



# ***SPRUCE 2 GAS CONVERSION***

*PRESENTED BY:*

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*Informational Update*

# OBJECTIVES & TAKEAWAYS



- **UNDERSTAND CURRENT STATE OF SPRUCE UNITS**
- **UNDERSTAND STEPS TO CONVERT SPRUCE 2 TO GAS**

# AGENDA



- **REVIEW SPRUCE UNITS CURRENT STATE**
- **DISCUSS SPRUCE 2 GAS CONVERSION**
  - SCOPE
  - COST
  - PERMITTING
  - SCHEDULE

# DISCLAIMER



We continue to work through the unprecedented global, national, state, and local implications of COVID-19. Additionally, energy generation technologies and electric market policies continue to evolve, and the economic implications of these changes remain uncertain. Our current projections were prepared in-light of these factors for preliminary informational discussion purposes only. Due to the changing COVID-19 pandemic, technology, and policy environments, these projections are preliminary and subject to change at any time in the future. Please be assured that we worked hard to thoughtfully think through our analyses. This said, since there is tremendous uncertainty across the current economic, financial, regulatory, and legislative landscapes, the actual results over the long term could vary significantly from what we are projecting at this time.

We will continue to perform economic analyses of various generation portfolio compositions. These current analyses are preliminary and based on internal, as well as external data, and will continue to evolve as more information becomes available.

Please also note that much of the data is subject to change, thereby impacting projected outcomes. This document has therefore been prepared for informational discussion purposes only and data presented is as of the date of this document. The CPS Energy management team looks forward to community conversations that will focus on this information. CPS Energy's contributions to those discussions will be constructive, respectful, open, and helpful.

# SPRUCE UNITS BACKGROUND



- Spruce Coal Units 1 & 2
- Constructed: Spruce 1: 1992;  
Spruce 2: 2010
  - Spruce 1: 30-years-old;  
Spruce 2: 12-years-old
- Capacity: Spruce 1: 560 MW;  
Spruce 2: 785 MW; 1345 MW  
total
- Low sulfur coal from Powder  
River Basin in Wyoming



**19% of CPS Energy total generation in FY2021**

# SPRUCE 2 GAS CONVERSION

## PURPOSE



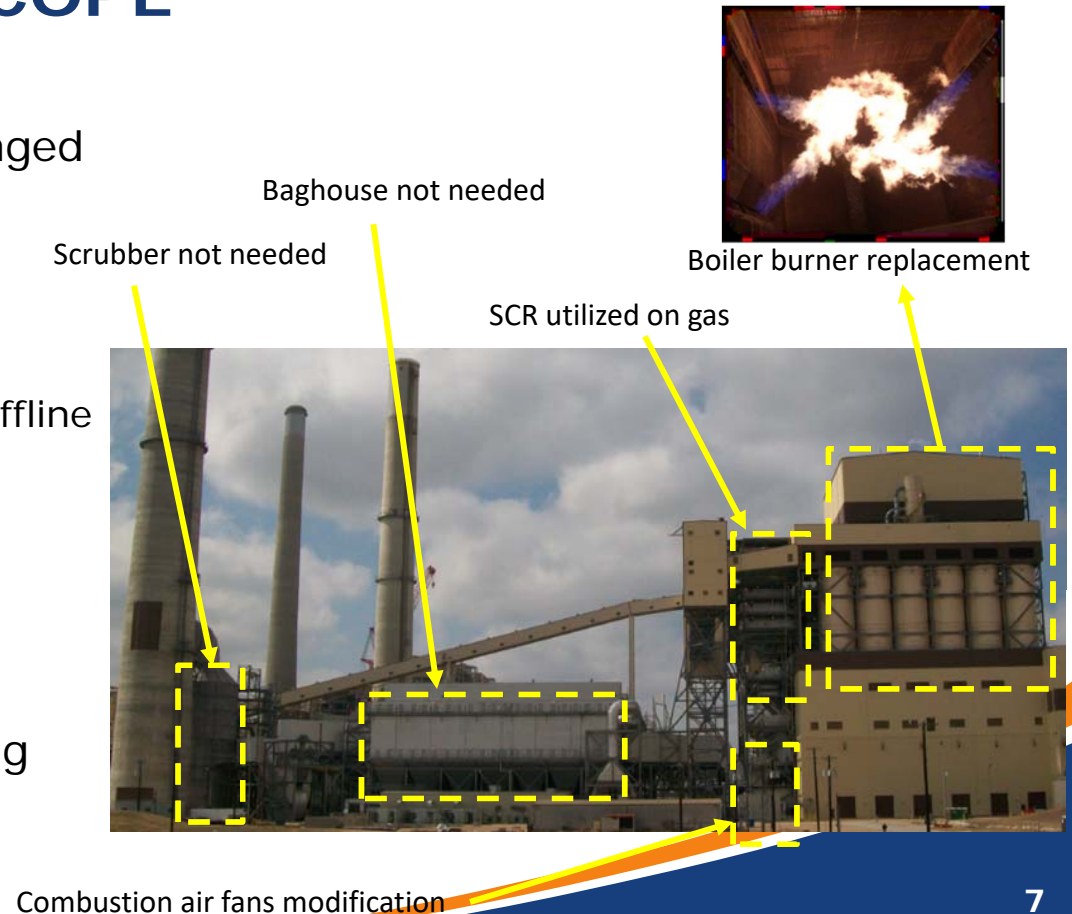
- Concept under review, not approved by Board
- Motivation:
  - Flexible Path Strategy, Move to cleaner resources
  - City of San Antonio's Community-wide Climate Action and Adaptation Plan (CAAP) to be a carbon neutral community by 2050
  - Significant investments expected for future environmental compliance

# SPRUCE 2 GAS CONVERSION

## KEY ASSUMPTIONS/SCOPE



- Key Assumptions
  - Capacity & efficiency - unchanged
  - Timeline to convert to gas is estimated up to 5 years
    - Includes up to 24 months for permits
    - Approximately 3 months for offline tie-in work
- Scope
  - Gas Supply Modifications – increase on site line size
  - Boiler – modify fuel burners, control upgrades and fan sizing modifications
- Cost – estimated \$48 Million



# SPRUCE 2 GAS CONVERSION SCHEDULE



Task Name	Year 1		Year 2		Year 3		Year 4		Year 5	
	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
<b>New Generation</b>										
<b>Spruce 2 Gas Conversion: 785 MWS</b>										
Begin Preliminary Activities										
Procure Owner's Engineer	█	█								
Develop EPC Scope Of Work			█	█						
Procure EPC Contractor					█	█				
Permitting					█	█	█	█		
EPC Spec Development/Equip Procurement							█	█	█	█
Construction										█
Startup										█
Operation on Gas										█



# SPRUCE 2 GAS CONVERSION ISSUES TO RESOLVE



- Factors Affecting Gas Conversion
  - Timing ensuring sufficient gas supply – Sommers and Braunig retirement
  - Emission rates under evaluation



*Thank You*

