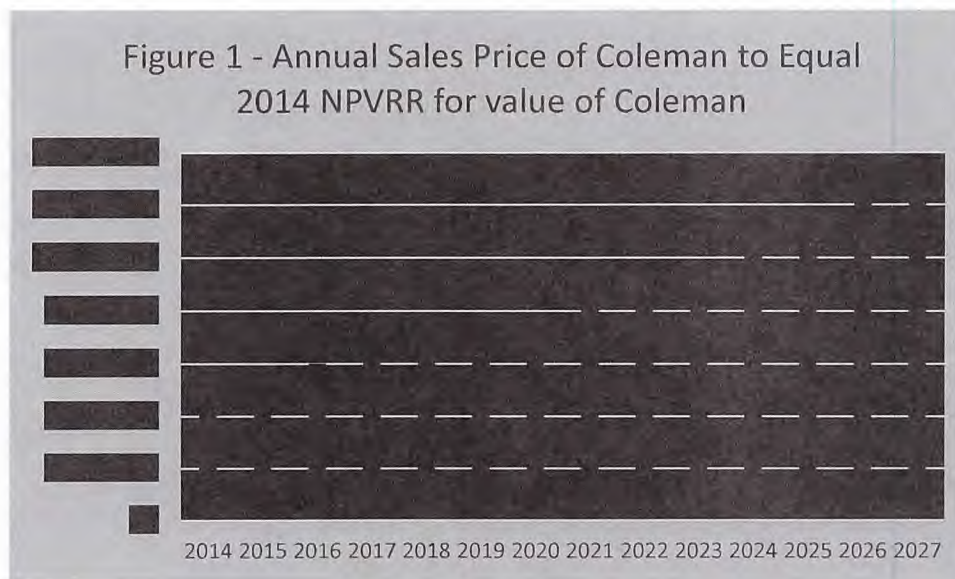
²¹ Note that this number is conservatively *high* because BREC's financial models have not been updated to include additional interest cost and operating and maintenance costs for all of the IRP-envisioned environmental upgrades for Coleman. Proper inclusion of these future costs will only decrease the present value of Coleman.

²² See BREC's response to PSC 2-15, p. 2 of 2, in Case No. 2013-00199 at:

http://www.psc.ky.gov/PSCSCF/2013%20cases/2013-00199/20130903_Big%20Rivers_Response%20to%20Commission%20Staff%20Second%20Request.pdf, as referenced in BREC's response to AG 1-5 and AG 1-12 in the instant proceeding.

obtain Coleman's book value is preventing the company from seeking the best least-cost solution for its members and their ratepayers. To complicate the situation, for each year that Big Rivers does not sell Coleman, it will have to seek [REDACTED] [REDACTED], as illustrated in the following

Figure 1:



Significantly, if BREC should sell Coleman in any year during the 2014-2027 timeframe, even if at a price greater than those illustrated above, the resulting figures would still result in a least cost case *less* than BREC's IRP base case. BREC's IRP analysis fails to take any of these crucial facts into consideration, although its IRP base scenario does continue to include its Mitigation Plan, which contains critical replacement load scenarios far different from those necessary to merely meet its native load requirements. BREC's overall approach in the instant filing has been to confine its analysis to load growth and resources.²³ However, if BREC is going to continue to

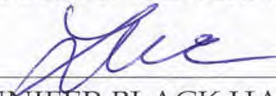
²³ See response to AG 2-3.

model and project its Mitigation Plan, it should also model scenarios for the sale of Coleman which, after all, is a potential event contemplated in the Mitigation Plan itself.

C. Conclusion

Big Rivers' future is intertwined with the future of the Coleman plant. It would prove highly unwise to bring this idled plant back on-line without rigorous analysis. The Commission should require Big Rivers to incorporate into its IRP modeling and analysis scenarios which include the sale of Coleman. Without evaluating these scenarios, there is no way to assure that a least-cost IRP plan has been proposed or adopted.

