

PROPOSED DECISION

Proposed Conditional Approval of Alternative Closure Deadline for the Calaveras Power Station

SUMMARY:

CPS Energy owns and operates Calaveras Power Station located in southeast San Antonio, Texas. Calaveras Power Station is composed of two coal-fired power plants, J.K. Spruce and J.T. Deely, and is located next to Calaveras Lake. At Calaveras, CPS Energy operates four coal combustion residuals (CCR) surface impoundments and a Fly Ash Landfill. The surface impoundments are an active Sludge Recycling Holding (SRH) Pond, an active Evaporation Pond, and the North and South Bottom Ash Ponds, which have ceased receiving waste and are currently in the process of being closed. The SRH Pond and the North and South Bottom Ash Ponds are located at the southern end of the facility directly next to Calaveras Lake. The Fly Ash Landfill and the Evaporation Pond are located on the northern end of the facility and approximately 1,200 feet and 1,600 feet, respectively from Calaveras Lake.

Under the Environmental Protection Agency (EPA) regulations for CCR landfills and surface impoundments at 40 C.F.R. §257.101(a), unlined CCR surface impoundments such as the Evaporation Pond and SRH Pond were generally required to cease receipt of all CCR and non-CCR wastestreams by April 11, 2021. This deadline was established after the United States Court of Appeals for the District of Columbia Circuit (D.C. Cir.) found that EPA erred when it established a rule that allows unlined CCR surface impoundments to continue to operate until they leak despite the Agency's conclusions that "unlined impoundments have a 36.2 to 57% chance of leakage at a harmfully contaminating level" and that such leaks, when they occur, pose substantial risks to humans and the environment. *See Utility Solid Waste Activities Group (USWAG) v. EPA*, 901 F.3d 414, 427-428 (D.C. Cir. 2018) (finding that "[i]t is inadequate under

RCRA for the EPA to conclude that a major category of impoundments that the agency’s own data show are prone to leak pose ‘no reasonable probability of adverse effects on human health or the environment,’ 42 U.S.C. §6944(a), simply because they do not already leak”). Despite the risks posed by unlined CCR surface impoundments, EPA’s regulations provide an opportunity for such impoundments to continue to operate beyond April 11, 2021, if the owner or operator submits a demonstration showing that the facility meets the criteria for 40 C.F.R. § 257.103(f)(1).

On November 30, 2020, CPS Energy submitted two alternative capacity infeasibility demonstrations (collectively referred to as the “Demonstration”) to the Environmental Protection Agency (EPA), one for the SRH Pond and one for the Evaporation Pond, seeking an extension pursuant to 40 Code of Federal Regulations (C.F.R.) § 257.103(f)(1) to continue to receive CCR and non-CCR wastestreams after April 11, 2021. CPS Energy requests alternative closure deadlines of September 1, 2023, and May 26, 2022, for the SRH Pond and the Evaporation Pond, respectively. On March 1, 2022, CPS Energy requested an updated alternative closure deadline of September 30, 2022, for the Evaporation Pond.

EPA is proposing to find that Calaveras Power Station is not in compliance with all of the requirements of Part 257 subpart D, including noncompliance with the groundwater monitoring requirements. EPA is also proposing that CPS Energy failed to adequately explain the lack of available on-site alternative disposal capacity for the Evaporation Pond wastestreams. For these reasons, EPA is proposing to conditionally approve the request for an extension for the SRH Pond until September 1, 2023, because the Agency has determined that conditions can be developed to address the identified noncompliance before the date of the requested extension.

EPA is also taking comment on whether the Agency should deny the request for an extension based on the proposed findings of noncompliance.

DATES: *Comments.* Comments must be received on or before August 25, 2022.

ADDRESSES AND PUBLIC PARTICIPATION: The EPA has established a docket for this proposed decision under Docket ID No. EPA-HQ-OLEM-2022-0333. The EPA established a separate docket for the CCR Part A final rule published on August 28, 2020, under Docket ID No. EPA-HQ-OLEM-2019-0172.¹ All documents in the docket are listed in the <https://www.regulations.gov> index. Publicly available docket materials are available either electronically at <https://www.regulations.gov> or in hard copy at the EPA Docket Center. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the EPA Docket Center is (202) 566-1742. You may send comments, identified by Docket ID. No. EPA-HQ-OLEM-2022-0333, by any of the following methods:

- Federal e-Rulemaking Portal: <https://www.regulations.gov> (our preferred method).
Follow the online instructions for submitting comments.
- Mail: U.S. Environmental Protection Agency, EPA Docket Center, Office of Land and Emergency Management, Docket ID No. EPA-HQ-OLEM-2022-0333, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- Hand Delivery or Courier (by scheduled appointment only): EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue NW, Washington, DC 20004. The Docket Center's hours of operations are 8:30 a.m. – 4:30 p.m., Monday – Friday (except Federal Holidays).

¹ See Section II.A of this document for more information on the CCR Part A Rule.

Instructions: All submissions received must include the Docket ID number (EPA-HQ-OLEM-2022-0333) for this action. Comments received may be posted without change to <https://www.regulations.gov>, including any personal information provided. Once submitted, comments cannot be edited or removed from the docket. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

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The EPA continues to carefully and continuously monitor information from the Centers for Disease Control and Prevention (CDC), local area health departments, and our Federal partners so that we can respond rapidly as conditions change regarding COVID-19.

FOR FURTHER INFORMATION CONTACT: For information concerning this proposed decision, contact:

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- Frank Behan, Office of Resource Conservation and Recovery, Materials Recovery and Waste Management Division, Environmental Protection Agency, 1200 Pennsylvania Avenue NW, MC: 5304P, Washington, DC 20460; telephone number: (202) 566-0531; email address: Behan.Frank@epa.gov.
- For more information on coal ash regulations, please visit <https://www.epa.gov/coalash>.

