

REGULAR SESSION –WEDNESDAY, JULY 17, 2024

**STATE OF KANSAS)
) SS
CITY OF KANSAS CITY)**

The Board of Public Utilities of Kansas City, Kansas (aka BPU, We, Us, Our) met in Regular Session on Wednesday, July 17, 2024 at 6:00 PM. The following Board Members were present: Thomas Groneman, President; David Haley, Vice President; Stevie A. Wakes Sr., Secretary; Mary Gonzales, Rose Mulvany Henry, and Brett Parker.

Also present: William Johnson, General Manager; Angela Lawson, Acting Chief Counsel; Jeremy Ash, Chief Operating Officer; Lori Austin, Chief Financial Officer; Abbey Frye, Chief Administrative Officer; Jerry Sullivan, Chief Information Officer; Darrin McNew, Executive Director Electric Operations; Donald Stahl, Executive Director Electric Production; Johnetta Hinson, Executive Director Customer Service; Jerin Purtee, Executive Director Electric Supply; Andrew Ferris, Director Financial Planning; Douglas Bowen, Director Electric Production Operations/Maintenance; Patrice Townsend, Director Utility Services; Ingrid Setzler, Director Environmental Services; Clifford Robinett, Director Water Distribution; Steve Hargis, Supervisor Water Operations; Nicholas Moreno, Communications Coordinator; and Robert Kamp, IT Project Manager.

A video of this meeting is on file at the Board of Public Utilities and can be found on the BPU website, www.bpu.com.

Mr. Groneman called the Board meeting to order at 6:06 PM. He welcomed all that were listening to or viewing the meeting. He informed all that the meeting was being recorded including video and audio. During the visitor comments section, those who attended in person, wishing to speak, should use the sign-up sheet at the entry and provide their name and address. In addition, there would be a public comments section after the General Manager/Staff Reports. During this section, the public could comment on the items presented in the General Manager/Staff Reports section that evening. Both visitor and public comments were limited to three minutes and should be addressed to the Board. Members of the public who wished to speak to the Board using Zoom needed to use the raise hand feature at the bottom of the application or window to signal that they wish to address the board during the public comment section. Members of the public connected by phone only, needed to press *9 to indicate they wished to address the Board in the visitor and public comment sections. No confidential information should be shared, including, account information. Staff would not provide individual account information during an open meeting. As always, the public could also email or call the BPU with any concerns. He informed all participants to act respectfully to each other; personal attacks or accusations would not be tolerated. All concerns would be directed to the Board only, they would then determine staff involvement. If side discussion was necessary, it was to be conducted outside of the Board room to avoid interfering with presenters or other attendees. If any rules are breached during this meeting, the attendee was subject to removal.

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Mr. Groneman introduced himself and the other Board members along with the General Manager, and Legal Counsel.

Roll call was taken and all Board members were present.

Item #3 – Approval of Agenda

A motion was made to approve the Agenda, by Ms. Gonzales, seconded by Ms. Mulvany Henry, and unanimously carried.

Item #4– Approval of the Minutes of the Work Session of July 3, 2024:

A motion was made to approve the minutes of the Work Session of July 3, 2024, by Mr. Wakes, seconded by Mr. Parker, and unanimously carried.

Item #5– Approval of the Minutes of the Regular Session of July 3, 2024:

A motion was made to approve the minutes of the Regular Session of July 3, 2024, by Mr. Parker, seconded by Ms. Gonzales, and unanimously carried.

Item #6– Visitors Comments

Mr. Thomas Gordon, 2521- 2517 N. 7th St., spoke about a Unified Government (UG) project in the area of 11th St., between Minnesota Ave. and State Ave.

Ms. Sylvia Watson, 1418 Walker Ave., expressed her thoughts on increased charges, including the PILOT fee.

Ms. Bobbie Sosaberger (could not confirm spelling), 2700 Waverly Ave., said she wanted to set up an appointment with Customer Service to assist her client with a bill inquiry.

Ms. Sarah Lynch, Wyandotte resident, commented on the GM search process and asked that the list of approved medical devices be expanded.

Mr. Ty Gorman, 2843 Parkwood Blvd., thanked Mr. Johnson and staff for meeting with him to discuss various items and said he looked forward to the Integrate Resource Plan (IRP) process.

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Ms. Anna Barber, 1917 N. 14th St., expressed her thoughts about the kiosk machines inability to provide change.

Ms. Britney Quintana, stated her thoughts on the payment arrangement process and making payments online.

Dr. Alma Rosas-Hall, Kansas City, KS, thanked Mr. Johnson and staff for meeting with her and expressed her views about the lobby and the potential of putting translated fliers in community centers.

Item #7– General Manager / Staff Reports

- i. *IRP Summary:* Mr. Chuck Poston, Black & Veatch, presented an overview of the IRP planning process and objectives. The purpose of completing an IRP was to determine how BPU could best serve its customers electrical needs in the future. He explained the ten scenarios that were created to test and evaluate various futures that could impact resource planning decisions. BPU was required to complete an IRP study every five years as conditions change. He said an IRP questionnaire was sent out to the twenty largest BPU customers and gave a recap from the two that responded along with comments received from the Sierra Club. Public comments could be submitted by email to: IRP@BPU.com and were due on or before August 7th. (See attached PowerPoint.)

Mr. Poston responded to questions and comments from the Board.

- ii. *IRP Public Comments:* Mr. Groneman asked if there were any visitors who wished to express comments regarding the IRP process.

Mr. Ty Gorman, 2843 Parkwood Blvd., provided his comments about the IRP process.

- iii. *Environmental Update:* Ms. Ingrid Setzler, Director Environmental Services, presented an update on various environmental rules and regulations and how they may impact future BPU operations. (See attached PowerPoint.)

Ms. Setzler and Mr. Johnson responded to questions and comments from the Board.

- iv. *Economic Development Fund Request Vote:* Ms. Patrice Townsend, Director Utility Services, presented the following resolutions to the Board:

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- a) *Y Lofts – Resolution #5302*: Ms. Townsend presented Resolution #5302, a resolution approving economic development assistance to the Y Lofts, 900 North 8th St.

A motion was made to approve Resolution #5302, by Mr. Wakes, seconded by Ms. Mulvany Henry. Roll call was taken:

Gonzales – Not present

Groneman – Yes

Haley – Not present

Wakes – Yes

Mulvany Henry – Yes

Parker – Yes

The motion carried.

- b) *Cottages at Village West – Resolution #5303*: Ms. Townsend presented Resolution #5303, a resolution approving economic development assistance to the Cottages at Village West.

A motion was made to approve Resolution #5303, as corrected, by Mr. Parker, seconded by Mr. Wakes. Roll call was taken:

Gonzales – Not present

Groneman – Yes

Haley – Not present

Wakes – Yes

Mulvany Henry – Yes

Parker – Yes

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The motion carried.

v. *Transfer of Funds:*

- a) *Electric Production:* Mr. Don Stahl, Executive Director Electric Production, explained the need to transfer funds from the Reactors Structure/Liner Repair/Replacement project to the N1 SCR Catalyst Layer project. The amount would not exceed the approved Capital Project budget.

A motion was made to approve the requested budget transfer, by Ms. Mulvany Henry, seconded by Mr. Wakes. Roll call was taken:

Gonzales – Not present

Groneman – Yes

Haley – Not present

Wakes – Yes

Mulvany Henry – Yes

Parker – Yes

The motion carried.

- b) *KCKCC:* Mr. Johnson had informed the Board of a change to the original requirements on a previously approved Economic Development fund request for the Kansas City Kansas Community College (KCKCC) downtown campus.

A motion was made to approve the recommendation to do an in-kind contribution to the downtown KCKCC campus project and to waive the all-electric requirement as a part of the original allocation under the Economic Development fund, by Ms. Mulvany Henry, seconded by Mr. Wakes.

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Information was clarified prior to the vote. Roll call was taken:

Gonzales – Not present

Groneman – Yes

Haley – Yes

Wakes – Yes

Mulvany Henry – Yes

Parker – Yes

The motion carried.

vi. *Miscellaneous Comments:* Mr. Johnson had no comments.

Item #8– Public Comments on Agenda Items

Mr. Groneman asked if there were any visitors who wished to address the Board on the agenda items presented.

There were no visitors wishing to speak.

Item #9– Board Comments

Ms. Mulvany Henry thanked staff and consultants at Black & Veatch for the effort put into the IRP process. She thanked Ms. Setzler for her presentation and said she looked forward to a more in-depth conversation regarding environmental updates, and thanked the Board for working through the General Manager (GM) search process in the prior Work Session.

Mr. Parker thanked members of the public for their participation, echoed thanks to staff for their presentations, and asked for consideration to allow an opportunity for feedback once there was a finalized draft of the IRP, prior to Board approval.

Mr. Wakes thanked all for their input regarding the IRP process, spoke about community engagement and the GM search process.

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Mr. Haley echoed thanks for the educational presentations and to community participants. He spoke about lobby operations and the opportunity for Board discussion.

Mr. Groneman acknowledged those who participated and provided their input.

Item 9 – Adjourn

At 8:28 PM a motion to adjourn was made by Ms. Mulvany Henry, seconded by Mr. Wakes. Roll call was taken:

Gonzales – Not present

Groneman – Yes

Haley – Yes

Wakes – Yes


Mulvany Henry – Yes

Parker – Yes

The motion carried.

ATTEST:

Secretary

APPROVED:

President

2024 INTEGRATED RESOURCE PLAN PROGRESS UPDATE

B&V PROJECT NO. 417702

PREPARED FOR

Kansas City Board of Public Utilities

17 JULY 2024



1 Executive Summary

The BPU 2024 Electric Generation Integrated Resource Plan (IRP) is being prepared to guide BPU's efforts to continue providing reliable, low-cost power to its customers for decades to come, while balancing affordability, reliability, and environmental sustainability. This 2024 IRP analysis combines economics, engineering, and engagement to chart a responsible course forward toward the future.

The IRP analysis completed to date illustrates that in the near-term, it is highly likely that BPU will require limited amounts of additional firm capacity to meet projected customer peak demands (plus reserve margin requirements). Where new generating assets are needed, solar photovoltaic resources may be a viable option to provide BPU with its needed energy and firm capacity requirements.

2 IRP Process Overview

Integrated resource planning is performed throughout the electric utility industry. The primary goals and key steps in developing an IRP include:

- Comparing future electric system demand with existing generating resources.
- Evaluating new resource options.
- Analyzing solutions.
- Determining the preferred portfolio.
- Developing action plan(s).

An IRP must evaluate both quantitative and qualitative factors. Factors being evaluated in this IRP include:

- BPU Load Growth (Customer Demand for Energy)
 - Forecast of net energy – how much energy do BPU's customers require aggregated over each year?
 - Forecast of net peak demand – what is the maximum instantaneous energy demand required by BPU's customers in each year?
- Fuel costs - Future prices for natural gas, coal, and fuel oil.
- Comparing future electric system demand with existing generating resources.
- Evaluating new resource options.
- Gathering stakeholder feedback.

The IRP serves as a compass, guiding BPU in continued provision of reliable and low-cost power to its customers. Economic portions of the IRP were developed with industry-standard modeling tools (computer simulations) to evaluate various resources and identify the least-cost resource plans to reliably meet forecasted customer energy requirements through 2043. The evaluations were performed across a wide range of potential futures, incorporating scenario analysis to evaluate how variables and considerations impact the future energy needs of BPU customers. Scenario analysis considers a set of changes to a model's inputs and assumptions to analyze a potential future.

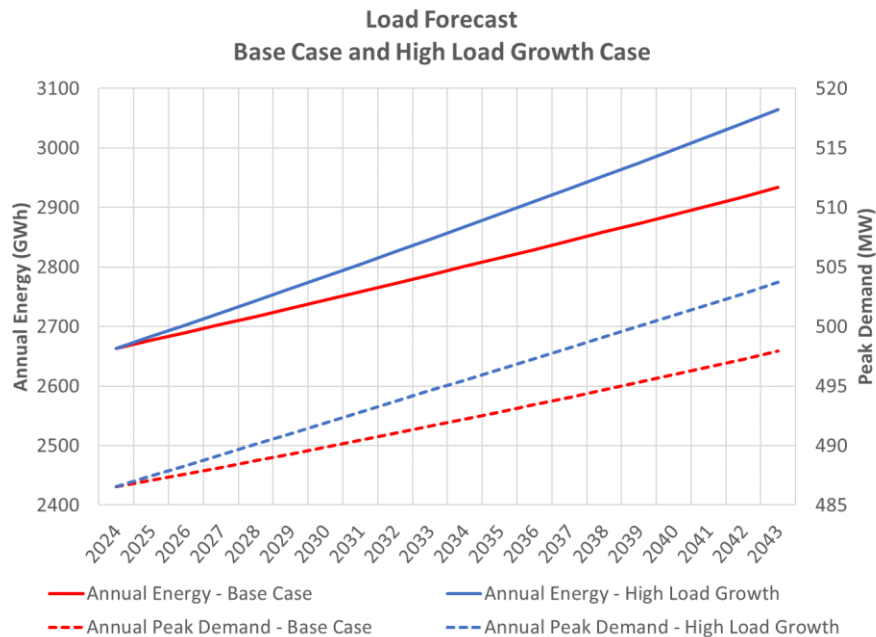
The IRP process involves the modeling of multiple scenarios. Each scenario represents a possible future that BPU could experience. Because it is impossible to predict the future, it isn't reasonable to merely select results from one scenario or sensitivity to determine which resource options to implement. It is more reasonable to identify resource options that appear most frequently across all the scenarios. In this way, BPU can be confident that the near-term resource options it develops will become and remain valuable additions to its generating portfolio regardless of which future occurs.

All possible future resource options within the IRP had to meet important reliability considerations (i.e. having sufficient firm, dependable capacity to meet forecast peak demands plus reserve margins and BPU customers' energy requirements) while honoring unit operational constraints. The IRP examined commercial technologies including solar, wind, battery energy storage systems, and various natural gas turbines.

3 Determination of Need for Capacity

An IRP study requires a long-term load forecast, as utilities plan to meet long-term energy requirements and to have sufficient capacity installed to meet the system annual peak load plus the utility's reserve requirements. In IRP studies, the long-term load forecast is an input into an expansion planning model, and various combinations of candidate future capacity resources are developed to evaluate the mix of resources that will result in the lowest reasonable costs, consistent with meeting reserve obligations and operating in an environmentally acceptable manner. Black & Veatch load forecasting specialists working with BPU developed Base Case Annual Energy and Peak Demand forecasts. BPU's Base Case forecast, covers the 20-year period of 2024 through 2043. The BPU forecast was prepared using an econometric model developed specifically for the utility's system. The load forecast consists of multiple econometric equations that tested various economic, socioeconomic, time trend, and weather data series as independent variables to forecast energy sales. BPU provided historical utility data covering the period of 2011-2022 for energy sales. The base forecast was used for all the scenarios except for the high load growth scenario discussed below in Section 4.

The resulting Base Case and High Load Growth Scenario annual peak and energy forecasts are summarized and illustrated in the figure below.