Respectfully submitted,
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Certificate of Service and Filing

Counsel certifies that an original and ten photocopies of the foregoing were served and filed by hand delivery to Jeff Derouen, Executive Director, Public Service Commission, 211 Sower Boulevard, Frankfort, Kentucky 40601; counsel further states that true and accurate copies of the foregoing were mailed via First Class U.S. Mail, postage pre-paid, to:

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Assistant Attorney General

Coleman Annual Price

2014 2015 2016 2017 2018 2019 2020

Figure 1 - Annual Sales Price of Coleman to Equal 2014 NPVRR for value of Coleman



Coleman Annual Price

Sheet 2 of 2

2021 2022 2023 2024 2025 2026 2027

Figure 1 - Annual Sales Price of Coleman to Equal 2014 NPVRR for value of Coleman



Coleman NPVRR

	2014	2015	2016	2017	2018	2019	2020	2021
Colman Annual Costs								
Coleman Net Sales Revenue								
Coleman Net Revenue (Costs)								
w/o Capacity Sales								
2014 NPVRR ¹								

	2014	2015	2016	2017	2018	2019	2020	2021
Coleman Capacity Sales								
Base Case Revenue								
2014 NPVRR ¹ of Base Case								
Capacity Sales								

Note 1 use Interest rate per SC
1-15c with 2014 as the
reference year (filing date)

Coleman NPVRR

Sheet 2 of 2

	2022	2023	2024	2025	2026	2027	NPVRR
Colman Annual Costs							
Coleman Net Sales Revenue							
Coleman Net Revenue (Costs) w/o Capacity Sales							
2014 NPVRR ¹							

	2022	2023	2024	2025	2026	2027	NPVRR
Coleman Capacity Sales Base Case Revenue							
2014 NPVRR ¹ of Base Case Capacity Sales							

Note 1 use Interest rate per SC
1-15c with 2014 as the
reference year (filing date)

Coleman Net Revenue Analysis

Item	Ref	2014	2015	2016	2017	2018
MATS	IRP					
CCR Submerged Scraper Conveyors (SSC)	IRP					
Effluent FGD WWTF	IRP					
Effluent Dry Fly Ash	IRP					
316b Traveling Screens w/fish return	IRP					
Total Environmental						
Idled/Restoration Capital Added	KIUC 2-17					
Running Capital Added	KIUC 2-17					
Cumulative Idled/Restoration Running Capital						
Idled/Restoration Operat Capital Depreciation						
Total IRP Fig 8.3 Depreciation						
Depreciation Expense						
Total Depreication						
Labor Expense	KIUC 2-15					
Fixed Departmental Expense	KIUC 2-15					
Property Tax Expense Base	KIUC 2-15					
Property Tax Expense ECR	KIUC 2-15					
Property Insurance Expense Base	KIUC 2-15					
Property Insurance Expense ECR	KIUC 2-15					
Interest Expense Base	KIUC 2-15					
Interest Expense ECR	KIUC 2-15					
Tier Earnings	Calculated					
Total Annual Expenses w/o Variable O&M						
Total Annual New Load and Market Sales Net Revenue						
Net Annual Costs						
Environmental upgrades added by IRP						

Coleman Net Revenue Analysis

Item	Ref	2019	2020	2021	2022	2023
MATS	IRP					
CCR Submerged Scraper Conveyors (SSC)	IRP					
Effluent FGD WWTF	IRP					
Effluent Dry Fly Ash	IRP					
316b Traveling Screens w/fish return	IRP					
Total Environmental						
Idled/Restoration Capital Added	KIUC 2-17					
Running Capital Added	KIUC 2-17					
Cumulative Idled/Restoration Running Capital						
Idled/Restoration Operat Capital Depreciation						
Total IRP Fig 8.3 Depreciation						
Depreciation Expense						
Total Depreication						
Labor Expense	KIUC 2-15					
Fixed Departmental Expense	KIUC 2-15					
Property Tax Expense Base	KIUC 2-15					
Property Tax Expense ECR	KIUC 2-15					
Property Insurance Expense Base	KIUC 2-15					
Property Insurance Expense ECR	KIUC 2-15					
Interest Expense Base	KIUC 2-15					
Interest Expense ECR	KIUC 2-15					
Tier Earnings	Calculated					
Total Annual Expenses w/o Variable O&M						
Total Annual New Load and Market Sales Net Revenue						
Net Annual Costs						
Environmental upgrades added by IRP						