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List of Acronyms

- ASD – Alternate Source Demonstration
- BAPs – Bottom Ash Ponds
- CBI – Confidential Business Information
- CCR – Coal Combustion Residuals
- C.F.R. – Code of Federal Regulations
- Clouse WRC – Steven M. Clouse Water Recycling Center
- EPA – Environmental Protection Agency
- ERCOT – Electric Reliability Council of Texas
- FAL – Fly Ash Landfill
- FGD – flue gas desulfurization
- gpd – gallons per day
- gpm – gallons per minute
- GWMCA – Groundwater Monitoring Corrective Action
- HDPE – high density polyethylene
- IFC – issue for construction
- MGD – million gallons per day
- MW – megawatts

P.E. – Professional Engineer

POTW – publicly owned treatment works

RTO – Regional Transmission Organization

SAWS – San Antonio Water Service

SRH – Sludge Recycling Holding

SSI – statistically significant increase

TCEQ – Texas Commission of Environmental Quality

TDS – total dissolved solids

TSS – total suspended solids

WWTF – wastewater treatment facility

WWTPs – wastewater treatment ponds

I. General Information

A. The Decision the Agency is Proposing.

The EPA is proposing to conditionally approve the extension request submitted by CPS Energy for the CCR surface impoundment, the SRH Pond, located at the Calaveras Power Station in San Antonio, Texas. CPS Energy submitted the Demonstration to EPA seeking an extension pursuant to 40 C.F.R § 257.103(f)(1) to allow two CCR surface impoundments, the SRH Pond and the Evaporation Pond, to continue to receive CCR and non-CCR wastestreams after April 11, 2021.

After review of the Demonstration and additional information provided by CPS Energy, EPA proposes to find that the Demonstration fails to show that CPS Energy is in compliance with the CCR regulations. Notwithstanding this proposed finding, EPA is proposing to conditionally approve the request for an extension for the SRH Pond, instead of proposing to

deny the extension, based on proposed conditions that address the identified compliance issues and that could be implemented at Calaveras Power Station before the date of the requested extension. Thus, EPA is proposing to conditionally approve the request if, prior to final action, CPS Energy agrees to satisfy the conditions specified in Section IV.A of this proposed decision. If the conditions are met, EPA's conditional approval would allow Calaveras Power Station to continue placing certain CCR and non-CCR wastestreams in the SRH Pond through September 1, 2023. EPA is proposing that failure to meet any of the conditions subsequent to issuance of the final conditional approval would automatically convert the conditional approval into a denial. In such a case, the facility's deadline to cease placing any waste into the SRH Pond would revert to 135 days from the date of EPA's final decision, which is the deadline that would have been established had EPA denied the extension request. See Section IV.B of this document for further discussion of the basis for that deadline and of the process for a potential extension to address reliability issues.

Additionally, EPA solicits comment on whether to deny the Demonstration on the grounds that it fails to meet the requirements of 40 C.F.R. § 257.103(f)(1)(iv) in the event that, after reviewing public comment, EPA determines a conditional approval to be inappropriate.

B. The Agency's Authority for Proposing This Decision.

This proposal is being issued pursuant to the authority in 40 C.F.R. § 257.103(f). The Texas State CCR Program approval did not include 40 C.F.R. § 257.103. Therefore, it is EPA's duty to act on the submitted Demonstration.

II. Background

A. Summary of Part A Final Rule

In April 2015, EPA issued its first set of regulations establishing requirements for CCR surface impoundments and landfills, “Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities,” 80 FR 21302 (April 17, 2015). In 2020, EPA issued revisions to that rule, “Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; A Holistic Approach to Closure Part A: Deadline to Initiate Closure rule” 85 FR 53516 (Aug. 28, 2020) (the “Part A Rule”). The Part A Rule established April 11, 2021 as the date that electric utilities must cease placing waste into all unlined CCR surface impoundments. The Part A Rule also revised the alternative closure provisions of the CCR regulations (40 C.F.R. § 257.103) by allowing owners or operators to request an extension to continue to receive CCR and/or non-CCR wastestreams in unlined CCR surface impoundments after April 11, 2021, provided that certain criteria are met. EPA established two site-specific alternatives to initiate closure of unlined CCR surface impoundments (40 C.F.R. § 257.103(f)), commonly known as extensions to the date to cease receipt of waste.

The first alternative is for a facility that must continue to use an unlined CCR surface impoundment after April 11, 2021, because no alternative capacity is available either on-site or off-site, and it was technically infeasible to develop alternative capacity by that date. 40 C.F.R. § 257.103(f)(1) (titled *Development of Alternative Capacity is Technically Infeasible*). The second alternative is for coal-fired boiler(s) that are going to permanently shut down by a date certain after April 11, 2021, but there is no alternative capacity either on- or off-site that is available to accept the CCR and non-CCR wastestreams between April 11, 2021, and the permanent closure

date of the coal-fired boiler. 40 C.F.R. § 257.103(f)(2) (titled *Permanent Cessation of Coal-Fired Boiler(s) by a Date Certain*).

In this case, Calaveras is requesting an extension under the first Part A alternative. Under this alternative, an owner or operator may submit a demonstration seeking EPA approval to continue using its unlined CCR surface impoundment for the specific amount of time needed to develop alternative disposal capacity for its CCR and/or non-CCR wastestreams. EPA may grant an extension of the deadline to cease receipt of waste if the facility demonstrates that the requirements of 40 C.F.R. § 257.103(f)(1) are met. Specifically, the regulation requires the facility to demonstrate that: 1) no alternative disposal capacity is currently available on or off-site of the facility; 2) the CCR and/or non-CCR waste stream must continue to be managed in that CCR surface impoundment because it was technically infeasible to complete the measures necessary to obtain alternative disposal capacity either on or off-site at the facility by April 11, 2021; and 3) the facility is in compliance with all the requirements of 40 C.F.R. part 257, subpart D. 40 C.F.R. § 257.103(f)(1)(i)-(iii).