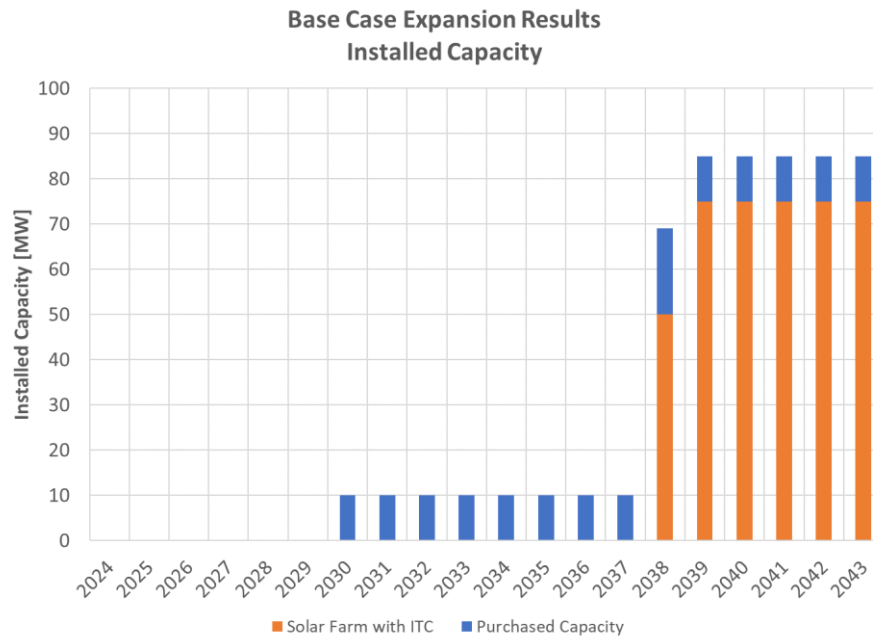


4 IRP Scenarios Examined To-Date

Scenario 1 – Base Case

Scenario 1 is considered the “Base Case” and assumes operations consistent with the status quo. All existing thermal resources continue to operate without changes to fuel or emissions controls. SWPA and WAPA hydro agreements continue through the end of the planning period. All other purchased power agreements expire at the end of their existing terms.

The results of the Base Case analysis show that capacity needs are best met with firm capacity purchases and solar generating capacity additions as indicated in the chart below.



Scenario 5 – High Fuel Price Sensitivity

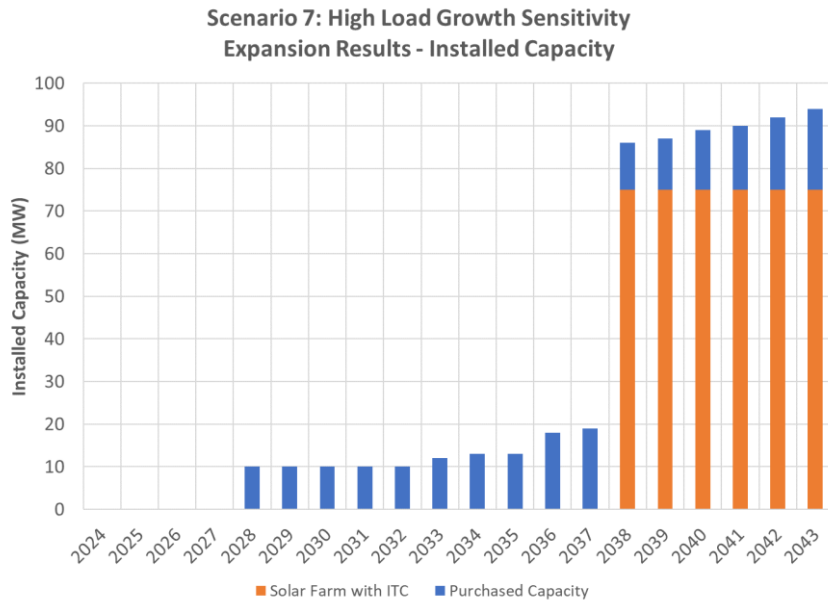
In Scenario 5 the fuel and market energy prices change at a faster rate than assumed in the Base Case. A ten percent annual increase in the rate of change in fuel and market energy prices year-over-year is considered. For example, if the increase in price from one year to the next is four percent in the Base Case, in the high fuel price sensitivity, the year-over-year increase in price will be 4.4 percent (4×1.1). All other inputs are the same as in Scenario 1. The expansion results of Scenario 5 are very similar to the Base Case. Purchased capacity is used to meet firm capacity needs until 2038. Starting in 2038, solar capacity is added to the BPU generation portfolio.

Scenario 6 – Low Fuel Price Sensitivity

Scenario 6 examines the impacts if fuel and market energy prices change at a slower rate than assumed in the Base Case. A ten percent annual decrease in the rate of change in fuel and market energy prices year-over-year is considered compared to the Base Case scenario. For example, if the increase in price from one year to the next is four percent in the Base Case, in the low fuel price sensitivity, the year-over-year increase in price will be 3.6 percent (4×0.9). All other inputs are the same as in Scenario 1. The expansion plan results of Scenario 6 are very similar to the Base Case and Scenario 5.

Scenario 7 – High Load Growth Sensitivity

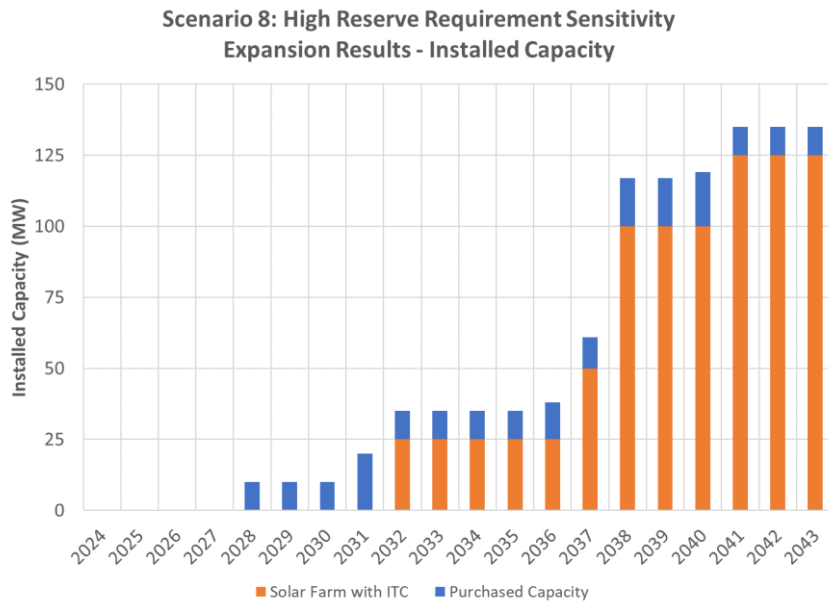
In Scenario 7 the load forecast was modified to provide inputs that reflect a more aggressive outlook on load growth. Forecasted year-over-year load growth was assumed to be 50% higher than in the Base Case. All other inputs are the same as in Scenario 1. The higher peak load growth results in greater needs for firm capacity. Similar to the Base Case, purchased capacity covers needs until 2038. Beginning in 2038, solar generation is added. The resulting expansion plan results are shown in the graphic below.



Scenario 8 – High Reserve Requirement Sensitivity

Scenario 8 evaluates the impacts of higher reserve margin requirements than were assumed in the Base Case. The scenario incorporates a 15% reserve margin through 2030, an 18% reserve margin requirement from 2031 through 2036, and then 20% thereafter. All other inputs remain the same as in Scenario 1.

In this scenario, increasing the reserve margin creates an earlier need to add generation to BPU’s portfolio. Due to the higher firm capacity needs, more solar is added than in the other scenarios analyzed. The solar generation begins to be added in the year 2032. This is earlier in the study period than when solar was first added in the other scenarios analyzed. The results of the Scenario 8 expansion results are shown in the graph below.



2024 Integrated Resource Plan

Kansas City Board of Public Utilities

July 17, 2024

Agenda

- The IRP Process
- Assessment of Need
- Modeling Results Update
- Initial Expansion Planning Results
- Public Comments
- Next Steps
- Project Schedule

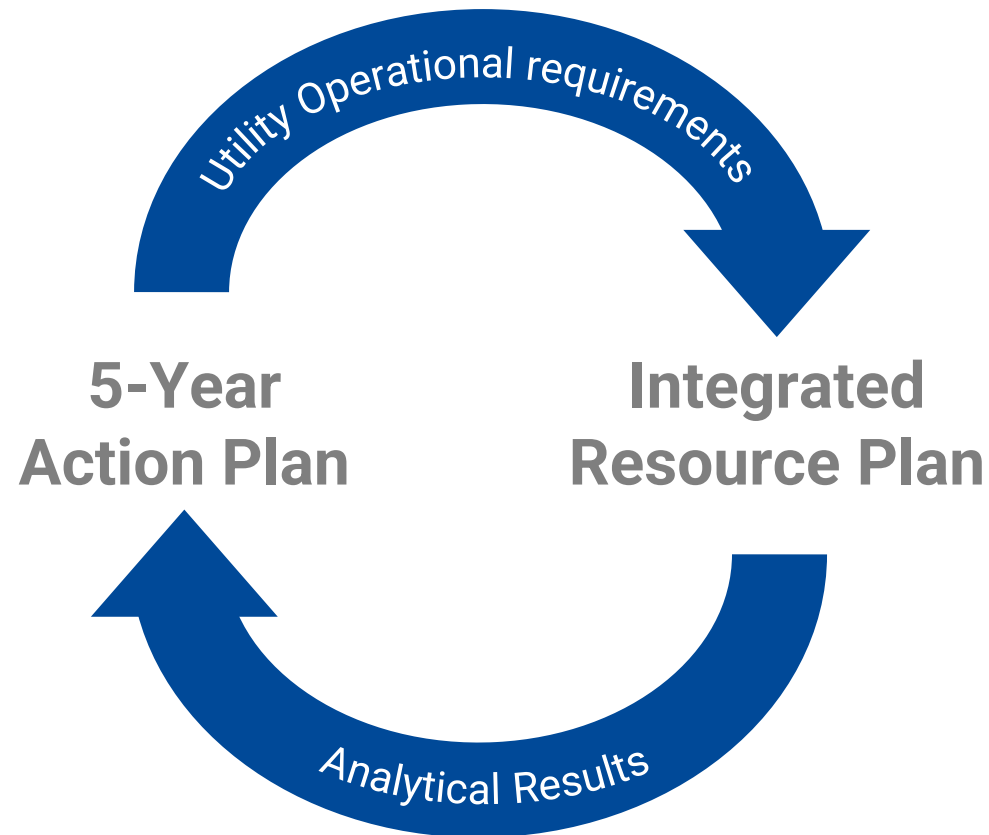


The IRP Process

What is an Integrated Resource Plan (IRP)?

- An IRP is a study that looks at how BPU can reliably, affordably, and sustainably serve its customers' electricity needs in the future.
- The IRP Team at BPU, in partnership with Black & Veatch, developed ten scenarios to test and evaluate a range of possible futures that could impact resource planning decisions.
- Computer modeling software (PLEXOS) is used to produce a portfolio of generating resources that are best suited to each scenario's specific inputs and assumptions.
- Integrated resource planning is a continual process and new IRP studies are completed every five years. Updated market conditions and forecasts are included in each iteration of the IRP so new conclusions can be drawn and new action plans can be made.

Integrated Resource Planning Process



- BPU's IRP process enables the company to take the necessary steps today (i.e., the action plan) to continue to enhance reliability and affordability, while addressing environmental compliance and managing risk for its customers.
- An effective IRP process requires balancing many different value and cost drivers in developing a long-term resource strategy.

IRP Planning Objectives

The IRP is scoped to evaluate various resource portfolios and their ability to balance BPU's long-term planning objectives:

System Reliability

The ability to meet customer power needs through adequate amount of energy, capacity, and flexibility

Minimize Rate Impacts

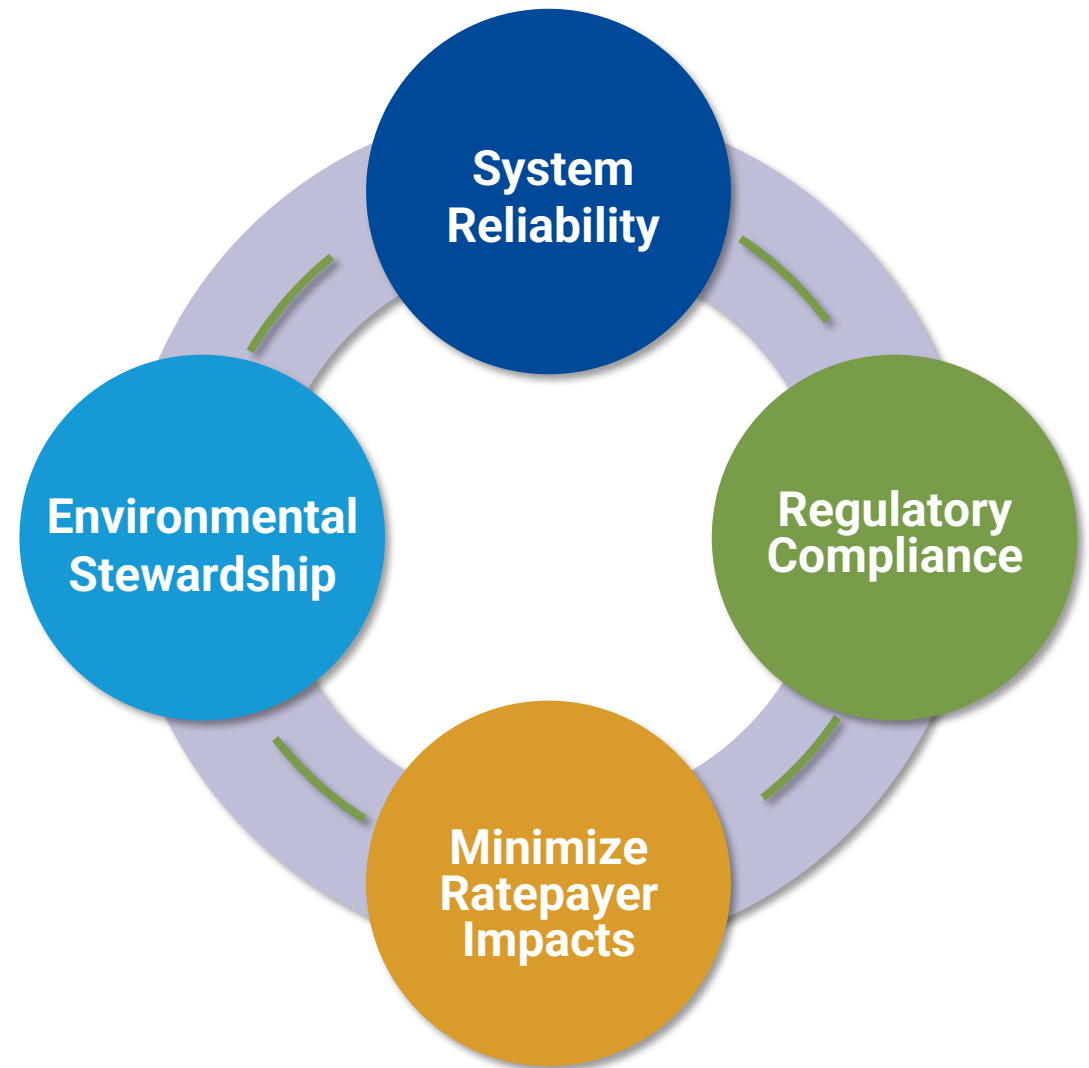
Actions that support low rates for customers