Coleman Net Revenue Analysis

Sheet 3 of 6

Item	Ref	2024	2025	2026	2027
MATS	IRP				
CCR Submerged Scraper Conveyors (SSC)	IRP				
Effluent FGD WWTF	IRP				
Effluent Dry Fly Ash	IRP				
316b Traveling Screens w/fish return	IRP				
Total Environmental					
Idled/Restoration Capital Added	KIUC 2-17				
Running Capital Added	KIUC 2-17				
Cumulative Idled/Restoration Running Capital					
Idled/Restoration Operat Capital Depreciation					
Total IRP Fig 8.3 Depreciation					
Depreciation Expense					
Total Depreication					
Labor Expense	KIUC 2-15				
Fixed Departmental Expense	KIUC 2-15				
Property Tax Expense Base	KIUC 2-15				
Property Tax Expense ECR	KIUC 2-15				
Property Insurance Expense Base	KIUC 2-15				
Property Insurance Expense ECR	KIUC 2-15				
Interest Expense Base	KIUC 2-15				
Interest Expense ECR	KIUC 2-15				
Tier Earnings	Calculated				
Total Annual Expenses w/o Variable O&M					
Total Annual New Load and Market Sales Net Revenue					
Net Annual Costs					
Environmental upgrades added by IRP					

Sheet 6 of 6

Coleman Net Revenue Analysis

Item	Ref	2014	2015	2016	2017	2018
Tier	Forecast ²					
Coleman 1 Gen MWHs	PCM ¹					
Coleman 2 Gen MWHs	PCM ¹					
Coleman 3 Gen MWHs	PCM ¹					
Coleman Total MWH	Calculated					
MWH New Load	Load ³					
MWH New Load from Coleman	Assume ⁴					
New Load From Coleman 1	Assume ⁴					
New Load From Coleman 2	Assume ⁴					
New Load From Coleman 3	Assume ⁴					
Market From Coleman 1						
Market from Coleman 2						
Market from Coleman 3						
Market \$/MWH	Forecast ²					
New Load Price \$/MWH	Forecast ²					
Coleman 1 Costs \$/MWH	PCM ¹					
Coleman 2 Costs \$/MWH	PCM ¹					
Coleman 3 Costs \$/MWH	PCM ¹					
Coleman New Load Net Revenue	Calculated					
Coleman Market Net Revenue	Calculated					
Coleman Total Sales Net Revenue	Calculated					

1 - Annual Resource Report PSC 2-14 PCM Run 4-22-2013 (2013-2027)
 2 - Stmts RUS PSC 2-14 Financial Forecast (2014-2017) 5-16-2013
 3 - New Load from Response to AG 1-139 assume that New Load served before 2018 continues to be served by other BREC units
 4 - Assume that 1/2 of New Load Provided by Wilson and Coleman is from Coleman after 2019 and allocated among units using ratio of MWHs per unit to total MWHs