Under the first requirement, the owner or operator must demonstrate that there is no alternative disposal capacity available on or off-site. 40 C.F.R. § 257.103(f)(1)(i). As part of this, facilities must evaluate all potentially available disposal options to determine whether any are technically feasible. 40 C.F.R. § 257.103(f)(1)(iv)(A)(1). The owner or operator must also evaluate the site-specific conditions that affected the options considered. 40 C.F.R. § 257.103(f)(1)(iv)(A)(1)(i). Additionally, the regulations prohibit the owner or operator from relying on an increase of cost or inconvenience of existing capacity as a basis for meeting this criterion. 40 C.F.R. § 257.103(f)(1)(i).

The Demonstration must substantiate the absence of alternative capacity for each wastestream that the facility is requesting to continue placing in the CCR surface impoundment beyond April 11, 2021. 40 C.F.R. § 257.103(f)(1)(iv)(A)(I). As soon as alternative capacity is available for any of the wastestreams, the owner or operator must use that capacity to dispose of those wastestreams instead of using the unlined CCR surface impoundment. 40 C.F.R. § 257.103(f)(1)(v). This means that if there is a technically feasible option to reroute any of the wastestreams away from the unlined surface impoundment, the owner or operator must do so. 40 C.F.R. § 257.103(f)(1)(ii), (v). In the CCR Part A Rule preamble, EPA acknowledged that some of these wastestreams are very large and will be challenging to relocate, especially for those that are sluiced. However, the smaller volume wastestreams have the potential to be rerouted to temporary storage tanks. In such cases, the owner or operator must evaluate this option, and, if it is determined to be technically feasible, must implement it. 85 Fed. Reg. 53,541.

EPA also stated in the Part A Rule that it is important for the facility to include an analysis of the adverse impacts to the operation of the power plant if the CCR surface impoundment cannot be used after April 11, 2021. EPA stated that this is an important factor in determining whether the disposal capacity of the CCR surface impoundment in question is truly needed by the facility. EPA required that a facility provide analysis of the adverse impacts that would occur to plant operations if the CCR surface impoundment in question were no longer available. 40 C.F.R. § 257.103(f)(1)(iv)(A)(I)(ii).

In addition, to support the alternative deadline requested in the demonstration, the facility must submit a workplan that contains a detailed explanation and justification for the amount of time requested. 40 C.F.R. § 257.103(f)(1)(iv)(A). The written workplan narrative must describe each option that was considered for the new alternative capacity selected, the time frame under

which each potential capacity could be implemented, and why the facility selected the option that it did. *Id.* 40 C.F.R. § 257.103(f)(1)(iv)(A)(I). The discussion must include an in-depth analysis of the site and any site-specific conditions that led to the decision to implement the selected alternative capacity. 40 C.F.R. § 257.103(f)(1)(iv)(A)(I)(i).

The workplan must contain a visual timeline and narrative discussion to justify the time request. 40 C.F.R. § 257.103(f)(1)(iv)(A)(3). The visual timeline must clearly indicate how each phase and the steps within that phase interact with or are dependent on each other and the other phases. Additionally, any possible overlap of the steps and phases that can be completed concurrently must be included. This visual timeline must show the total time needed to obtain the alternative capacity and how long each phase and step is expected to take. The detailed narrative of the schedule must discuss all the necessary phases and steps in the workplan, in addition to the overall time frame that will be required to obtain capacity and cease receipt of waste. The discussion must include: 1) why the length of time for each phase and step is needed and a discussion of the tasks that occur during the specific step, 2) why each phase and step must happen in the order it is occurring, 3) the tasks that occur during each of the steps within the phase and 4) anticipated worker schedules. 40 C.F.R. § 257.103(f)(1)(iv)(A)(3). This overall discussion of the schedule assists EPA in understanding whether the time requested is warranted. Finally, facilities must include a narrative on the progress made towards the development of alternative capacity as of the time the demonstration was compiled. 40 C.F.R. § 257.103(f)(1)(iv)(A)(4). This section of the Demonstration is intended to show the progress and efforts the facility has undertaken to work towards ceasing placement of waste in the unlined CCR surface impoundment and to determine whether the submitted schedule for obtaining alternative capacity was adequately justified at the time of submission.

The Part A Rule also requires that a facility be in compliance with all the requirements in 40 C.F.R. part 257 subpart D in order to be approved for an extension. 40 C.F.R. § 257.103(f)(1)(iii). Various compliance documentation must be submitted with the demonstration for the entire facility, not just for the CCR surface impoundment in question. 40 C.F.R. § 257.103(f)(1)(iv)(B). Additionally, the information presented in the narrative of the Demonstration and information posted on the facility's website relating to the closure or retrofit of the impoundment and the development of the new alternative disposal capacities are considered by EPA to allow for an adequate analysis of the facility's compliance with the CCR regulations.

The first group of compliance documents required to be included in the Demonstration relate to documentation of the facility's compliance with the requirements governing the design, construction, and installation of the groundwater monitoring systems. The rule specifically requires copies of the following documents: 1) map(s) of groundwater monitoring well locations (these maps should identify the CCR units as well); 2) well construction diagrams and drilling logs for all groundwater monitoring wells; 3) maps that characterize the direction of groundwater flow accounting for seasonal variation; 4) constituent concentrations, summarized in table form, at each groundwater monitoring well monitored during each sampling event; and 5) description of site hydrogeology including stratigraphic cross-sections. 40 C.F.R. § 257.103(f)(1)(iv)(B)(2)-(4).