Environmental Stewardship

A resource portfolio that accounts for local and national emission requirements and customer-driven sustainability and environmental goals

Regulatory Compliance

Long-term plans that address regulatory and Southwest Power Pool (SPP) requirements



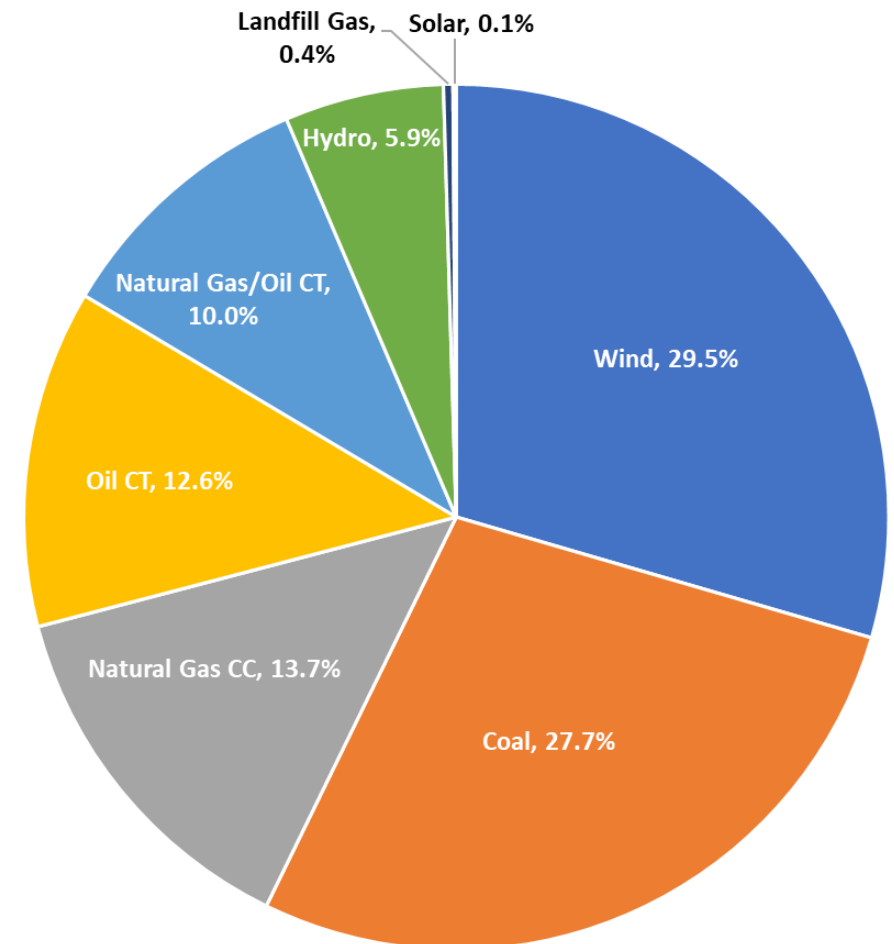
Assessment of Need

Current BPU Resources

BPU meets its load through generation from its owned resources, from purchased power contracts, and from market energy purchases.

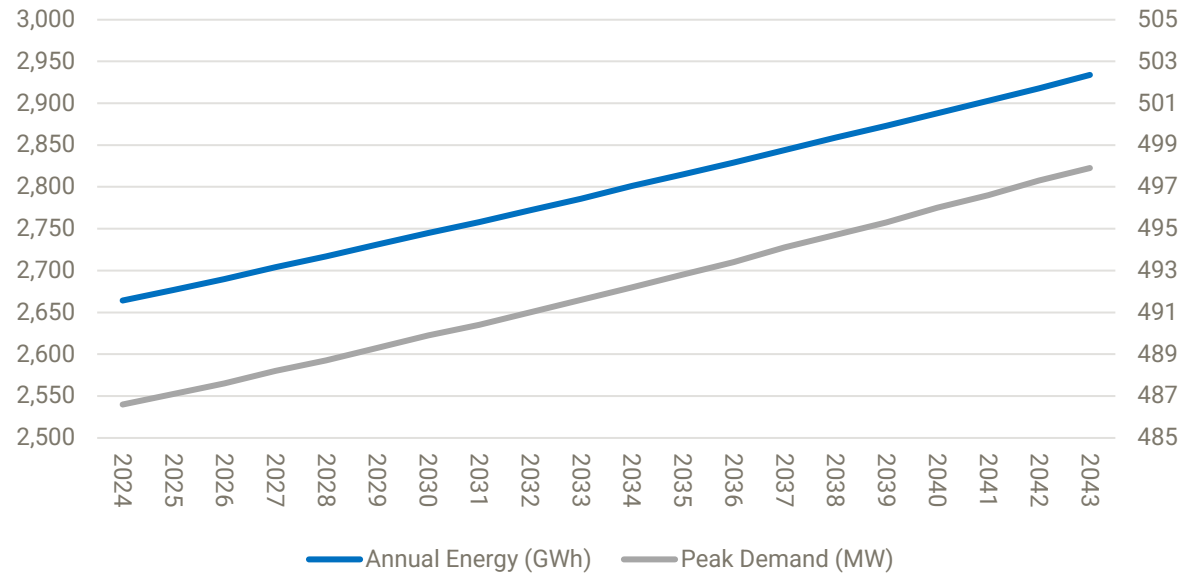
Resource Name	Technology	Modeled Capacity [MW]	Structure
Nearman Creek 1	Coal	235	Owner/Operator
Nearman Creek 4	Natural Gas/Oil CT	85	Owner/Operator
Dogwood Energy Center	Natural Gas CC	116	Part Owner
Quindaro 2	Oil CT	52	Owner/Operator
Quindaro 3	Oil CT	55	Owner/Operator
Oak Grove	Landfill Gas	3	PPA
Southwestern Power Administration (SWPA)	Hydro	38.6	PPA
Western Area Power Administration (WAPA)	Hydro	4.8	PPA
Bowersock	Hydro	7	PPA
Smoky Hills	Wind	25	PPA
Alexander	Wind	25	PPA
Cimarron Bend	Wind	200	PPA
BPU Community Solar	Solar	1	PPA

Existing Capacity by Fuel Type



Load Forecast (Base Case)

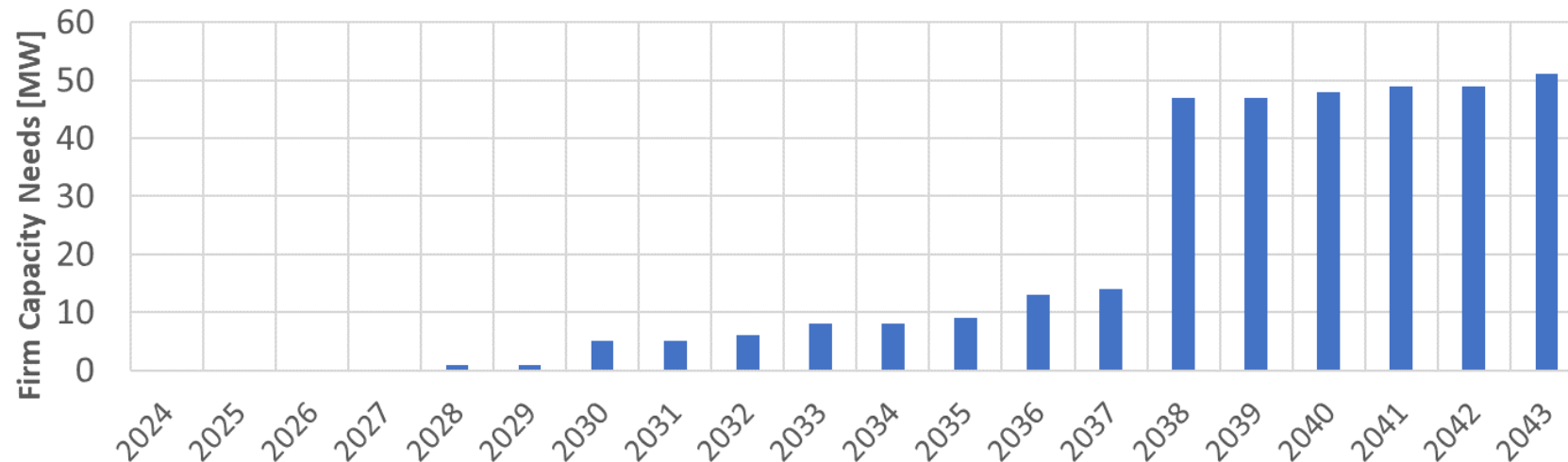
The needs of BPU's electric customers are expected to experience modest growth over the planning horizon.



Year	Annual Energy (GWh)	Peak Demand (MW)
2024	2,664	486.6
2025	2,677	487.1
2026	2,690	487.6
2027	2,704	488.2
2028	2,717	488.7
2029	2,731	489.3
2030	2,745	489.9
2031	2,758	490.4
2032	2,772	491.0
2033	2,786	491.6
2034	2,801	492.2
2035	2,815	492.8
2036	2,829	493.4
2037	2,844	494.1
2038	2,859	494.7
2039	2,873	495.3
2040	2,888	496.0
2041	2,903	496.6
2042	2,918	497.3
2043	2,934	497.9
Total Change	270	11

Firm Capacity Needs (Example from Base Case)

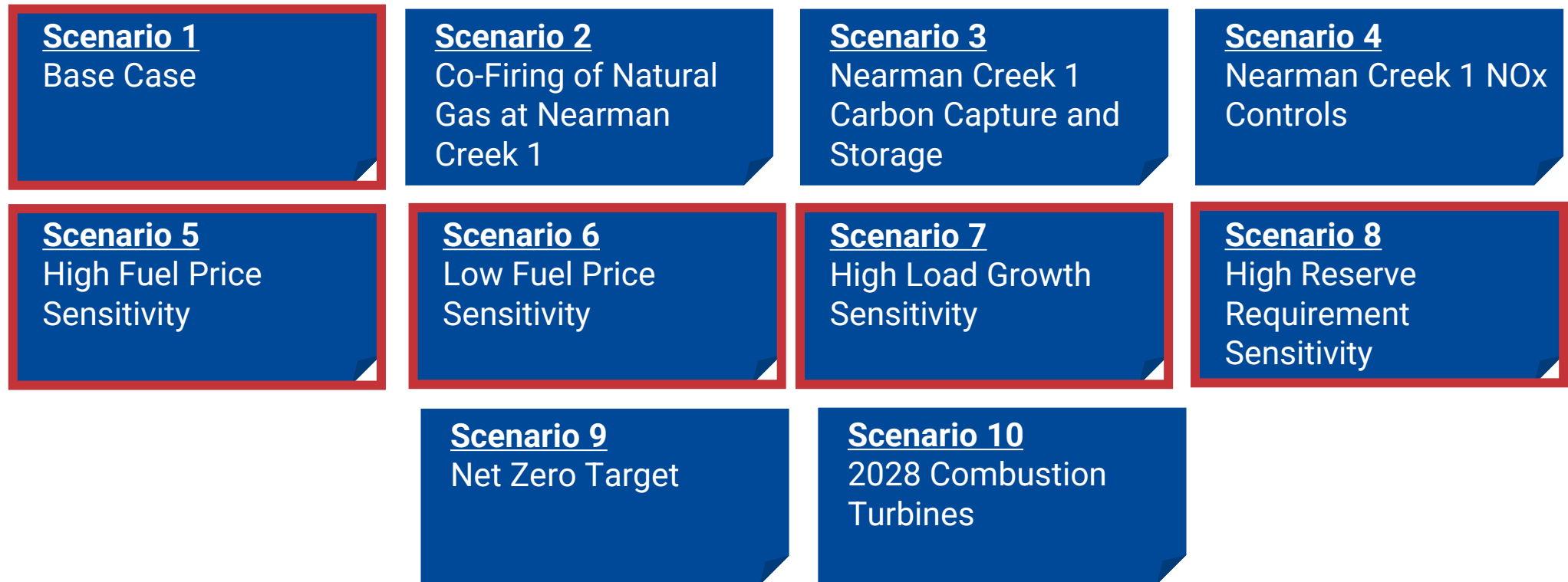
BASE CASE FIRM CAPACITY FORECAST (MW)																				
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Nearman Creek (1)	240.0	240.0	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8
Nearman Creek (CT4)	81.0	81.0	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5
Dogwood	105.0	105.0	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
Quindaro (GT2)	43.0	43.0	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6
Quindaro (GT3)	48.0	48.0	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
SWPA Hydro	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6
WAPA Hydro	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Bowersock Hydro	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0						
Oak Grove (G1)	1.6	1.6	1.6	1.6	1.6	1.6														
Oak Grove (G2)	1.95	1.95	1.95	1.95	1.95	1.95														
Smoky Hills Wind	3.8	3.8	3.8	3.8																
Alexander Wind	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8								
Cimarron Bend Wind	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0						
BPU Solar	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	
KC BPU Total:	604	604	566	566	562	562	559	559	559	559	559	559	555	555	523	523	523	523	523	522
System Peak	487	487	488	488	489	489	490	490	491	492	492	493	493	494	495	495	496	497	497	498
System Peak + Capacity Margin (15%)	560.1	560.1	561.2	561.2	562.4	562.4	563.5	563.5	564.7	565.8	565.8	567.0	567.0	568.1	569.3	569.3	570.4	571.6	571.6	572.7
Capacity Surplus/(Deficit)	44.0	44.0	4.8	4.8	(0.1)	(0.1)	(4.8)	(4.8)	(6.0)	(7.1)	(7.2)	(8.3)	(12.1)	(13.2)	(46.4)	(46.4)	(47.6)	(48.7)	(48.7)	(50.4)



Modeling Results Update

Planning Scenarios

- At the July 3rd workshop, time was spent discussing the detailed inputs to Scenario 1, or the “Base Case” including expansion candidates, capital costs, and firm capacity requirements.
- This presentation will present the initial results from Scenarios 5, 6, 7, and 8 (highlighted below) that are most similar to the Base Case.



Overview of Scenarios 5 - 8

The inputs and assumptions for Scenarios 5 through 8 are the same as those used for the Base Case, with the exceptions as noted below:

Scenario 5:
High Fuel Price Sensitivity

- Fuel prices and Southwest Power Pool (SPP) market prices updated.

Scenario 6:
Low Fuel Price Sensitivity

- Fuel prices and SPP market prices updated.

Scenario 7:
High Load Growth Sensitivity

- Load forecast (both annual energy and peak energy values) updated.

