

APPLICATION FOR CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

1. Name and address of the Applicant

Name: Salt River Project Agricultural Improvement and Power District (SRP)
Address: 1500 North Mill Avenue
Tempe, AZ 85281-1298

2. Name, address, and telephone number of a representative of the applicant who has access to technical knowledge and background information concerning this application, and who will be available to answer questions or furnish additional information

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3. State each date on which the applicant has filed a ten-year plan in compliance with A.R.S. § 40-360.02 and designate each such filing in which the facilities for which this application is made were described. If they have not been previously described in a ten-year plan, state the reasons therefore.

In accordance with A.R.S. Section 40-360.02, SRP has filed ten-year plans annually with the Arizona Corporation Commission (ACC). Due to its nature as a generation facility, the Coolidge Expansion Project (CEP) is not described in those filings. The CEP is described in a 90-day pre-application plan filed by SRP on September 14, 2021, in the 90-day pre-application plan docket (Docket No. E-00000M-08-0170).

4. Description of the proposed facility, including:

1. With respect to an electric generating plant:

i. Type of generating facilities (nuclear, hydro, fossil-fueled, etc.).

The Coolidge Generating Station is a natural gas fired, simple-cycle power plant that will supply power during periods of peak electricity demand. The CEP is critical for SRP to meet near-term peak capacity and integrate renewables while maintaining electric system reliability.

ii. Number and size of proposed units.

The CEP will include sixteen (16) General Electric (GE) LM6000 PC SPRINT NxGen (GE LM6000) combustion turbine generators (CTG). The CEP will be designed to produce up to 820 megawatts (MW)³ of net electrical output based upon the optimal coincident ambient air conditions of temperature and relative humidity

³ Electrical output from a power generating facility such as the CEP is largely dependent upon three site specific variables; elevation, temperature, and relative humidity. In general, electrical output from this type of facility increases as elevation and temperature decrease, and relative humidity increases. Based upon the mean sea level elevation, and assuming ambient conditions most favorable to electrical output, a maximum nominal output of 820 MW is expected for the CEP.

(RH). The CTGs are capable of rapid start-up, allowing the CEP to respond to fluctuations in electric demand within ten minutes when offline

The CEP will be designed to operate at output levels ranging from minimum turndown (50%) of a single CTG, through any combination of CTGs, up to all 16 generators in operation using full power augmentation. Therefore, the CEP is expected to supply between approximately 25 and 820 MWs of power output under optimal conditions. However, during hot, dry summer conditions, when the CEP's generation is most likely to be needed, the actual maximum net output is likely to be 10-15% lower.

Site Layout and Arrangement

Figure 4-1 depicts the proposed site layout and arrangement of the Coolidge Generation Station. The layout shows the relative sizes and locations of the proposed equipment and improvements on the Project site, including access roads, the gas meter station, the new 500kV electrical switchyard and connection, and ponds for wastewater discharge and storm water management.

The generation facilities will occupy approximately 30 acres of the 100-acre Site. A network of roads for fire equipment and maintenance access surrounds the generation equipment. The new evaporation ponds in the northeast corner of the site will occupy approximately 16 acres.

Combustion Turbine Equipment

The CEP will utilize the GE LM6000 combustion turbine engines derived from technology used in the aviation industry. Each CTG will utilize power augmentation technology using GE's SPRINT (SPRay INTERcooling) system, which enhances the efficiency and output of the LM6000 gas turbine engine

These CTGs will use best available emission control technology to control nitrogen oxides (NOx) and carbon monoxide (CO) emissions. Each CTG is equipped with water injection to the combustors to minimize the production of NOx. In addition, selective catalytic reduction (SCR) systems will further reduce NOx emissions using a combination of catalysts and injection of 19% aqueous ammonia solution. CO emissions are controlled with the use of oxidation catalyst.

iii. *The source and type of fuel to be utilized, including a proximate analysis of fossil fuels.*

The CEP will be fueled solely by pipeline quality natural gas. Natural gas will be provided by the existing El Paso Natural Gas and TransWestern pipeline systems.

iv. *Amount of fuel to be utilized daily, monthly, and yearly.*

Coolidge will be operated as a peaking facility, and as such, it will run for a limited number of hours to help meet SRP's peak demand at the hottest times of the year, or when needed to smooth out the variability of renewable resources. The CEP also could be called upon in unexpected longer duration events such as outages of other units. There are many variables that can impact operation of the facility including

natural gas prices, system operating conditions, and the amount of renewables on the system, but it is anticipated fuel utilized at full load and ISO conditions will average approximately 7,162 Million British Thermal Units (MMBtu) (HHV) of gas per hour; 114,586 MMBtu per 16-hour day, and 171,878 MMBtu per 24-hour day. Monthly and yearly fuel use will vary based on factors referenced above.

v. ***Type of cooling to be utilized and source of any water to be utilized.***

The CEP is a simple-cycle gas-fired generating facility therefore CEP will have no steam cycle reducing water use intensity. In addition, the CEP will operate as a peaking facility and not operate many hours during the year therefore CEP will utilize a low amount of water.