The second group of documents required under the regulations are those necessary to demonstrate compliance with the corrective action regulations, if applicable. To comply with this requirement, a facility that triggered corrective action must at the least submit the following documentation: the corrective measures assessment required at 40 C.F.R. § 257.96; progress

reports on remedy selection and design; and the report of final remedy selection required at 40 C.F.R. § 257.97(a). 40 C.F.R. § 257.103(f)(1)(iv)(B)(5) and (6).

Finally, the regulations require facilities to submit the most recent structural stability assessment required at 40 C.F.R. § 257.73(d), and the most recent safety factor assessment required at 40 C.F.R. § 257.73(e) and §§ 257.103(f)(1)(iv)(B) (7) and (8).

B. Description of Calaveras Power Station and Summary of Request for an Extension

On November 30, 2020, CPS Energy submitted a Demonstration pursuant to 40 C.F.R. § 257.103(f)(1) requesting additional time to develop alternative capacity to manage CCR and non-CCR wastestreams at the Calaveras Power Station in San Antonio, Texas. CPS Energy is the owner and operator of the Calaveras Power Station. EPA reviewed the Calaveras Demonstration to determine whether it included the information, analyses, and documentation required under 40 C.F.R. § 257.103(f)(1). On January 11, 2022, EPA notified CPS Energy of the completeness determination and, pursuant to 40 C.F.R. § 257.103(f)(3)(ii), that the completeness determination tolls the April 11, 2021, cease receipt of waste date for the identified unlined surface impoundments the Demonstration covers, until EPA issues a final decision on this proposed action.²

The Demonstration submitted by CPS Energy seeks approval of alternative site-specific deadlines to initiate closure of the SRH Pond and Evaporation Pond. Specifically, CPS Energy requests alternative deadlines of September 1, 2023, for the SRH Pond and May 26, 2022, for the Evaporation Pond, by which dates it would cease routing all CCR and non-CCR wastestreams to these CCR surface impoundments and initiate closure. On March 1, 2022, CPS Energy notified EPA that there were permitting delays from the City of San Antonio and Bexar County for the

² See CPS Energy Completeness Letter in the docket.

Evaporation Pond. Therefore, CPS Energy is requesting an updated deadline of September 30, 2022, for the Evaporation Pond and to keep the original date for the SRH Pond of September 1, 2023.

As described in the Demonstration, CPS Energy will obtain alternative capacity by constructing a new Plant Drains Pond to replace the SRH Pond and a new Evaporation Pond to replace the existing Evaporation Pond.

To assist the reader, EPA provides additional details on the Calaveras Power Station below, including information on the generation capacity, on the CCR surface impoundments and landfills, and other non-CCR impoundments. This summary is based on information provided in the Demonstration.

1. Coal-fired Boilers and Generation Capacity.

The Calaveras Power Station consists of three power plants, two of which are subject to the CCR regulations, the J.K. Spruce Plant and the J.T. Deely Plant. The J.T. Deely Plant ceased operation in December 2018. The J.K. Spruce Plant operates two coal-fired units. The total generation capacity of these two units is approximately 1,410 megawatts (MW).

2. CCR Units and CCR Wastestreams.

CPS Energy currently operates five CCR units at Calaveras Power Station that are subject to the federal CCR regulations. Two are active CCR surface impoundments, the SRH Pond and the Evaporation Pond, for which alternative deadlines are sought. The approximate surface areas of the SRH and Evaporation Ponds are 3 and 6.7 acres, respectively. The Evaporation Pond was originally constructed as a fly ash landfill in 1990, then converted to a fly ash impoundment in 1996. After 1996 it was converted to an evaporation pond. Although the Evaporation Pond does not currently receive CCR wastestreams, it is considered a CCR surface impoundment and

eligible for the alternative closure deadline pursuant to 40 C.F.R. § 257.103(f)(1). The SRH Pond currently receives CCR wastestreams from the flue gas desulfurization (FGD) system. The total flowrates of wastestreams into the SRH Pond are shown in Table 1 below.

Relevant to CPS Energy's request, the CCR surface impoundments are unlined and subject to closure pursuant to 40 C.F.R. § 257.101(a)(1). This provision provides that CPS Energy must cease placing CCR and non-CCR wastestreams into the units and either retrofit or close them as soon as technically feasible, not later than April 11, 2021. According to the Demonstration, the SRH Pond and the Evaporation Pond meet all location restrictions specified in 40 C.F.R. §§ 257.60 – .64.

CPS Energy has two inactive CCR surface impoundments, the North and South Bottom Ash Ponds. These two CCR units are currently in closure. The last receipt of waste into either pond was in December 2018. The fifth CCR unit is the Fly Ash Landfill. It is an active CCR landfill that accepts the fly ash from Calaveras Power Station.

Based on the evaluation of alternative disposal capacity options, CPS Energy selected the following options for compliance at Calaveras Power Station: 1) construct a new Evaporation Pond, and 2) construct a new CCR surface impoundment, the Plant Drains Pond. The Demonstration maintains that these options can be implemented in the least amount of time of the alternatives evaluated and that they accommodate the unique site features such as quantity of wastestreams and the lack of off-site disposal facilities.

3. *Non-CCR Impoundments and Non-CCR Wastestreams.*

CPS Energy identifies eight non-CCR impoundments: the Diked Oil Storage Area, the Coal Pile Runoff Pond, the Stormwater Southwest Runoff Pond 3, the Stormwater CRP Runoff

Pond 1, the Stormwater CRP Pond 2, the Stormwater Runoff Fly Ash Pond, the Clarifier Sludge Recycling Pond, and the Stormwater Coal Conveyor Area Temporary Holding Pond.