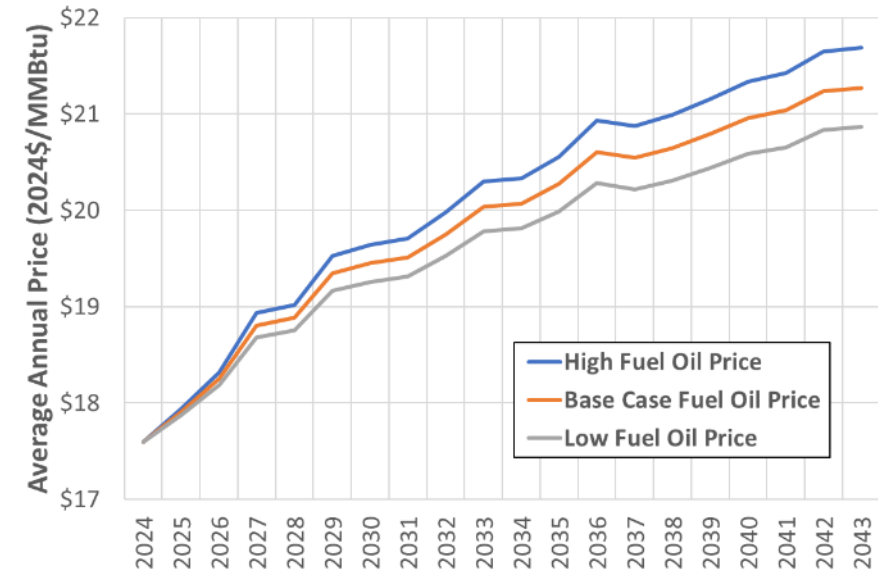
Scenario 8:
High Reserve Requirement Sensitivity

- SPP planning reserve margin updated.

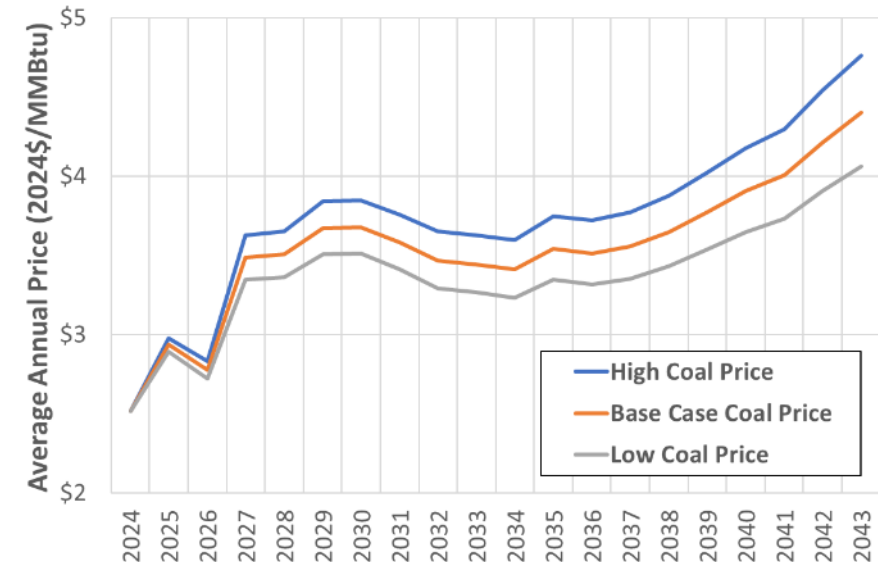
Scenarios 5 & 6: Fuel Price Sensitivities

- The fuel prices from the Base Case were adjusted to provide inputs to Scenarios 5 & 6.

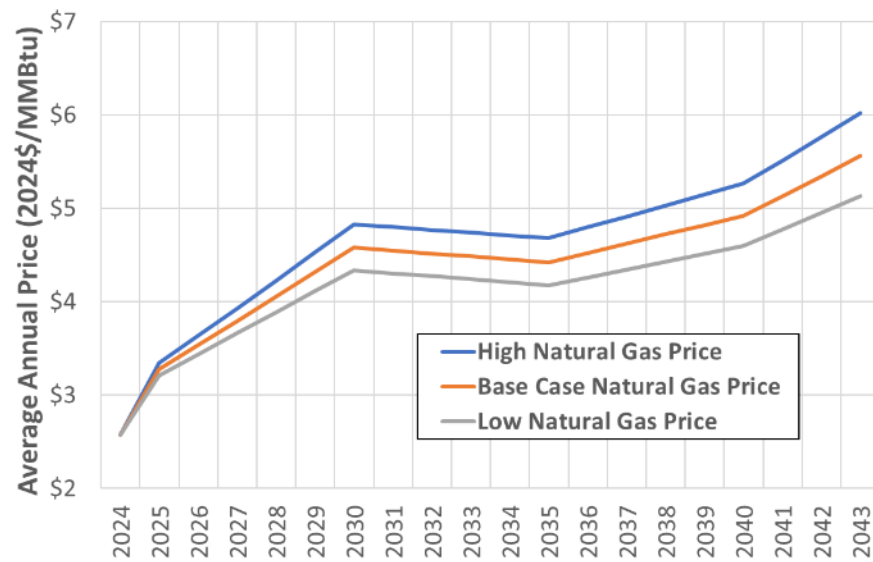
Fuel Oil Price Sensitivities



Coal Price Sensitivities

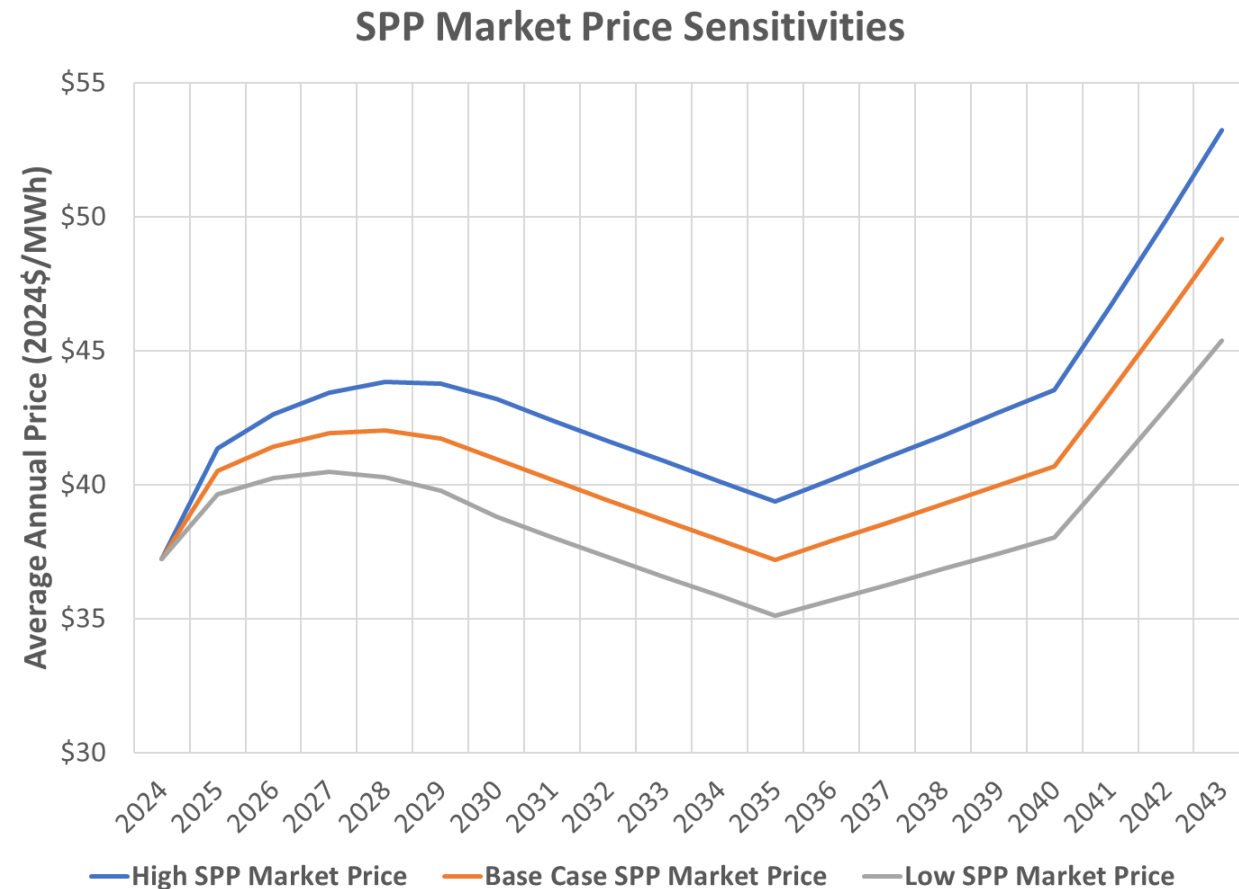


Southern Star Nat. Gas Price Sensitivities



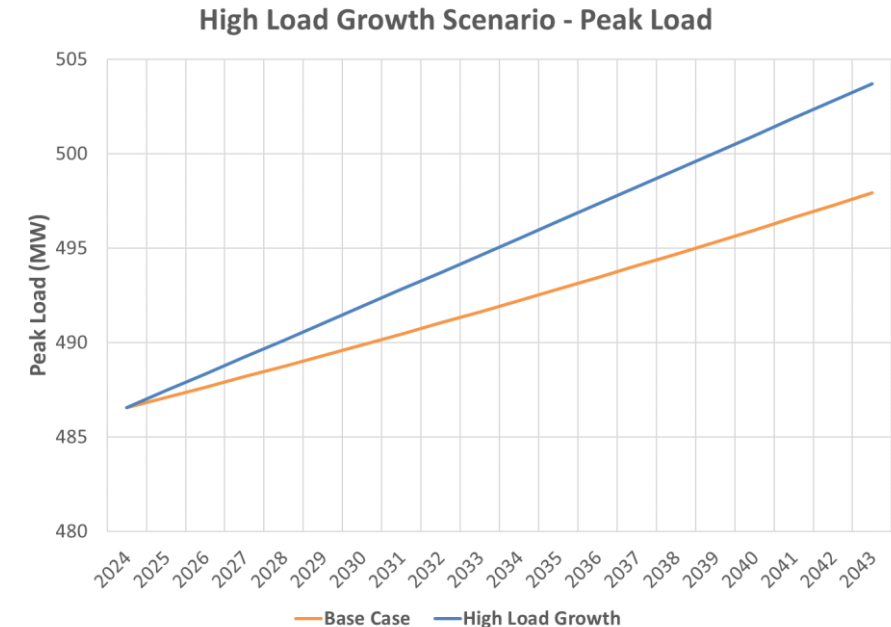
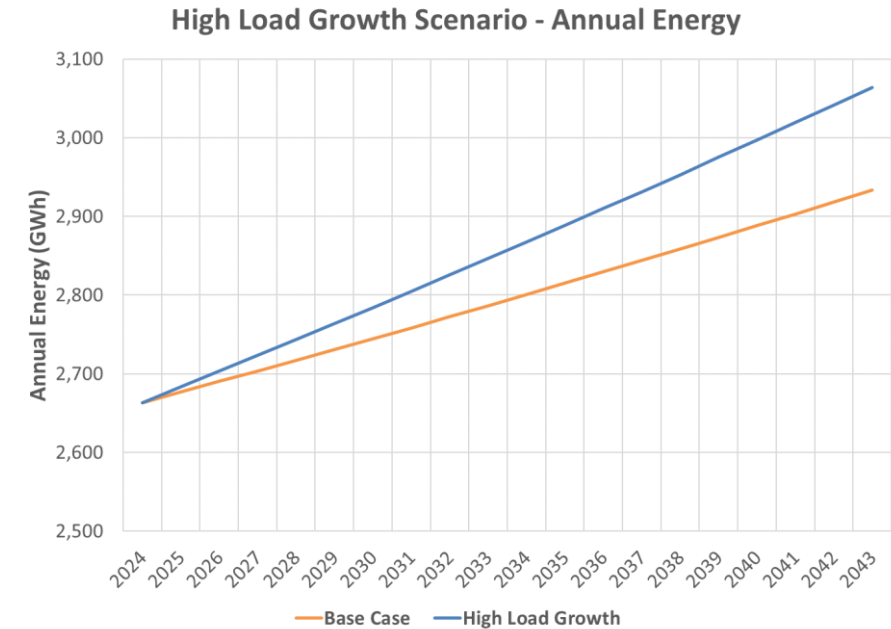
Scenarios 5 & 6: Fuel Price Sensitivities

- In addition to the fuel price changes, the SPP market prices from the Base Case were also updated to reflect the changes to the underlying fuel prices.
- Changes to the market-wide prices for fuel will impact the prices for energy for all SPP, not just for BPU.



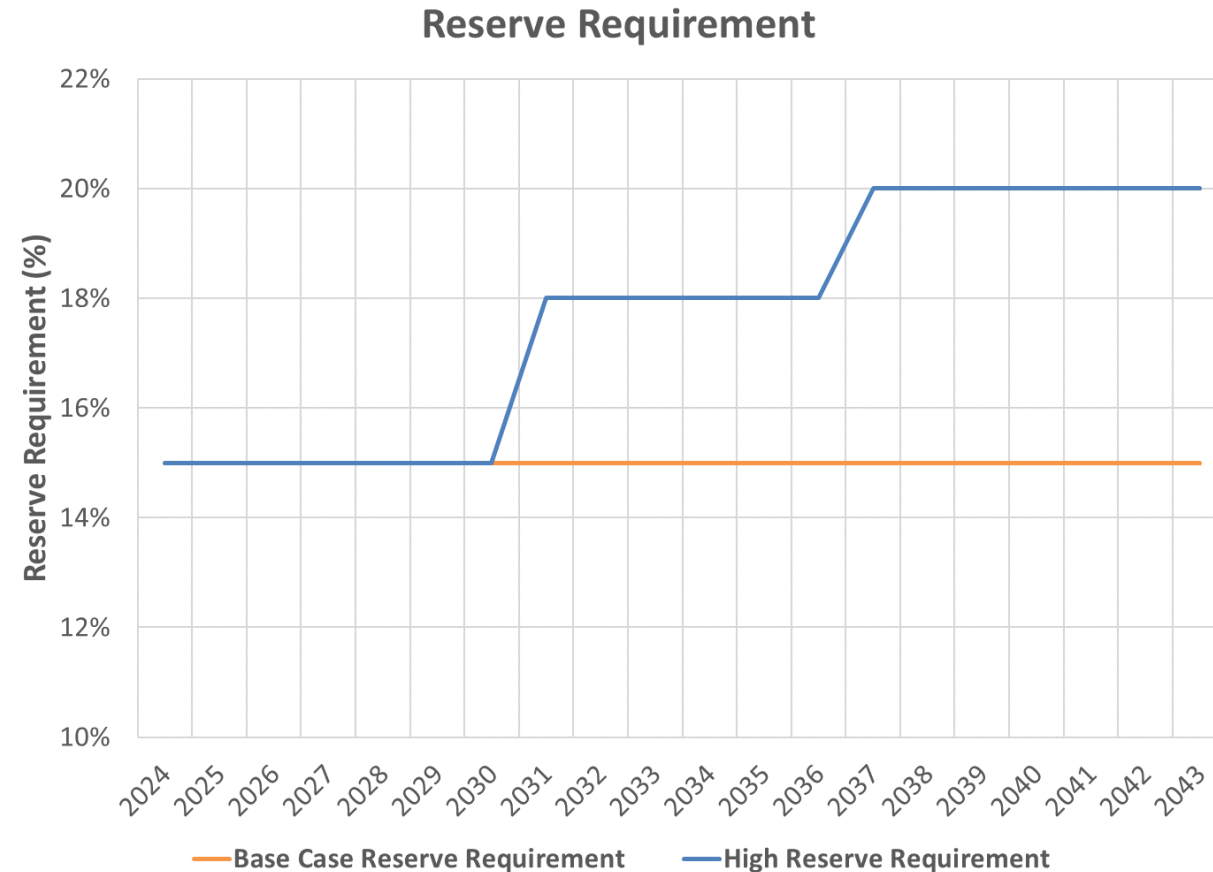
Scenario 7: High Load Growth Sensitivity

- For Scenario 7, the results of the load forecast were modified to provide inputs that reflected a more aggressive outlook on load growth.
- Higher peak load growth will result in greater needs for firm capacity.
- No additional “low load growth” scenario was used since the Base Case already uses a relatively low load growth forecast.