Type of Cooling

The 16 LM6000 CTGs will be air-cooled and equipped with a mechanical refrigeration closed-loop lube oil cooling system. The closed-loop lube oil cooling will use glycol-based coolant, circulated through a mechanical chiller which cools the glycol and exhausts the heat to the atmosphere. The balance of plant equipment will also be air-cooled.

Water Use Requirements

Water will be used by the CEP for two primary purposes:

- Water will be injected into the CTG combustors to prevent the formation of NO_x
- Increasing fuel efficiency and power output of the CTGs:
 - Water will be used in an evaporative system to increase the humidity and reduce the temperature of the inlet air stream into the turbine combustors increasing fuel efficiency and electrical output.
 - Water will also be used in the SPRINT system, which sprays micro-droplets of water into the inter-stage air stream, reducing the air temperature and increasing the mass flow increasing the electrical output of the generators.

At design ambient temperature of 115.5 degrees F and 9.7% relative humidity approximately 1,843 gallons per minute of raw water will be required if all 16 units are operating at full capacity. Based on the anticipated operating profile of the CEP it is expected the facility will use about 250 acre feet/year.

Source of Water

The source of supply will be water from two existing wells on the property. The property has a history of irrigation water use and grandfathered groundwater rights that have been retired for non-irrigation purposes. However, to alleviate concerns about future reliance on groundwater, SRP will rely exclusively on stored CAP water to serve the Coolidge Generating Station after the proposed expansion. SRP has long-term storage credits that have been earned from the underground storage of CAP water at the Hohokam Irrigation and Drainage District Groundwater Savings Facility and will be recovering those long-term storage credits using the two existing wells on the property. The property is located within the Hohokam Irrigation and Drainage

District Groundwater Savings Facility boundaries which allows the wells to recover the water from the location the water was stored.

vi. *Proposed height of stacks and number of stacks, if any.*

There will be 16 exhaust stacks, one for each of the 16 CTGs. Each of the stacks will be approximately 85 feet in height and between 9 to 12 feet in diameter.

vii. *Dates for scheduled start-up and firm operation of each unit and date construction must commence in order to meet schedules.*

The first eight (8) units (SRP CEP Unit numbers 13, 14, 15, 16, 25, 26, 27, & 28) are expected to be in firm operation no later than June 01, 2024. The second eight (8) units (SRP CEP Unit numbers 17, 18, 19, 20, 21, 22, 23, & 24) are expected to be in firm operation no later than June 1, 2025.

Start-up activities associated with the first eight (8) units will start with SRP CEP Unit 13 in December 2023/January 2024 and end with activities pertaining to SRP CEP Unit 28 in May 2024. For the second eight (8) units, start-up activities will start with SRP CEP Unit 17 in August/September 2024 and end with activities pertaining to SRP CEP Unit 21 in May 2025.

Construction on the 16-unit site must commence July 2022 to meet the firm operation dates and planned startup schedule.

viii. *To the extent available, the estimated costs of the proposed facilities and site, stated separately. (If application contains alternative sites, furnish an estimate for each site and a brief description of the reasons for any variations in estimates.)*

The planned expenditures for construction of the CEP are \$830 million.

ix. *Legal description of proposed site. (If application contains alternative sites, list sites in order of applicant's preference with a summary of reasons for such order or preference and any changes such alternative sites would require in the plans reflected in (i) through (viii) hereof.)*

The CEP will be located on an approximately one hundred (100) acre parcel located on the north 1174.8' of the south 2596.47' of Section 10, Township 6 South, Range 8 East, G&SRB&M, lying easterly of and adjacent to the Southern Pacific Railroad right-of-way, excepting therefrom the east 33' for county road right-of-way. The GSU-to-switchyard electrical interconnection, and the switchyard to be constructed by SRP, also will be located wholly within this parcel.

2. *With respect to a proposed transmission line:*

i. *Nominal voltage for which the line is designed; description of the proposed structures and switchyards or substations associated therewith; and purpose for constructing said transmission line*

The CEP will tie in the existing 500 kV transmission line that runs along the west side of the site. The CEP will interconnect electrically to a new 500 kV⁴ switchyard. The existing Pinal Central to Browning 500 kV transmission line will be looped in and out of the new 500 kV switchyard resulting in a Pinal Central to new 500 kV switchyard transmission line, and a new 500 kV switchyard to Browning 500 kV transmission line.

Nominal voltage

500 kV.

Description of the proposed structures

Either 500 kV single circuit on tubular steel structures or 500kV double circuit on tubular steel structures.

Description of proposed switchyards and substations

The new 500 kV switchyard will be located on private land located in NE ¼, SE ¼, Sec. 10 T. 6 S., R. 8 E. The new 500 kV switchyard will be located on approximately 46 acres and include control house, relaying, communication equipment, buswork, breakers, switching equipment, and other related components. An enclosure such as a chain link fence or a block wall will enclose the new 500 kV switchyard. The new 500 kV switchyard will be positioned on the property such that it could be connected to the existing Randolph 230 kV switchyard.