Coleman Net Revenue Analysis

Item	Ref	2019	2020	2021	2022	2023
Tier	Forecast ²					
Coleman 1 Gen MWHs	PCM ¹					
Coleman 2 Gen MWHs	PCM ¹					
Coleman 3 Gen MWHs	PCM ¹					
Coleman Total MWH	Calculated					
MWH New Load	Load ³					
MWH New Load from Coleman	Assume ⁴					
New Load From Coleman 1	Assume ⁴					
New Load From Coleman 2	Assume ⁴					
New Load From Coleman 3	Assume ⁴					
Market From Coleman 1	Calculated					
Market from Coleman 2	Calculated					
Market from Coleman 3	Calculated					
Market \$/MWH	Forecast ²					
New Load Price \$/MWH	Forecast ²					
Coleman 1 Costs \$/MWH	PCM ¹					
Coleman 2 Costs \$/MWH	PCM ¹					
Coleman 3 Costs \$/MWH	PCM ¹					
Coleman New Load Net Revenue	Calculated					
Coleman Market Net Revenue	Calculated					
Coleman Total Sales Net Revenue	Calculated					

Coleman Net Revenue Analysis

Item	Ref	2024	2025	2026	2027
Tier	Forecast ²				
Coleman 1 Gen MWHs	PCM ¹				
Coleman 2 Gen MWHs	PCM ¹				
Coleman 3 Gen MWHs	PCM ¹				
Coleman Total MWH	Calculated				
MWH New Load	Load ³				
MWH New Load from Coleman	Assume ⁴				
New Load From Coleman 1	Assume ⁴				
New Load From Coleman 2	Assume ⁴				
New Load From Coleman 3	Assume ⁴				
Market From Coleman 1	Calculated				
Market from Coleman 2	Calculated				
Market from Coleman 3	Calculated				
Market \$/MWH	Forecast ²				
New Load Price \$/MWH	Forecast ²				
Coleman 1 Costs \$/MWH	PCM ¹				
Coleman 2 Costs \$/MWH	PCM ¹				
Coleman 3 Costs \$/MWH	PCM ¹				
Coleman New Load Net Revenue	Calculated				
Coleman Market Net Revenue	Calculated				
Coleman Total Sales Net Revenue	Calculated				

Coleman Capacity Sales

Projected Capacity Price in \$/kW-Yr SC 1-32

	2013	2014	2015	2016	2017	2018	2019
Base							
High							
Low							

Projected Capacity Sales Revenues SC1-32

	2013	2014	2015	2016	2017	2018	2019
Base							
High							
Low							

Resulting Amount of Capacity sold in MW

	2013	2014	2015	2016	2017	2018	2019
Base							
High							
Low							

Coleman Capacity Value in MW with base case financial model assumption returning to service in mid 2019

	2013	2014	2015	2016	2017	2018	2019
Coleman Capacity							

Capacity Market Revenue From Coleman

	2013	2014	2015	2016	2017	2018	2019
Base							
High							
Low							

Note: after 2019 all capacity sales are from Coleman.

Coleman Capacity Sales

Sheet 2 of 3

Projected Capacity Price in \$/kW-Yr SC 1-32

	2020	2021	2022	2023	2024	2025	2026
Base							
High							
Low							

Projected Capacity Sales Revenues SC1-32

	2020	2021	2022	2023	2024	2025	2026
Base							
High							
Low							

Resulting Amount of Capacity sold in MW

	2020	2021	2022	2023	2024	2025	2026
Base							
High							
Low							

Coleman Capacity Value in MW with base case financial model assumption returning to service in mid 2019

	2020	2021	2022	2023	2024	2025	2026
Coleman Capacity							

Capacity Market Revenue From Coleman

	2020	2021	2022	2023	2024	2025	2026
Base							
High							
Low							

Coleman Capacity Sales

Sheet 3 of 3

Projected Capacity Price in \$/kW-Yr SC 1-32

	2027	2028
Base		
High		
Low		

Projected Capacity Sales Revenues SC1-32

	2027	2028
Base		
High		
Low		

Resulting Amount of Capacity sold in MW

	2027	2028
Base		
High		
Low		

Coleman Capacity Value in MW with base case financial model assumption returning to service in mid 2019

	2027	2028
Coleman Capacity		

Capacity Market Revenue From Coleman

	2027	2028
Base		
High		
Low		