Scenario 8: High Reserve Requirement Sensitivity

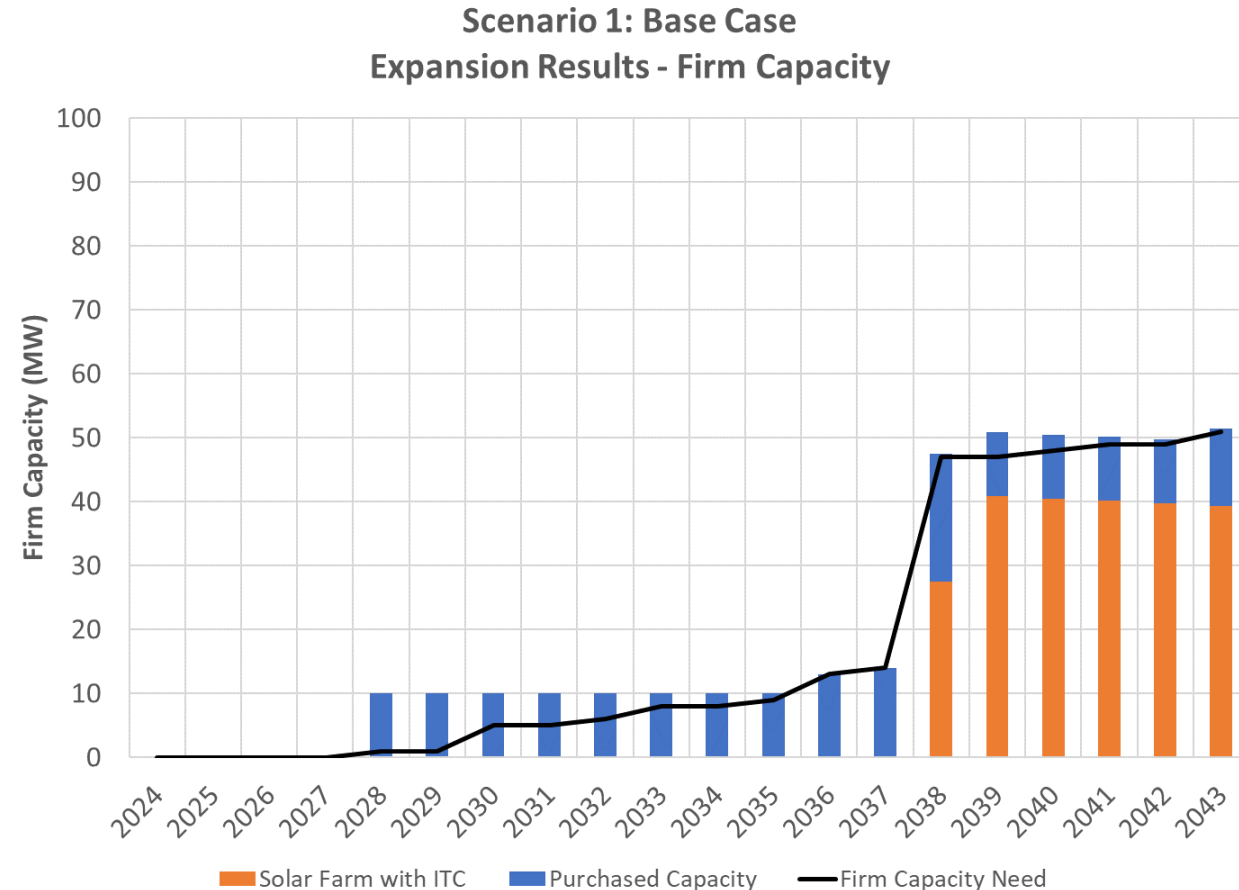
- The only change to Scenario 8 versus the Base Case is a change to the assumed planning reserve requirement.
- In the Base Case, the current SPP planning reserve requirement of 15% was assumed to continue through the end of the planning period.
- In Scenario 8, the planning reserve requirement increases to 18% in 2031 and to 20% in 2037.
- Increased planning reserve requirements will result in greater needs for firm capacity.



Initial Expansion Planning Results

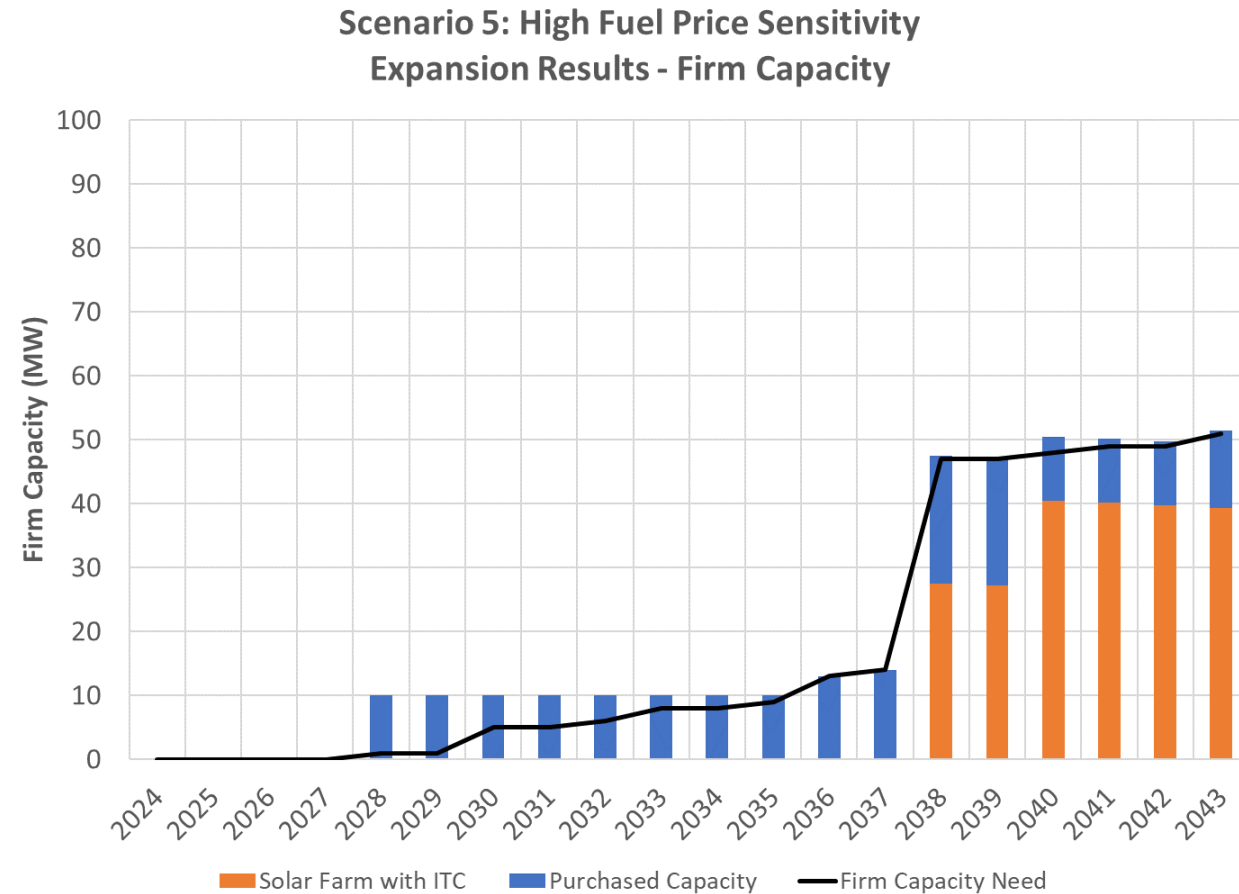
Scenario 1: Base Case

- To review, the expansion plan for the Base Case indicated that near- to medium-term firm capacity needs could be met with limited amounts of purchased capacity.
- Starting in 2038, increased firm capacity needs resulted in the addition of solar generation resources.



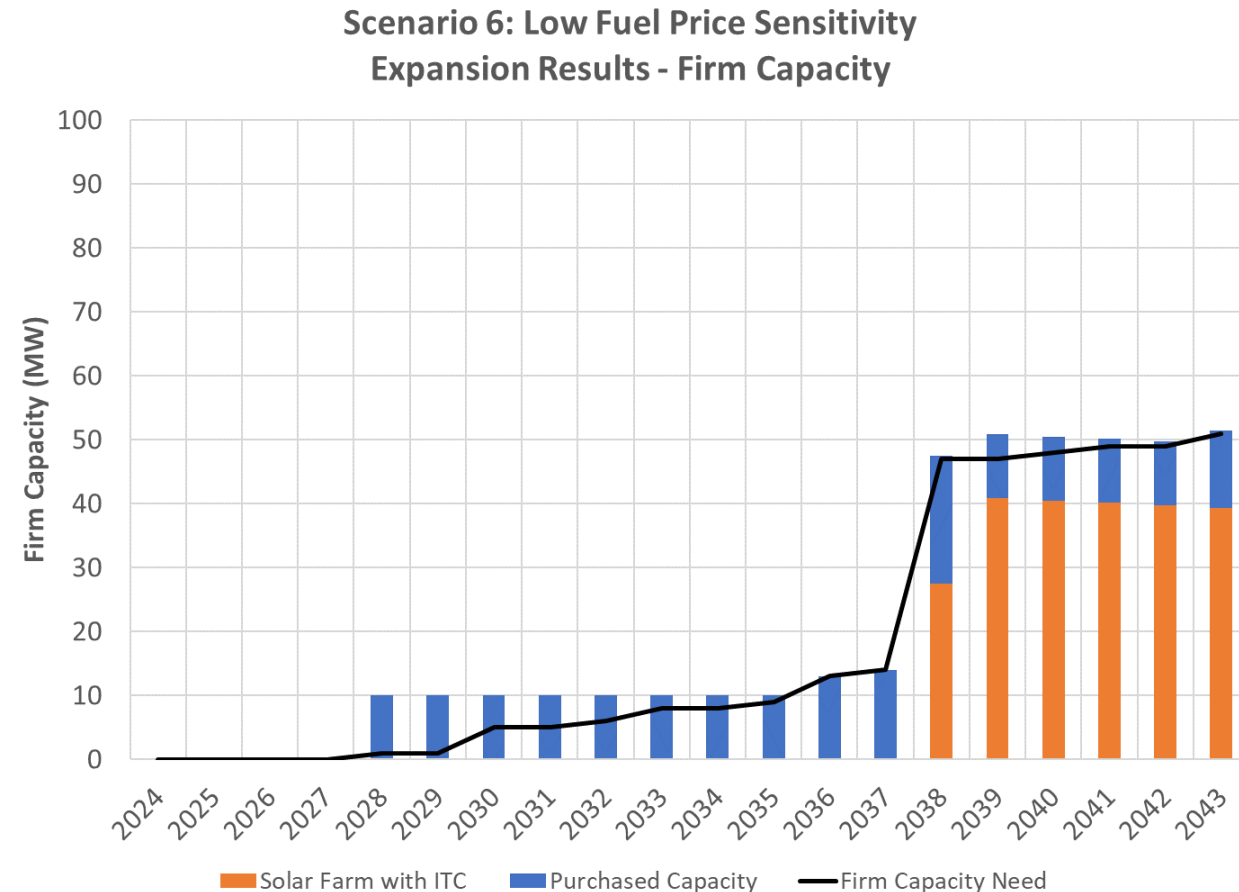
Scenario 5: High Fuel Price Sensitivity

- The expansion results of Scenario 5 are very similar to the Base Case.
- Purchased capacity is used to meet firm capacity needs until 2038.
- Starting in 2038, solar capacity is added to the BPU generating portfolio.



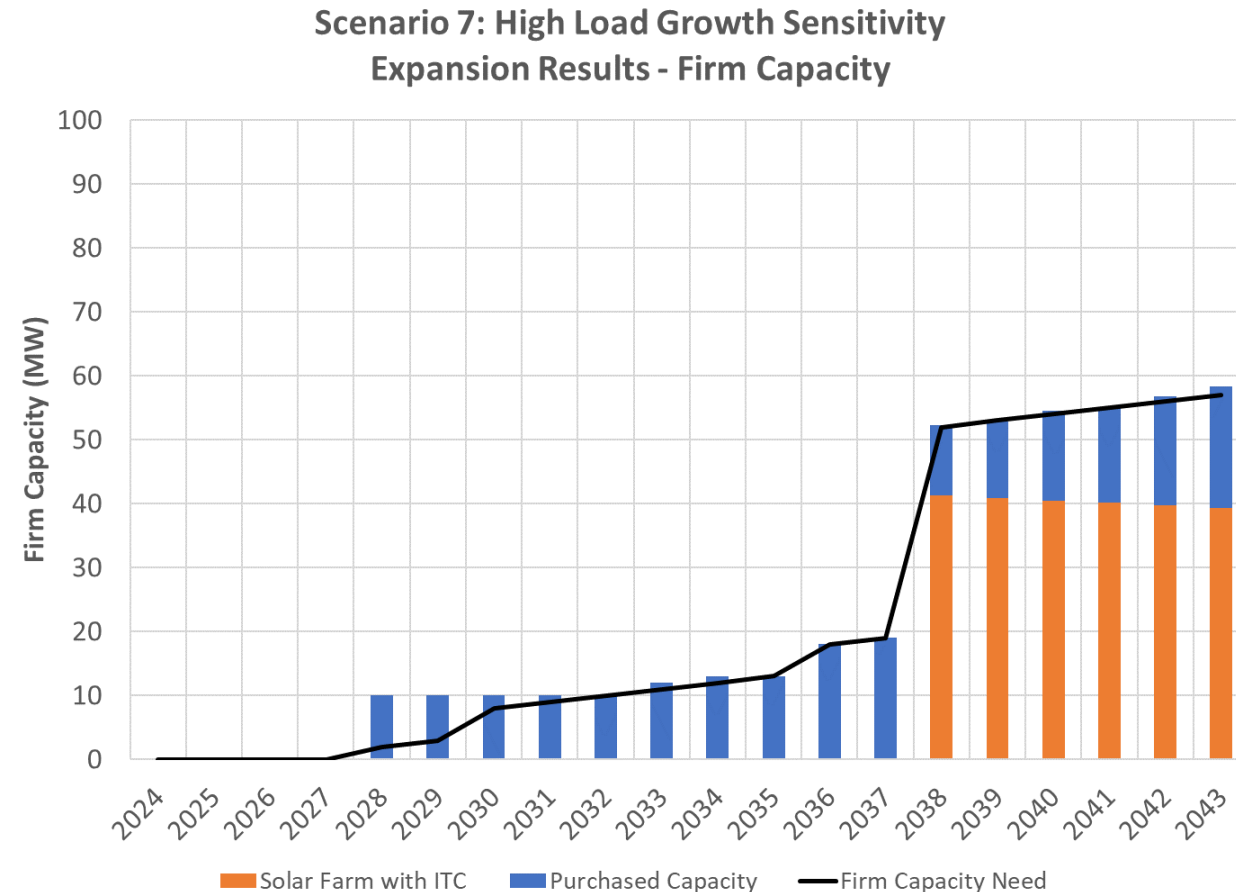
Scenario 6: Low Fuel Price Sensitivity

- The expansion results are very similar to those from the Base Case and from Scenario 5.
- The similarity to the results from the Base Case is expected due to the similarity in model inputs related to firm capacity needs.