The Evaporation Pond only receives non-CCR wastestreams. The wastestreams come from the Calaveras Power Station and other CPS Energy power generation facilities. These wastestreams include wastewater from the boiler, cleaning liquids, ion exchange, steam turbine cleaning liquids, plasma cutter liquids, acid/base vessel cleaning liquids, spill clean-ups, laboratory analyte solution liquids, air preheater basket cleaning liquids, heat exchanger condenser cleaning liquids, and circulating water from service activities on plant equipment. During typical operations the Evaporation Pond receives one to two million gallons per year.

The SRH Pond also receives non-CCR wastestreams. The flowrates of the various wastestreams into the SRH Pond are shown below in Table 1.

Table 1: Flowrates to the SRH Pond³

Item	Flow Description	Instantaneous Flowrate (gpm)	Average Flowrate (gpd)
Boiler and Plant Sumps			
1	Transfer Tower Sump	250	19,000
2	Eastside Drainage Sump	400	8,600
3	Eastside Drainage Sump	400	8,600
4	Unit 1 Boiler Build Area Sump	200	40,000
5	Unit 2 Boiler Area Waste Sump	1,300	253,000
	Subtotal Boiler and Plant	2,550	330,000
FGD System			
1	Limestone Hopper Area Sump	400	5,800
2	Limestone Hopper Area Sump	400	5,800
3	Limestone Prep Area Sump	200	35,000
4	FGD system Reclaim Water	600	144,000
5	Unit 2 Absorber Area Sump	650	68,000
6	Unit 1 Absorber Waste Slurry Sump	625	259,000
7	Thickener Tunnel Sump	400	29,000
8	Control/Dewatering Building Sump	750	86,000
	Subtotal FGD System	4,025	633,000
Total		6,575	963,000

³ See Exhibit 3.7 of the SRH Pond Demonstration (pdf page 19).

III. EPA's Analysis of CPS Energy's Demonstration

EPA is proposing to conditionally approve the extension request notwithstanding the facility being out of compliance with 257 subpart D related to the groundwater monitoring requirements if CPS Energy meets the list of conditions in Section IV below. If the conditions are not met, EPA is proposing that CPS Energy cease placement of all CCR and non-CCR wastestreams into the SRH and Evaporation Ponds no later than 135 days after the date of EPA's final decision.

Below, EPA first discusses CPS Energy's evaluation of on- and off-site alternative disposal capacity and the impacts on the facility if the SRH and Evaporation Pond cannot be used through the proposed extension date. EPA is proposing to find that the analyses provided in the Demonstration support CPS Energy's conclusions that there is no alternative disposal capacity available for the SRH Pond wastestreams and no alternative disposal capacity available off-site for the Evaporation Pond wastestreams. However, EPA is proposing that the analysis provided for the on-site alternative disposal capacity available for the Evaporation Pond wastestreams is inadequate. EPA is also proposing to find that there would be adverse impacts on the facility if the SRH and Evaporation Ponds are closed without alternative disposal capacity available for the wastestreams.

EPA then discusses CPS Energy's compliance with the other requirements of the subpart D regulations applicable to Calaveras Power Station. EPA is proposing to conclude that the Demonstration does not show compliance with the groundwater monitoring requirements. EPA has developed conditions that will address the identified issues. If CPS Energy agrees to meet the

conditions, EPA may grant an extension to the cease receipt of waste date as discussed further below.

A. EPA Evaluation of CPS Energy's Claim of No Alternative Disposal Capacity On- or Off-Site

As discussed above in Section II.A., to obtain an extension of the cease receipt of waste deadline, the owner or operator must demonstrate that there is no alternative disposal capacity available on or off-site. 40 C.F.R. § 257.103(f)(1)(iv)(A). In this case, the Demonstration provides detailed analyses of the potential alternative disposal options both on- and off-site as required by the Part A Rule, and as discussed below, EPA is proposing to find that no alternative disposal capacity is available for the SRH Pond, and no alternative capacity is available off-site for the Evaporation Pond wastestreams. However, EPA is proposing that the analysis provided demonstrating no available on-site alternative disposal capacity for the Evaporation Pond wastestreams is inadequate.

1. Lack of Alternative Disposal Capacity On-site

CPS Energy's Demonstration states that it lacks current alternative disposal capacity on-site for any of the wastestreams currently disposed of in the SRH and Evaporation Ponds. Calaveras Power Station has twelve surface impoundments (both CCR and non-CCR) on site as shown in Exhibit 3.6 – Calaveras Power Station Surface Impoundments,⁴ and shown below in Table 2 for ease of reference. In Table 2, Pond #7 and Pond #10 (SRH and Evaporation Ponds), are those for which CPS Energy is seeking extensions. CPS Energy states that six of the active surface impoundments are used exclusively for stormwater management, and that the two inactive surface impoundments, the North and South Bottom Ash Ponds, are currently in closure.

Table 2 – Calaveras Power Station Surface Impoundments

⁴ See Exhibit 3.6 (pdf page 18) of the SRH Pond Demonstration or Exhibit 3.2 (pdf page 13) of the Evaporation Pond Demonstration

Name	Description	Storage Capacity (MM gallons)	Liner	Status
Pond #1	Diked Oil Storage Area	0.2	Unlined	Active
Pond #2	Coal Pile Runoff Pond (Stormwater)	32.6	Unlined	Active
Pond #3	North Bottom Ash Pond	20.5	Unlined	Inactive
Pond #4	South Bottom Ash Pond	22.5	Unlined	Inactive
Pond #5	Stormwater (Southwest Runoff Pond 3)	1.7	Unlined	Active
Pond #6	Stormwater (CRP Runoff Pond 1)	5.9	Unlined	Active
Pond #7	SRH Pond	4.0	Unlined	Active
Pond #8	Stormwater (CRP Pond 2)	2.7	Unlined	Active
Pond #9	Stormwater Runoff (Fly Ash) Pond	9.7	Unlined	Active
Pond #10	Evaporation Pond	5.1	Unlined	Active
Pond #11	Clarifier Sludge Recycling Pond	0.8	Unlined	Active
Pond #12	Stormwater (Coal conveyor area temporary holding pond)	1.1	Unlined	Active

(a) SRH Pond.