Purpose for constructing said transmission line

Supports the interconnection of the 500 kV switchyard which is needed to interconnect the generating system to the transmission line.

- ii. ***Description of geographical points between which the transmission line will run, the straight-line distance between such points and the length of the transmission line for each alternative route for which the application is made.***

*Description of geographical points between which the **transmission line** will run*

There are two components of the transmission line. The first component is located west of the new 500 kV switchyard and is described as the western transmission line component. The second component is located east of the new 500 kV switchyard and is described as the eastern transmission line component.

The western transmission line component is as follows: Two 500 kV transmission lines will cut into the existing Pinal Central to Browning 500 kV transmission line located in the NE ¼, SW ¼, Sec 10, T. 6 S., R. 8.E and will traverse in an easterly direction to its termination point in the new 500 kV switchyard.

The eastern transmission line component is as follows: Four 500 kV transmission lines will traverse from the new 500 kV switchyard to the generating plant.

Straight-line distance between such points

⁴ Nominal 500 kV transmission and generation infrastructure is technically 525 kV. For ease and consistency this document refers to 525 kV as 500 kV.

The western transmission line component is comprised of two transmission lines, approximately 1250 feet between the cut-in point of the Pinal Central to Browning transmission line and the new 500 kV switchyard terminating structure.

The eastern transmission line component is comprised of four transmission lines which are approximately 1500', 1100', 1300' and 1700' in length.

Length of the transmission line for each alternative route

No alternative routes have been identified.

iii. *Nominal width of right-of-way required, nominal length of spans, maximum height of supporting structures and minimum height of conductor above ground*

Nominal width of right-of-way required

A 100 foot right-of-way for each of the four generator tie lines may be required to traverse over existing gas line easement located within NE ¼, SE ¼, Sec. 10 T. 6 S., R. 8 E. All other proposed infrastructure will be located within SRP-owned property.

Nominal length of spans

Maximum nominal span length is anticipated to be 750 feet.

Maximum height of supporting structures

Maximum height of supporting structures is anticipated to be 199'.

Minimum height of conductor above ground:

Minimum height of conductor above ground is anticipated to be 35'.

iv. *To the extent available, the estimated costs of proposed transmission line and route, stated separately. (If application contains alternative routes, furnish an estimate for each route and a brief description of the reasons for any variations in such estimates.)*

Construction of the 500 kV switchyard and Browning Substation upgrades is forecast to cost about \$64 million.

v. *Description of proposed route and switchyard locations. (If application contains alternative routes, list routes in order of applicant's preference with a summary of reasons for such order of preference and any changes such alternative routes would require in the plans reflected in (i) through (iv) hereof.)*

Switchyard, generating station, transmission line, and four generating tie lines will generally be located within the NE ¼, SE ¼, Sec. 10 T. 6 S., R. 8 E. This land is located within Parcel No. 401-30-001D, 401-30-001J which is owned in fee by the Salt River Project Agricultural Improvement and Power District.

vi. *For each alternative route for which application is made, list the ownership percentages of land traversed by the entire route (federal, state, Indian, private, etc.).*

Any alternative routing will be within SRP-owned property.

5. ***List the areas of jurisdiction [as defined in A.R.S. § 40-360(1)] affected by each alternative site or route and designate those proposed sites or routes, if any, which are contrary to the zoning ordinances or master plans of any of such areas of jurisdiction.***

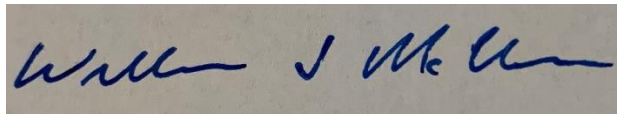
This section describes the areas of jurisdiction (as defined in ARS §40-360) that would be affected by the CEP Site. The Project is located wholly within the City of Coolidge on private lands within an area that the City has zoned for industrial uses. This zoning designation is consistent with the proposed use for electric generation facilities.

6. ***Describe any environmental studies applicant has performed or caused to be performed in connection with this application or intends to perform or cause to be performed in such connection, including the contemplated date of completion.***

The Applicant has evaluated available secondary and field data related to air quality, biological resources, visual resources, cultural resources, recreational resources, land use, noise levels, and communication signals in order to assess the potential impacts that may result from the construction, operation, and maintenance of the Project. These evaluations are included in Exhibits A, B, C, D, E, F, H, and I to this Application.

Based on the information provided above, SRP hereby affirms, upon thorough expert scientific environmental evaluation and analysis, that the Coolidge Expansion Project is environmentally compatible and respectfully requests the Arizona Power Plant and Transmission Line Siting Committee issue a Certificate of Environmental Compatibility (CEC), with a term of 10 years.

By:

A handwritten signature in blue ink, appearing to read "William J. McClellan", on a light-colored rectangular background.

William McClellan

ORIGINAL and 25 copies of the foregoing hand delivered and filed with the Director of Utilities, Arizona Corporation Commission, this December 13, 2021.

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