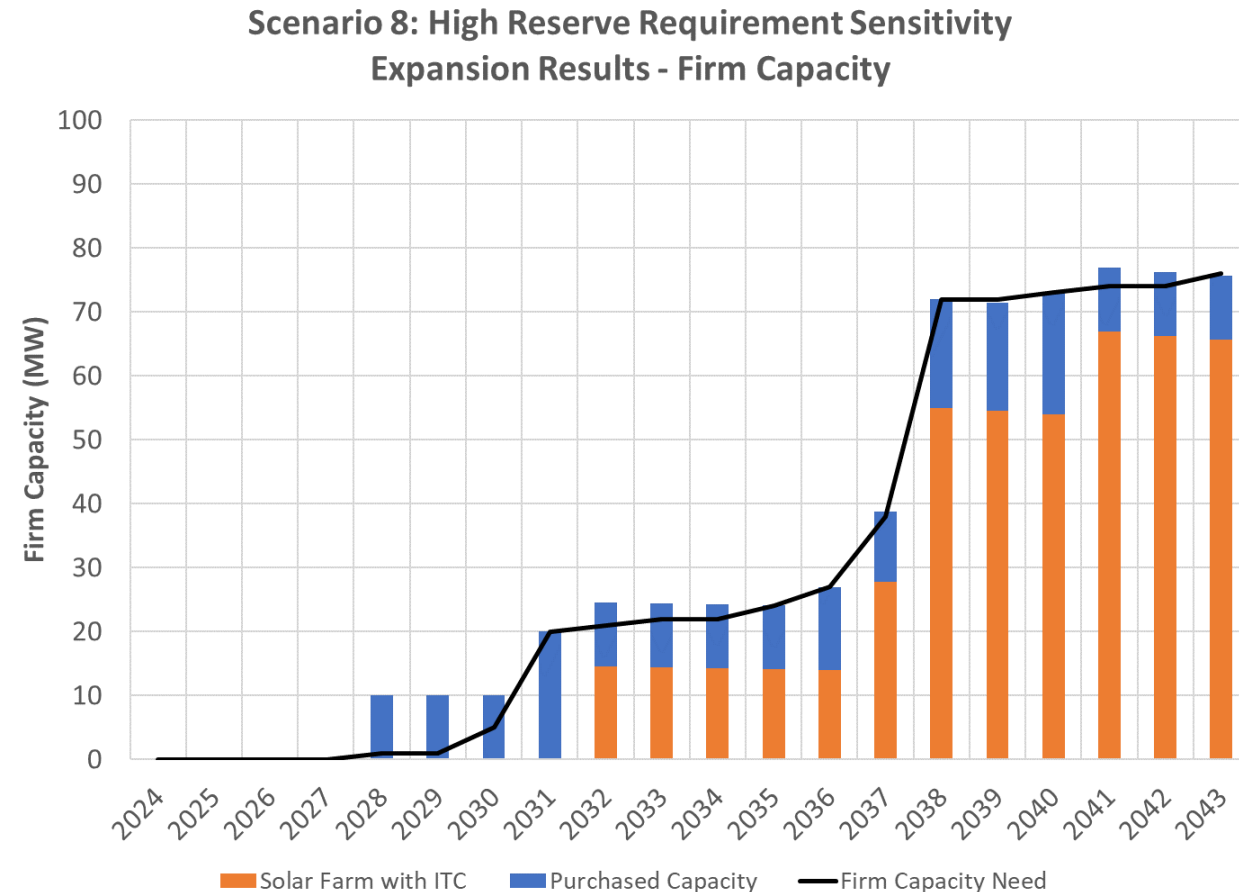
Scenario 7: High Load Growth Sensitivity

- In Scenario 7, the accelerated growth in peak demand causes a corresponding growth in firm capacity needs.
- The assumed SPP planning reserve requirement is equal to be 115% of the peak demand, just like in the Base Case.
- Again, similar to the Base Case, purchased capacity covers needs until 2038 when solar generation is added.



Scenario 8: High Reserve Requirement Sensitivity

- In this scenario, the SPP planning reserve margin is assumed to increase during the study period.
- Increasing that margin creates an earlier need to add solar generation to BPU's portfolio.
- Due to the higher firm capacity needs, more solar is added than in other scenarios and it starts to be added earlier in the study period (2032 vs 2038).



Public Comments

Public Comments on IRP Process

- IRP Questionnaire
 - In the month since BPU sent out an IRP-related questionnaire to the twenty largest BPU customers, two responses have been received.
 - These large corporate class customers have expressed interest in new renewable energy and a continued dialogue with BPU regarding long-term participation (~25 years) in the Green Rider program.
- A set of recommendations from the Sierra Club has also been received that contained a number of recommendations, including:
 - Annual IRP updates (instead of the current five-year cycle),
 - Sharing of IRP modeling details and inputs to outside organizations to allow them to conduct their own analyses, and
 - An emphasis on operating Nearman 1 in a way to limit losses and to retire the coal-fired power plant as soon as it is in the best interest of customers.

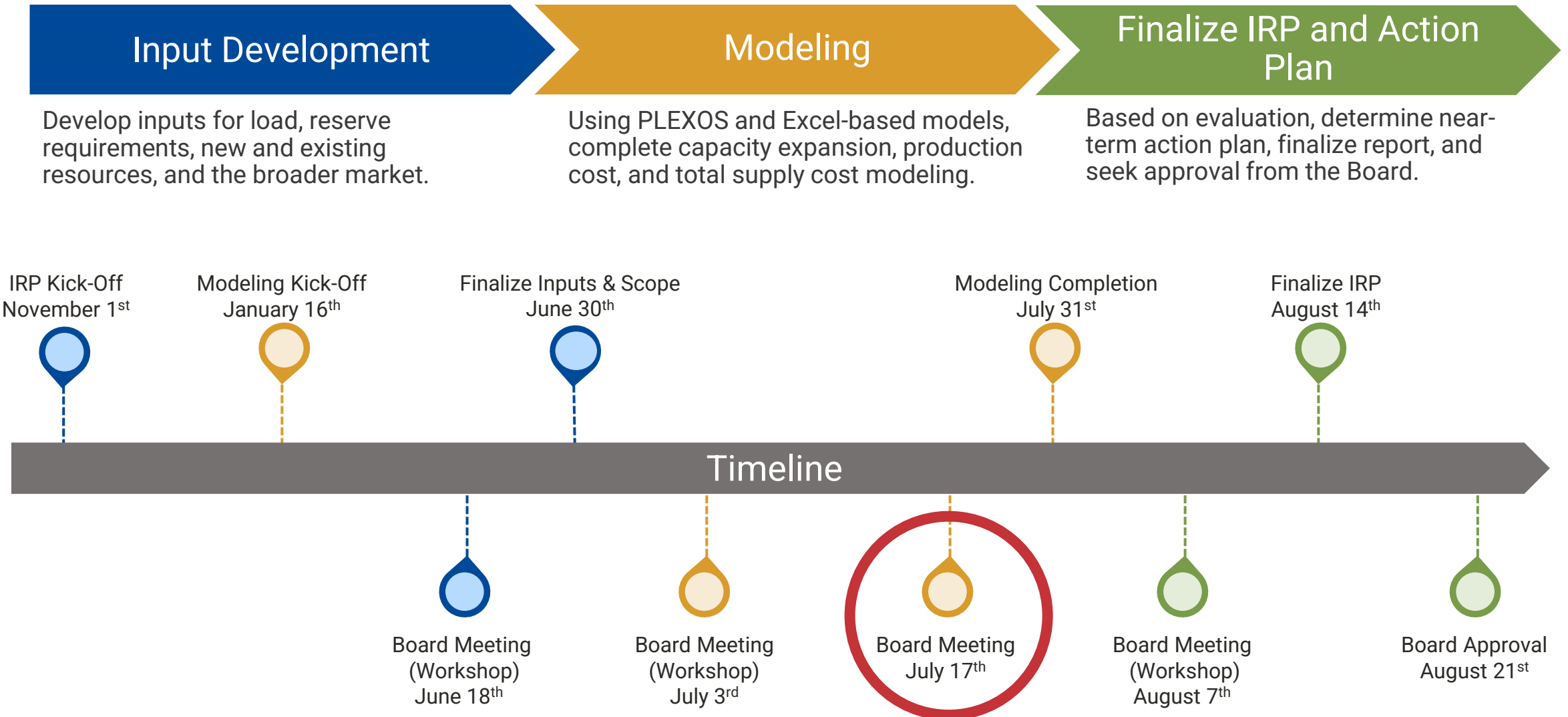
Next Steps

Next Steps

- Continued collaboration between Black & Veatch and BPU staff to address additional sensitivity scenarios.
- Remain in regular contact with the Board during scheduled meetings throughout the summer to discuss progress and results.
- Target approval of IRP by August 21, 2024.
- Public comments are still welcome
 - Comments may be submitted by email: IRP@BPU.com
 - All written comments are due on or before August 7th.
 - Comments will be addressed, where appropriate, within the evaluation and at subsequent board meetings.

Project Schedule

IRP Project Schedule



Board Meeting IRP Schedule

Board Meeting (Workshop) <i>June 18th</i>	Board Meeting (Workshop) <i>July 3rd</i>	Public Meeting (Regular session) <i>July 17th</i>	Board Meeting (Workshop) <i>August 7th</i>	Public Meeting (Regular session) <i>August 21st</i>
Data Assumptions & Modeling Framework	Status Update and Initial Results		Final IRP Overview	Board Approval
<p>Presentation Contents:</p> <p>KC BPU Overview – Overview of KC BPU</p> <p>Long-Term Planning Objectives – overview of the various considerations in developing a long-term resource plan (e.g., cost, reliability, risk, sustainability, regulatory requirements, etc).</p> <p>Assessment of Resource Need – an overview of load and resources and the amount of additional capacity/energy needed to meet planning objectives.</p> <p>Analytical Framework – summary of how the evaluation will be completed (e.g., using capacity expansion, base case, overview of sensitivities)</p> <p>Supply Alternatives – summary of supply alternatives being considered to meet planning objectives.</p> <p>Assumptions – outline of main modeling assumptions</p> <p>Timeline – Key dates throughout the IRP process</p> <p>Public Comments - Written public comment period opens via email.</p>	<p>Presentation Contents:</p> <p>Status Update – Overview of where KC BPU is in the execution of the IRP.</p> <p>Results of Evaluation for Base Case and Scenarios – overview of results of base case analysis and/or any additional completed scenarios.</p> <p>Timeline and Next Steps – Provide overview of updated timeline and next steps.</p> <p>Public Comments - Written public comment period continues via email.</p>	<p>Follow-up discussion from previous Board Meetings</p> <p>Will provide 2-3 page general summary</p> <p>With public comment</p> <p>Public Comments - Report out on Public Comments that have been received.</p>	<p>Presentation Contents:</p> <p>Follow-up discussion from previous Board Meetings</p> <p>Final IRP Overview – Overview of results of IRP Analyses.</p> <p>KC BPU Reference Resource Plan – Provide overview of KC BPU’s resource plan resulting from the IRP evaluations.</p> <p>Action Plan – Describe the near term (1-3 years) action plan resulting from the IRP evaluation and the reference resource plan.</p> <p>Public Comments - Wrap up on public comments that have been received and discussion of adjustments made based on those comments.</p>	<p>Any follow-up discussion from Board Meeting 3.</p> <p>Board approval of IRP and action plan</p>

Environmental Update

Presented July 17, 2024



Supreme Court Overturns Chevron Deference – Landmark Decision

- ❑ On June 28th, the Supreme Court released its opinion in *Loper Bright Enterprise et. al v. Secretary of Commerce* (“*Loper*”), leading to the fall of Chevron.
- ❑ *Chevron* deference, the longstanding legal doctrine that required deference to permissible agency interpretations of statutes the agencies administer
- ❑ It required a two-step process when courts evaluate agency rules:
 - Determine whether Congress directly spoke to the precise question at issue; and
 - If not (i.e., if the statute is silent or ambiguous on the specific issue), defer to the agency’s interpretation of the statute if it is based on permissible construction of the statute.
- ❑ This principle has afforded agencies wide deference over the years, though in recent years it has been called into question.
- ❑ Specifically, the Court determined that the Administrative Procedures Act requires courts to use their independent judgment in deciding whether an agency has acted within its statutory authority, and should not defer to an agency’s interpretation in the event a statute is ambiguous. The Opinion also evaluates Article III of the Constitution and the Framers’ intent, both of which it determined require courts to exercise independent judgment.
- ❑ *Loper* represents the Court’s most significant decision for environmental and energy regulation this term. We expect the Court’s decision to significantly impact this administration’s regulatory agenda as well as sway the decisions of various courts in pending litigation in favor of industry.