CPS Energy states that there is no existing on-site capacity that can accept the CCR and non-CCR wastestreams disposed in the SRH Pond. Demonstration Exhibit 3.7 (Table 1 above) shows the various wastestreams and their flowrates being managed in the SRH Pond. The non-CCR wastestreams include drainage sumps, transfer tower sump, and boiler area sumps. They have a total average flowrate of 0.33 million gallons per day (MGD). The CCR wastestreams are produced by the FGD system and the total average flowrate is 0.633 MGD.

CPS Energy states that they cannot use any other ponds on-site to accept the CCR and non-CCR wastestreams the SRH Pond receives. As seen in Table 2 above, there are nine active surface impoundments (CCR and non-CCR), not including the SRH Pond. CPS Energy states that six of these nine impoundments, Ponds # 2, 5, 6, 8, 9, and 12, which release to Calaveras Lake through permitted discharges, are needed for stormwater management and lack capacity for additional wastestreams.

The Evaporation Pond is one of the remaining three active surface impoundments not associated with stormwater management. This pond has triggered closure requirements because it is unlined. Thus, CPS Energy concludes the wastestreams from the SRH Pond cannot be placed into it.

CPS Energy states that the areas of the Diked Oil Storage Area and the Clarifier Sludge Recycling Pond are not large enough to handle the wastestreams managed in the SRH Pond, and therefore, they are not available.

The final two ponds, the North and South Bottom Ash Ponds, are currently in closure and can no longer receive waste. Thus, due to the lack of available capacity in any of the existing ponds at Calaveras Power Station, CPS Energy concludes that there is not capacity available for any of the wastestreams to be diverted from the SRH Pond to a different location.

EPA agrees with CPS Energy's conclusions and that there is a lack of on-site alternative disposal capacity for the SRH Pond wastestreams.

(b) Evaporation Pond.

The Demonstration states there is no existing on-site alternative disposal capacity to accept the non-CCR wastestreams disposed of in the Evaporation Pond. The Evaporation Pond receives industrial wastestreams from the Calaveras Power Station as well as other CPS Energy power generation facilities. All these wastestreams are delivered by truck. The non-CCR wastestreams include boiler cleaning, ion exchange, steam turbine cleaning liquid, plasma cutter liquid, acid/base vessel cleaning liquid, spill cleanup liquid, laboratory analyte solution liquid, air preheater basket cleaning liquid, heat exchanger condenser cleaning, and circulating water from service activities on plant equipment. During typical plant operations the non-CCR wastestreams

flow volume of nonhazardous liquids to the Evaporation Pond is one to two million gallons per year.

CPS Energy states that they cannot use any of the other ponds on-site as alternative disposal capacity. There are nine active surface impoundments (CCR and non-CCR) at the Calaveras Power Station, not including the Evaporation Pond, that are potential options for on-site alternative capacity. CPS Energy states that six of these nine impoundments are needed for stormwater management and release to Calaveras Lake through permitted discharges. These six stormwater management surface impoundments are Ponds #2, 5, 6, 8, 9, and 12. CPS Energy further states these six impoundments are unavailable for additional disposals as they do not have sufficient capacity to receive wastestreams beyond their designed stormwater capacity. Moreover, the industrial wastestreams would not meet the low discharge permit limits for metals (specifically iron and copper).

The SRH Pond is one of the three remaining active surface impoundments not associated with stormwater management. This pond is triggered into closure because it is unlined, and therefore, CPS Energy concludes that additional wastestreams cannot be placed into it. CPS Energy states that the remaining two ponds, the Diked Oil Storage Area Pond and the Clarifier Sludge Recycling Pond, are not large enough to handle the industrial wastestreams managed in the Evaporation Pond and, therefore, are also not available. The final two ponds are inactive: the North and South Bottom Ash Ponds. They are currently being closed and can no longer receive waste. Based upon all of the above, CPS Energy concludes that there is no alternative disposal capacity available for any of the wastestreams to be diverted from the Evaporation Pond to a different location.

EPA is proposing to find that the Demonstration fails to support the conclusion that there is a lack of available on-site alternative disposal capacity. Since CPS Energy is requesting an alternative compliance deadline for both the Evaporation and the SRH Ponds, it intends that both will continue to receive waste. But CPS Energy failed to discuss the reasons both ponds need to operate; for example, it could divert the industrial wastestreams from the Evaporation Pond to the SRH Pond. Diverting the industrial wastestreams would expedite the closure and the cease receipt of waste date for the Evaporation Pond. Additionally, it would only require one CCR surface impoundment to continue to operate under an alternative cease receipt of waste deadline.

2. Lack of Alternative Disposal Capacity Off-site

CPS Energy states in the Demonstration that the only off-site wastewater treatment facility within 20 miles of the Calaveras Power Station is the San Antonio Waster Service (SAWS) Steven M. Clouse Water Recycling Center (Clouse WRC). There are other wastewater treatment facilities in San Antonio and in the surrounding area further than 20 miles away. These are municipal systems owned by SAWS, the San Antonio River Authority, surrounding municipalities, or private companies, and these facilities are subject to the same limitations as the SAWS Clouse WRC. CPS Energy provides a list of facilities considered in Demonstration *Exhibit 3.1 – Off-site Treatment Facilities*⁵. CPS Energy states that this list was obtained from EPA's Facility Registry Service.

(a) SRH Pond.