2024 - EPAs Big Year

- Potential Change in Presidential Administration
- Biden's Environmental Legacy
- Congressional Review Act
 - Congress can roll back any regulation published after May 22, 2024
- On April 25, 2024, EPA released four final rules: Coal Combustion Residuals (CCR) Legacy Rule; Steam Electric Power Effluent Guidelines (ELGs), New Source Performance Standards and Emission Guidelines for Greenhouse Gas Emissions (GHG), Mercury & Air Toxics Rule (MATS)

EPA's Most Recent Unified Agenda Fall 2023

Impactful Rules Affecting the Power Sector

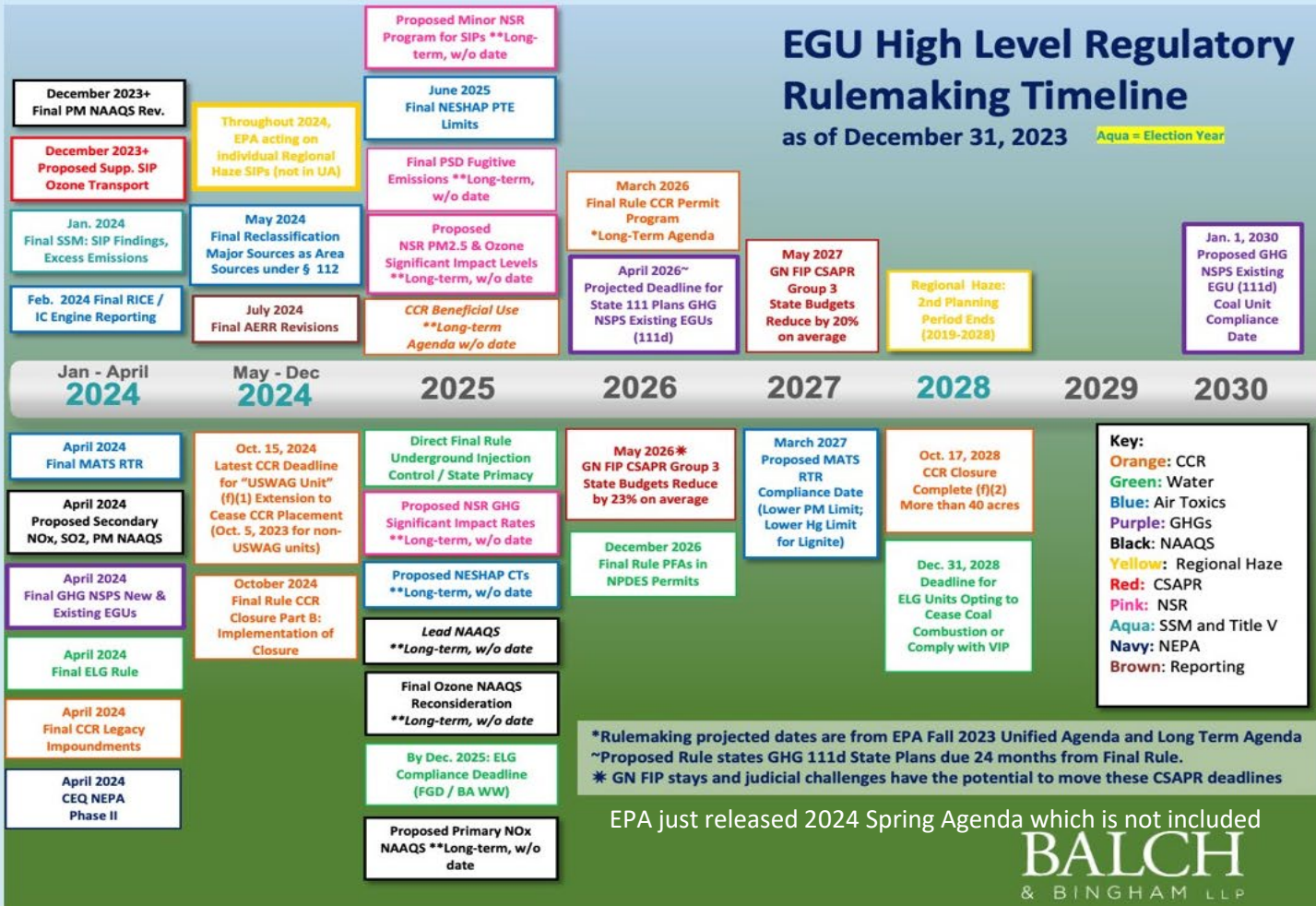


AMERICAN
PUBLIC POWER
ASSOCIATION
Powering Strong Communities

EGU High Level Regulatory Rulemaking Timeline

as of December 31, 2023

Aqua = Election Year



EPA just released 2024 Spring Agenda which is not included

BALCH
& BINGHAM LLP



Rules Affecting Power Sector Fossil Units

- Mercury Air Toxics (MATS) Standards
- Greenhouse Gas (GHG) Emission Guidelines for existing Fossil Fuel-fired Power Plants [111(d)]
- Greenhouse Gas (GHG) Standards for New Generation [NSPS 111(b)]
- Cross State Air Pollution Rule (CSAPR) Good Neighbor Plan
- Regional Haze Rule
- Particulate Matter (PM) National Ambient Air Quality Standards (NAAQS)
- Coal Combustion Residuals (CCR) Legacy Rule
- Steam Electric Power Generating Effluent Guidelines (ELG)



Good Planning Precluded the Following from Being Applicable

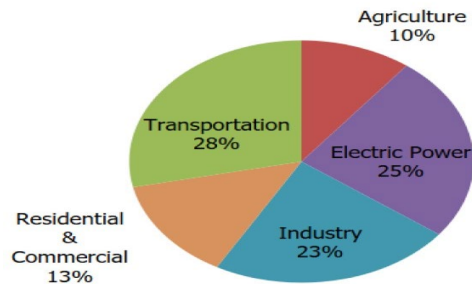
- ~~Mercury Air Toxics (MATS) Standards~~
- Greenhouse Gas (GHG) Emission Guidelines for existing Fossil Fuel-fired Power Plants [111(d)]
- Greenhouse Gas (GHG) Standards for New Generation [NSPS 111(b)]
- Cross State Air Pollution Rule (CSAPR) Good Neighbor Plan (GNP)
- Regional Haze Rule
- ~~Particulate Matter (PM) National Ambient Air Quality Standards (NAAQS)~~
- Coal Combustion Residuals (CCR) Legacy Rule
- ~~Steam Electric Power Generating Effluent Guidelines (ELG)~~

EPA's Greenhouse Gas Emission Standards & Guidelines for Fossil Fuel- Fired Power Plants

Components of Final Rule

- April 25, 2024, EPA issued the final carbon pollution standards (GHG Rule) for coal-fired and oil/gas-fired steam electric generating units
- Rule addresses climate pollution from existing coal-fired power plants and new combustion turbines
(new CT's, commenced construction after May 23, 2023)
- Repeals the ACE Rule - Trump Era

Total U.S. Greenhouse Gas Emissions
by Economic Sector in 2022



EPA (2024). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022 U.S. Environmental Protection Agency, EPA 430R-



EPA's Proposed Greenhouse Gas Standards and Guidelines for Fossil Fuel-Fired Power Plants

- Rule Published in Federal Register on May 23, 2023
- Final Rule May 9, 2024
- State plans are due within 24 months of the effective date of the emission guidelines July 8, 2024

Overview

Types of fossil fuel-fired power plants covered by this final rule

- New, modified, and reconstructed sources - Covered under 111(b)
 - New and reconstructed gas-fired combustion turbines
 - Modified coal-fired steam generating units
- Existing sources - Covered under 111(d)
 - Coal, oil, and gas-fired steam generating units



Existing Steam Generating Units: Subcategories

- **Exempt Coal:** Unit will retire before January 1, 2032
- **Medium-Term:** Unit will operate on or after January 1, 2032 and cease operations before January 1, 2039
- **Long-Term:** Unit will continue to operate on or after January 1, 2039

Existing Steam Generating Units: BSER

This is a summary for coal-fired steam generating units

- **Exempt Coal**: Unit will retire before 1/1/32
- **BSER**: Routine methods of operation, federally-enforceable cease operation dates to be finalized in state plans
- **Degree of Emission Limitation (CO2 Emission Rate)**: None
- **Compliance Date**: Before 1, 2030

Existing Steam Generating Units: BSER

- **Medium-Term**: Operating on or after January 1, 2032 and ceasing operation before January 1, 2039
- **BSER**: Co-firing natural gas 40% of the unit's annual heat input
- **Degree of Emission Limitation (CO₂ Emission Rate)**: A 16% reduction in emission rate (lb CO₂/MWh) demonstrated annually from a source-specific baseline
- **Compliance Date**: Before January 1, 2030

Existing Steam Generating Units: BSER

- **Long-Term**: Unit operate on or after January 1, 2039
- **BSER**: CCS with 90% capture of CO₂
- **Degree of Emission Limitation (CO₂ Emission Rate)**: 88.4% reduction in emission rate (lb CO₂/MWh) demonstrate annually from a source-specific baseline
- **Compliance Date**: January 1, 2032

New and Reconstructed Combustion Turbines

CT Category	BSER Phase I *Upon Rule Promulgation or Initial Startup	BSER Phase II [~] *Beginning Jan. 1, 2032	CO2 Emission Rate
Low Load CTs *Capacity Factor less than 20% based on percent of potential electric sales	Lower emitting fuels (e.g., hydrogen, natural gas, distillate oil)	None (Same as Phase I)	Phase I: Less than 160 lb CO ₂ /mmBtu Phase II: No change: Less than 160 lb CO ₂ /mmBtu
Intermediate Load CTs *Capacity Factor greater than or equal to 20% to 40% based on percent of potential electric sales	Highly efficient simple cycle technology and best operating and maintenance practices	None (Same as Phase I)	Phase I: 1,170 lb CO ₂ /MWh-g Phase II: No change: 1,170 lb CO ₂ /MWh-g
Base Load CTs *Capacity Factor greater than 40% based on percent of potential electric sales	Highly efficient combined cycle technology and best operating and maintenance practices	CCS or another technology if sources can achieve the rate using another technology such as hydrogen co-firing	Phase I: 800 lb CO ₂ /MWh-g (EGUs with baseload rating of 2,000 mmBtu/h or more) or 800-900 lb CO ₂ /MWh-g (EGUs with baseload rating of less than 2,000 mmBtu/h) Phase II: 100 lb CO ₂ /MWh-g for all sizes

~ For BSER Phase II sources installing control technologies, a 1-year extension is available in the event of implementation delays or factors beyond the control of the EGU.

NSR and Other Implications

- If physical or operational change required to meet New Standards results in a significant emissions increase, NSR is triggered and BACT/LAER apply
- EPA does not acknowledge many other situations and concerns:
 - NO_x increase from hydrogen;
 - CO increase from co-firing gas;
 - Energy for CCS system

Cross State Air Pollution Rule (CSAPR)



National Ambient Air Quality Standards (NAAQS)

Background Information on National Ambient Air Quality Standards (NAAQS)

- The EPA sets NAAQS levels for certain pollutants, including ozone
- States' ambient air concentrations must stay below the standards for health and environment protections.
- States must develop State Implementation Plans (SIPs) which demonstrate that via air monitoring readings or modeling that:
 - The State meets EPA-set standards & how the State will maintain concentrations at below these levels in the state
 - OR that the State does not meet these standards how they are taking steps to lower these levels.
 - The SIP includes source limits and other methods the state is taking to meet the requirements.
 - Interstate transport is a term included in the SIP.
 - Interstate transport” describes how a State does, or does not, interfere with another States maintenance of the NAAQS and appropriate actions to ensure no impacts or how to remediate against impacts.
- EPA must approve State SIPs.
 - If the EPA disapproves a SIP, the EPA will issue a Federal Implementation Plan (FIP).
 - EPA can partially disapprove a SIP and issue a partial FIP to address issues identified by the EPA.



CSAPR

Background Information on the Cross-State Air Pollution Rule (CSAPR):

- Air pollution from one state can migrate thus affecting other States ability to meet NAAQS level.
- EPA developed the CSAPR program to regulate power plant emissions of SO₂ and NO_x emissions to help States downwind stay below Ozone and Fine Particulate Matter (PM_{2.5}) NAAQS levels.
- CSAPR is mostly a trading program.
- Facilities are “budgeted” for specific pollutants including an annual NO_x, ozone season NO_x, and annual SO₂ allowances that equate to the allowance of 1 ton of emissions.
- The “Good Neighbor Plan” (GNP) is a recent update to the CSAPR NO_x and SO₂ Trading program.
- GNP contains many more restrictions for certain states and requirements related to the NO_x Ozone Season budget.
- States included in GNP are considered states in the “Group 3” ozone season NO_x control plan under CSAPR.
- As a part of this Good Neighbor Plan, EPA took action to disapprove state SIPs, issuing FIPs that included the states in the Group 3 ozone season NO_x.



EPA's Good Neighbor Plan (GNP) Proposed Revisions

January 16, 2024 EPA initiated action regarding ground-level ozone pollution

- Under the EPA's action, the EPA would determine whether state air quality plan submissions meet the Clean Air Act (CAA) obligations to address emissions that contribute to unhealthy ozone levels downwind.
- EPA has proposed to partially approve and partially disapprove SIP submissions addressing interstate transport for the 2015 NAAQS
- Impacted states include: Kansas, Arizona, Iowa, New Mexico and Tennessee.
- The Kansas plan was previously vetted and approved by the EPA in 2022.
- EPA has proposed a FIP to ensure states comply with the 2015 NAAQS
- Under the FIP, fossil fuel-fired power plants would be required to participate in the allowance-based ozone based emissions trading program beginning in 2025.

GNP Federal Implementation Plan (FIP) Status

FIP Status

- EPA disapproved ozone transport SIPs on February 13, 2023
 - Regional courts of appeals have stayed the EPA's disapprovals of 12 state plans, the U.S. Court of Appeals for the D.C. Circuit declined to stay the GNP while litigation is pending.
 - 12 States have stays of the EPA Disapproval which has stayed implementation of the FIP.
- For all else, FIP effective date was August 4, 2023
- FIP litigation pending in D.C. Circuit court
- U.S. Supreme Court is considering whether to overrule the D.C. Circuit's rejection of a stay.

FIP Requirements

- NOx reduction in summer season (May-Sept)
- Applies to 23 state due to Good Neighbor ozone transport obligations to other downwind states
- Electrical Generating Units (EGUs) use the CSAPR NOx allowance program
- 2026-2027 Steep Drop in Allocations
 - Severely reduces the allowance budgets based on all coal-fired units using SCRs
 - Further ratcheting down of allowances likely
 - Allowance Bank recalibration beginning in 2024 prohibits sources from banking

GNP, the Courts & Kansas



Legal Issues

- February 21, 2024 the U.S Supreme Court heard arguments to postpone implementation of the GNP.
- Clean Air Act's Good Neighbor provision
- 42 U.S.C. 7410(a)(2)(D) which requires upwind states to ensure that their emissions do not interfere with the ability of downwind states to meet federal air-quality standards.
- Venue challenges denied in the 4th, 5th, 6th and 8th Circuit courts, the 9th and 11th have deferred venue determinations

Kansas

- Kansas is in the 10th Circuit which on February 16, 2024 issues an order vacating oral arguments and partially granting the EPA's motion to transfer venue to the D.C. Circuit for the challenges brought by Utah and Oklahoma
- EPA argues that the issue is "nationally applicable" therefore belongs in the D.C. Circuit.
- State SIP submissions were evaluated using a nationally consistent framework.

Supreme Court issued a Stay of EPA's Good Neighbor Plan on June 27, 2024

Litigation over the merits will be heard in the U.S. Court of Appeals for the District of Columbia

Legal Road Ahead

If U.S. Supreme Court grants a "national stay" of the GNP, EPA could continue on its path of disapproval of the Kansas SIP.

- The parties at the U.S. Supreme Court are asking for a national stay of a FIP that EPA implemented after disapproving the 23 state SIP.
- In Kansas, our previously approved SIP has not been disapproved, yet.
- Post disapproval of a SIP, the EPA has 2 years to apply a FIP if Kansas has not brought a revised SIP to the EPA for review and approval.
- EPA proposed to disapprove the Kansas SIP.
- Only if EPA finalizes its disapproval would it then be allowed to apply the FIP at a future date to Kansas.
- May 16 comments will demonstrate our belief that EPA's grounds for disapproval are invalid.

If the U.S. Supreme Court issues a national stay of the FIP, Kansas would be in a unique situation.

- EPA could proceed on its present course to disapprove the SIP, then a FIP could be issued, BUT if a national stay of a FIP is granted, the Kansas FIP would be stayed as soon as it was issued (assuming the courts have not ruled on the underlying merits of the 23 states' appeals)

Alternatively, the EPA might recognize the Kansas FIP would be stayed and issue a ruling outlining future Kansas emission limits and related conditions.

- The 23 states that requested their disapproval be stayed are subject to two EPA orders issued since the stay outlining emission limits and conditions that would apply while the stay is in effect.
- If a national stay of the FIP is still in effect if and when the Kansas SIP is disapproved, a similar order could be issued for Kansas.

The earliest the Kansas Attorney General could seek a stay would be after issuance of a final rule disapproving the Kansas SIP.

- At that time, the AG would petition to review EPA's order and concurrently seek a stay.

Regional Haze

Introduction

- The Regional Haze Rule calls for state and federal agencies to work together to improve visibility in 156 national parks and wilderness areas
- The rule requires the states, in coordination with the Environmental Protection Agency, the National Park Service, U.S. Fish and Wildlife Service, the U.S. Forest Service, and other interested parties, to develop and implement air quality protection plans to reduce the pollution that causes visibility impairment.



Regional Haze Rule - Second Implementation Period

- The Regional Haze Rule established requirements for states to develop State Implementation Plans (SIPs) for regional haze
- These SIPs are required to include long-term strategies and interim goals to demonstrate progress towards reducing visibility impairment in Class I areas affected by man-made sources of pollution
- Kansas published Second Implementation SIP in the Kansas Register on May 27, 2021, for public comment
 - No FLMS or states with Class I areas asked the state of Kansas for any pollutant reductions
 - Kansas determined that a formal 4-factor analysis was not required of any sources in the state but provided a 4-factor “light” discussion in response to a comment from EPA R7
- Kansas submitted SIP (July 28, 2021) to EPA by deadline of July 31, 2021
- Kansas was informed that EPA HQ will formally disapprove our SIP submittal based on Kansas not requiring formal 4-factor analysis by at least two sources in the state
- EPA sued in summer 2023 by Sierra Club and others for not acting on the Kansas and six other states RH submissions
- On January 2, 2024, EPA issued formal proposal to disapprove Kansas’s SIP, final disapproval expected by end of this month

Four Factor Analysis

- States need to identify anthropogenic emission sources that most likely contribute to visibility impairment on the Most Impaired Days (MID) at a Class I Area (CIA)
- Identified sources are subject to a Four-Factor Analysis to determine whether reasonable controls should be implemented as part of Reasonable Progress for the 2nd Round of Regional Haze SIPs.
 1. Costs of compliance
 2. Time necessary for compliance
 3. Energy and non-air quality environmental impacts of compliance
 4. Remaining useful life

EPA's Coal Combustion Residuals Rule; Legacy CCR Surface Impoundments and Coal Combustion Residuals Management Unit

KEY EVENTS IN THE LEGACY CCR RULEMAKING



APR 17, 2015

**2015
FINAL
RULE**



AUG 21, 2018

**USWAG
DECISION**



OCT 14, 2020

ANPRM



MAY 18, 2023

**PROPOSED
RULE**



NOV 7, 2023

NODA



MAY 8, 2024

**FINAL
RULE**

Introduction

- CCR, also known as coal combustion residuals or coal ash, is generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.
 - CCR includes fly ash, bottom ash, boiler slag, and flue gas desulfurization (FGD) materials.
- Regulations established under the authority of RCRA Subtitle D.
- “Legacy CCR Surface Impoundments” rule was published in the Federal Register on May 8, 2024. The final rule:
 - Establishes requirements for the safe disposal of CCR in legacy SIs.
 - Establishes requirements for CCRMU to address the risks from previously unregulated solid waste management of CCR that involves the direct placement of CCR on the land at CCR facilities.
 - Effective date of rule is Nov 8, 2024.

CCRMU Definition and Applicability

CCR management unit means any area of land on which any noncontainerized accumulation of CCR is received, placed, or otherwise managed at any time, that is not a regulated CCR unit. This includes inactive CCR landfills and CCR units that closed prior to October 19, 2015, but does not include CCR used in roadbed and associated embankments.

- Only CCRMU that exist on or after the effective date (November 8, 2024) are regulated
- Below 1 ton is entirely exempt
- Roadway or roadbed that meets the description in the 2015 CCR Final Rule (80 FR 21353) is out unless it is contaminating groundwater
 - CCR in a thin layer (e.g., six to 12 inches) under a surface that limits the degree to which rainwater can influence the leaching of the CCR.
 - Constructed of several layers with different material properties
 - Constructed with engineering specifications under supervision and approved by State and/or Federal Department of Transportation (DOT) engineers
 - Whether potential CCRMU meets the roadbed definition is a fact-based determination
- Offsite vs. onsite CCRMU, “Facility”, and “Contiguous”
 - All offsite disposal after October 19, 2015 is covered except MSW landfill
 - Determinations regarding applicability are highly fact-based and needs site-specific determinations
 - Example: An inactive landfill on a parcel located 15 miles away from the active facility or utility, where no regulated unit exists, and is owned by an active utility is still out
 - Example: One plot of land owned by a single entity with a fence separating a portion which has been dedicated to recreational uses. Because it is still owned by the same entity, and contiguous, it is in. By contrast, if they do not own the land outside the fence being using for recreational use or wallboard manufacturing, and it does not have a regulated unit, any CCRMU at that site would not be regulated.
- Beneficial Use
 - Anything that meets the definition of a CCR pile is not beneficial use.
 - *CCR pile or pile* means any non-containerized accumulation of solid, non-flowing CCR that is placed on the land. CCR that is beneficially used off-site is not a CCR pile.

The final rule expands the universe to include CCRMU at active facilities and inactive facilities with a regulated CCR unit, and CCRMU at “Other Active Facilities”

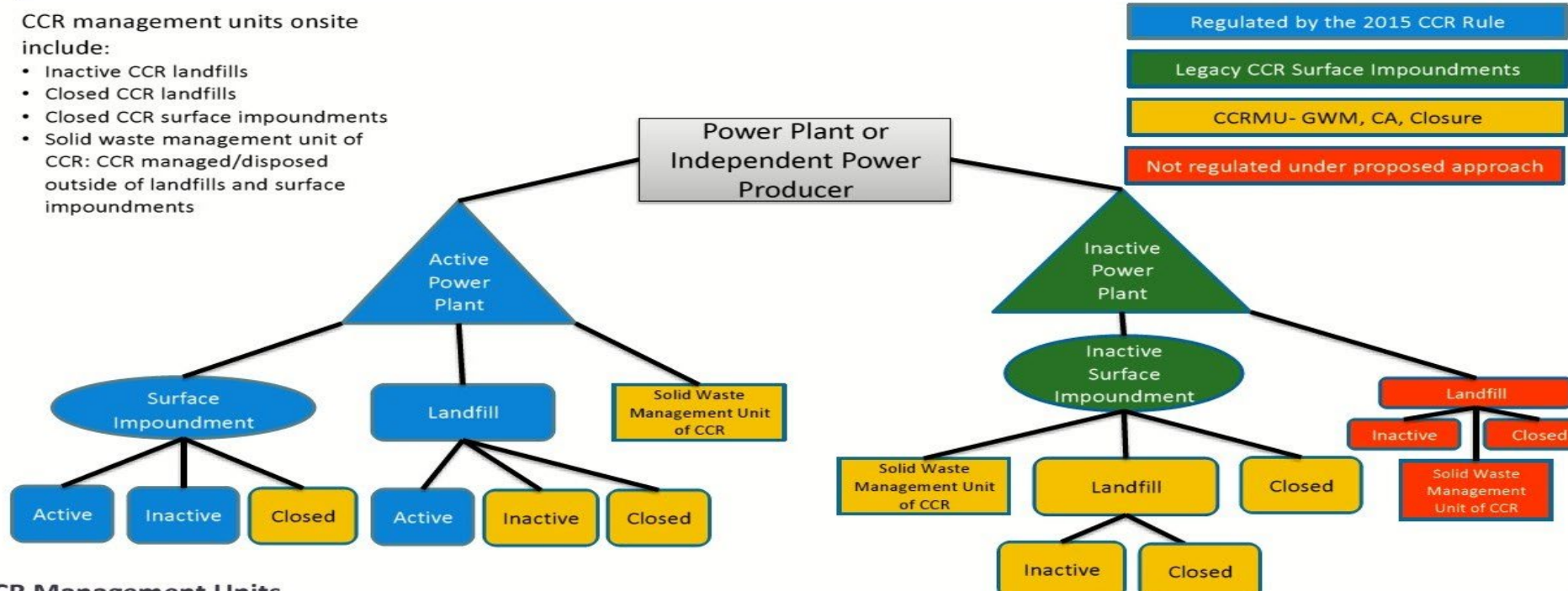
- “Other Active Facilities” are those that: 1) on or after October 19, 2015, were producing electricity for the grid and 2) were not regulated by the 2015 CCR Rule.

CCR Management Units at Power Plants



CCR management units onsite include:

- Inactive CCR landfills
- Closed CCR landfills
- Closed CCR surface impoundments
- Solid waste management unit of CCR: CCR managed/disposed outside of landfills and surface impoundments



Applicable Requirements

- Facility Evaluation Report Part 1 and Part 2
- Fugitive dust
- Groundwater monitoring and corrective action
 - Combined detection monitoring and assessment monitoring
- Closure and post-closure care
- Recordkeeping, notification, and website posting

Facility Evaluation Report

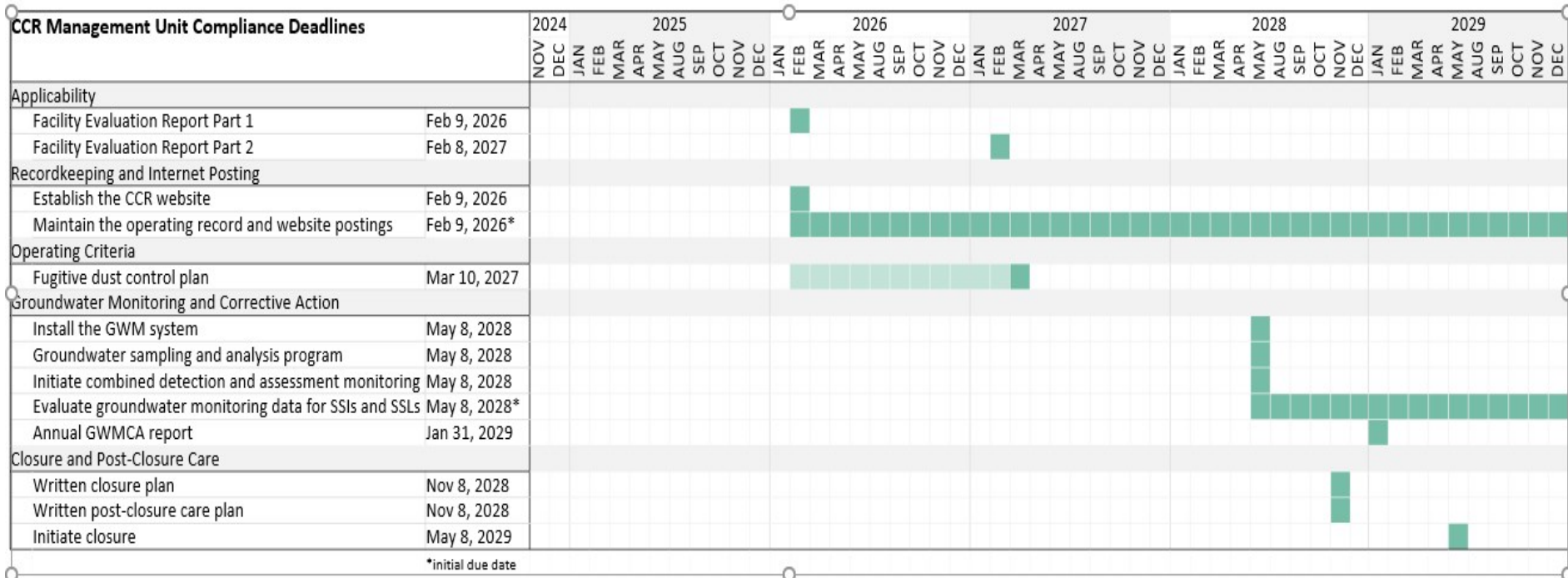
- Facility evaluation confirms whether any CCRMU (>1 ton of CCR) exist on-site.
 - Rule requires delineation of the lateral and vertical extent of the unit.
- Facility evaluation is a 2-step process
 - Part 1: Review of reasonably and readily available information and a plan to remedy any data gaps.
 - Part 2: Conduct a physical facility inspection and any necessary field work, such as soil sampling, to fill any data gaps from the information obtained from the Part 1 review.
 - Rule requires owner or operator to prepare a report after each step is completed.
- Owner or operators not expected to prove a negative or obtain records that are not reasonably and readily available.
 - Example: Owner or operator of a currently active solar facility purchases site from a former coal-fired EGU, that represented with documentation that the CCR units had been closed by removal. No representation or information is available with respect to the use of CCR as structural fill. The owner or operator must walk the site to look for visible evidence of CCR disposal at the site.
 - If there is no visible evidence of CCR at the site, the O/O must document (and certify) that they are relying on the prior owner's documentation AND the results of their physical inspection of the facility. They need to provide a full narrative description but do NOT need to conduct any sampling or conduct research to confirm the results of the prior owner's documentation.
 - By contrast, if during the inspection the O/O discovers a substantial deposit of material that appears to be CCR, they must either conduct sampling to determine that it is not CCR or treat as a potential CCRMU and proceed with the Facility Evaluation.

Coal Combustion Residuals Management Unit - Applicable to KCBPU Units

TABLE 2—FINAL COMPLIANCE TIME FRAMES FOR CCRMU

40 CFR Part 257, Subpart D requirement	Description of requirement to be completed	Deadline (months after effective date of the final rule)	Date
Internet Posting (§ 257.107)	Establish CCR website	15	Monday, February 9, 2026.
Facility Evaluation Report (§ 257.75).	Complete the Facility Evaluation Report Part 1 ..	15	Monday, February 9, 2026.
Facility Evaluation Report (§ 257.75).	Complete the Facility Evaluation Report Part 2 ..	27	Monday, February, 8, 2027.
GWMCA (§ 257.91)	Install the groundwater monitoring system	42	Monday, May 8, 2028.
GWMCA (§ 257.93)	Develop the groundwater sampling and analysis program.	42	Monday, May 8, 2028.
GWMCA (§§ 257.90–257.95)	Initiate the detection monitoring and assessment monitoring. Begin evaluating the groundwater monitoring data for SSIs over background levels and SSLs over GWPS.	42	Monday, May 8, 2028.
GWMCA (§ 257.90(e))	Complete the initial annual GWMCA report	January 31, 2029	January 31, 2029.
Closure (§ 257.102)	Prepare written closure plan	48	Wednesday, November 8, 2028.
Post-Closure Care (§ 257.104)	Prepare written post-closure care plan	48	Wednesday, November 8, 2028.
Closure and Post-Closure Care (§ 257.101).	Initiate closure	54	Tuesday, May 8, 2029.

CCRMU Compliance Deadlines



“Contains both CCR and Liquids” Definition

- Final rule relies on a combination of the plain language meaning of the phrase and the closure performance standard in § 257.102(d)(2)(i) to determine whether an impoundment “contains liquid.”
 - If liquids are present in the unit, it will be considered to contain liquids, unless the facility can demonstrate **free liquids** have been eliminated.
 - If free liquids eliminated prior to Oct 19, 2015, unit not a legacy impoundment.

Definition of “Contains both CCR and liquids”

... means that both CCR and liquids are present in a CCR surface impoundment, except where the owner or operator demonstrates that the standard in § 257.102(d)(2)(i) has been met. ”

Source: EPA

QUESTIONS?