CPS Energy states that obtaining off-site alternative disposal capacity would require either transporting all wastestreams currently managed by the SRH Pond or isolating only CCR wastestreams for transportation and disposal to an off-site facility. CPS Energy contends that the

⁵ See pdf page 10 of the Evaporation Pond Demonstration or pdf page 10 of the SRH Pond Demonstration

FGD wastestreams would be subject to EPA Categorical Industrial User pretreatment standards and San Antonio industrial user local limits prior to being transported off-site and introduced to the SAWS publicly-owned treatment works (POTW). CPS Energy further states that this alternative would also require it to obtain an Industrial Waste Permit from SAWS. Pretreatment of FGD wastestreams would include, at a minimum, sedimentation to remove total suspended solids (TSS), and either use of a surface impoundment or large tankage, similar to what would be needed for an on-site wastewater treatment facility. Additional treatment might be needed to remove dissolved metals (e.g., arsenic, mercury, selenium) to below applicable Categorical and Local standards. The wastewater will reduce the available hydraulic capacity of the POTW for other, more compatible wastestreams. CPS Energy concludes that the requirement of pretreatment of FGD wastestreams removes any benefit of off-site management.

CPS Energy states that the management of wastewater off-site would require intermediate on-site containment to accept the much higher instantaneous flowrates. These flowrates can be as high as 6,340 gallons per minute (gpm) for all wastestreams, or 3,800 gpm for CCR wastestreams. CPS Energy states this would require a surface impoundment or large tankage similar to what would be needed for an on-site wastewater treatment facility.

Lastly, CPS Energy states that wastewater management off-site would require transportation by tanker truck. The average daily flowrate to the SRH Pond is approximately 670 gpm. Even if CCR wastestreams could be isolated from non-CCR wastestreams to the SRH Pond, average daily CCR wastestream flowrates alone are 440 gpm. As an example of how onerous it would be to transport this wastestreams off-site, CPS Energy states 440 gpm equals one trip for a 4,000 gallon tanker truck every 9 minutes, or 160 trips per day; a logistically infeasible trip frequency and volume. The company states that it is unlikely the POTW has

sufficient transportation infrastructure or staffing to accommodate this added volume of commercial traffic.

EPA is proposing to agree with CPS Energy that it is infeasible to send the SRH Pond wastestreams off-site.

(b) Evaporation Pond.

The Evaporation Pond currently manages a variety of wastewaters generated at the Calaveras Power Station. The large majority are metal cleaning wastes generated during discrete maintenance events over a relatively short period of time (estimated to be approximately 800,000 gallons annually). CPS Energy states in the Demonstration that no industrial wastewater treatment facility exists in San Antonio and the surrounding area capable of treating the wastewater currently managed in the Evaporation Pond.

CPS Energy states that the management of the Evaporation Pond wastewaters off-site are subject to EPA Categorical Industrial User pretreatment standards and San Antonio industrial user local limits prior to being transported off-site and introduced to the SAWS POTW. CPS Energy states that the available analytical data indicates concentrations of copper in the wastewater generated during these maintenance events are above the EPA Categorical standard and local limit. As a result, these wastewaters require pretreatment to remove dissolved metals before they can be treated by the POTW. CPS Energy asserts that such pretreatment would require construction of an on-site wastewater treatment facility that would remove any benefit of management of the wastewaters off-site.

EPA is proposing to agree with CPS Energy's conclusion that the wastestreams managed in the Evaporation Pond cannot be managed off-site without significant pretreatment prior to being sent off-site to a treatment facility. The wastestreams' volumes are potentially small

enough to be trucked off-site. Using the same truck capacity as the SRH Pond, the transportation would require approximately 200 trucks per year. However, given the composition of the wastestreams and the lack of industrial wastewater treatment facilities that would not first require construction of an on-site pretreatment facility, EPA is proposing to conclude it is not realistic to consider sending the wastestreams off-site.

B. EPA Evaluation of CPS Energy's Analysis of Adverse Impacts to Plant Operations

The Part A Rule next requires that a facility provide analysis of the adverse impacts that would occur to plant operations if the CCR surface impoundment in question were no longer available. 40 C.F.R. § 257.103(f)(1)(iv)(A)(1)(ii). CPS Energy provided a justification in their Demonstration as required, and, for the reasons discussed below, EPA is proposing to find that there would be adverse impacts to the power plant if the CCR surface impoundments could not be used after April 11, 2021.

CPS Energy states in the Demonstration that the J.K. Spruce Plant has a generation capacity of 1,410 MW. This comprises approximately 18.3% of the CPS Energy generation portfolio. The J.K. Spruce Plant is an essential part of the baseload capacity within the CPS Energy fleet, particularly during peak demand periods. CPS Energy states that, during the summer of 2019, the Electric Reliability Council of Texas (ERCOT) reported that they were forced to rely on demand response reserves to maintain reliability of the grid.

1. SRH Pond Analysis

CPS Energy states in the Demonstration that the SRH Pond receives all the FGD system wastewater and various process discharge streams. It contends the FGD system must be in operation for the J.K. Spruce Plant to comply with regulatory permits and air emission limits for sulfur dioxide. Wastewater must be discharged from the FGD system on a regular basis when the

plant is in service. Operation of the J.K. Spruce Plant is dependent on the continued operation of the SRH Pond until alternative capacity is available. CPS Energy contends that if CCR and non-CCR wastestreams to the SRH Pond must cease without alternative capacity available, the J.K. Spruce Plant will not be able to continue operating.

2. *Evaporation Pond Analysis*

CPS Energy states in the Demonstration that the Evaporation Pond receives boiler chemical cleanouts and other chemical cleaning wastes generated during maintenance events. CPS Energy contends it must manage the wastestreams generated during these required maintenance events for the continued safe operation of the J.K. Spruce Plant and other CPS Energy power generation facilities. Maintenance needed for continued operation of the J.K. Spruce Plant and other CPS Energy power generation facilities is dependent on the continued operation of the Evaporation Pond until alternative capacity is available. CPS Energy contends that if non-CCR flows are no longer allowed to be discharged into the Evaporation Pond without alternative capacity available, the J.K. Spruce Plant and other CPS Energy power generation facilities will have to cease operation.

EPA proposes to find that if Calaveras is unable to continue using the CCR surface impoundments, and if no other on or off-site alternative capacity is available, there would be adverse impacts on the ability to run the associated boilers such that a planned temporary outage would likely be required. As discussed in Section IV, EPA disagrees with CPS Energy's claims regarding the broader impact of such an outage.

C. Evaluation of CPS Energy's Site-Specific Analysis for the Alternative Capacity Selected and Justification for Time Requested to Develop Selected Alternative

As discussed above in section II.A., the regulations require APCO to demonstrate that the time it is requesting is the fastest technically feasible time frame to develop their selected alternative capacity option, and that the development of any of the available alternatives to manage the wastestreams was not feasible prior to April 11, 2021. To support these findings, the facility must submit a detailed justification for the amount of time requested that includes: 1) a description of each option that was considered; 2) the time frame under which each potential capacity could be implemented, and 3) why the facility selected the option that it did, along with an in-depth analysis of the site and any site-specific conditions that led to the decision to implement the selected alternative capacity. 40 C.F.R. § 257.103(f)(1)(iv)(A)(I)(i). These factors assist EPA in understanding whether the time requested is warranted.

EPA has evaluated CPS Energy's analysis and are proposing to conclude that the time requested is the fastest technically feasible time frame to develop the selected alternative capacity options, and that the development of any of the other available alternatives to manage the wastestreams was not feasible prior to April 11, 2021.

1. Analysis for the Alternative Capacity Selected

a) SRH Pond Analysis

CPS Energy evaluates multiple alternatives for new capacity on-site to replace the SRH Pond. Five are thoroughly discussed in the Demonstration: 1) constructing a new wastewater treatment facility (WWTF), 2) retrofitting an existing surface impoundment, 3) converting the FGD system to dry handling, 4) using temporary storage tanks while constructing the new CCR surface impoundment, and 5) constructing a new CCR surface impoundment.

CPS Energy first evaluates construction of a WWTF. CPS Energy states that a new WWTF would require significant storage capacity to remove and dewater suspended solids in the wastewater. The new system would involve primary and secondary dewatering to produce solids that could be landfilled and a discharge stream that is low in TSS. The dewatering equipment would include thickeners/clarifiers for the primary dewatering followed by filter or belt presses for secondary dewatering. CPS Energy includes a process flow diagram of the WWTF in Exhibit 3.3 of the SRH Pond Demonstration.⁶ It states that due to the amount of storage capacity and the equipment layout, a large area would be required for the WWTF. CPS Energy states that to maintain high reliability, the WWTF would need to include two redundant systems. The closest available location is approximately 3,000 feet north of the SRH Pond. To redirect the SRH Pond flows to the WWTF, a new transfer system would be required. The transfer system would supply one of the two thicken/clarifiers in the WWTF. Additionally, an aluminum sulfate and polymer would need to be added to promote solids settling in the thickener/clarifier to meet the permitted TSS discharge limits. The filter press units would be located in the filter building and elevated above roll away bins. Dewatered solids would discharge directly into the bins and, when full, the solids would be transported to a landfill or supplied for beneficial use. The filter building would also contain an electrical room, digital control system interface, polymer feed skids, and an operator control room. CPS Energy states that the overall expected duration to complete construction and have the WWTF operational is 48 months. It states that construction of a new WWTF would be a significantly more complex alternative than others considered below. It would require long-lead vendor-engineered equipment and more extensive system infrastructure.

⁶ See pdf page 14 of the SRH Pond Demonstration

CPS Energy did not select this alternative because the overall expected duration for the design and installation (48 months) is longer than the other alternatives.

CPS Energy's second alternative involves retrofitting an existing impoundment at Calaveras Power Station. CPS Energy states that retrofitting an existing surface impoundment to receive the SRH Pond flows is a less complex alternative. Of the twelve surface impoundments (CCR and non-CCR) at the Calaveras Power Station, none are lined in accordance with the CCR Rule. CPS Energy states that none of the existing surface impoundments are capable of handling the capacity needed for the flows into the SRH Pond. As stated previously, excluding the SRH Pond, there are nine active surface impoundments. The six surface impoundments dedicated to stormwater management do not have excess capacity to receive other wastestreams. The three remaining active impoundments are not large enough to handle the wastestreams managed in the SRH Pond in addition to their current load.

CPS Energy's third alternative would involve converting the FGD system to dry handling. The conversion of the FGD system to dry handling eliminates eight of the thirteen wastestreams that discharge to the SRH Pond, approximately 50% of the flow volume. For this alternative to be viable CPS Energy states that additional modifications or additions to the plant would be required to address the remaining five wastestreams from the boilers and various plant sumps. Even after conversion to dry handling of FGD waste, a new WWTF, retrofit of an existing impoundment, or a new CCR surface impoundment would also be required to cease all the CCR and non-CCR wastestreams to the SRH Pond. CPS Energy concludes that the reduction in the number of wastestreams associated with converting the FGD system to dry handling would have a nominal effect on the expected schedule for these other alternatives. The overall expected duration for conversion of the FGD system is 48 months. CPS Energy states that because this

alternative does not, by itself, address the cessation of wastestreams to the SRH Pond and it has a longer overall expected duration to design and implement than other alternatives, converting the FGD system to dry handling is not the best option.

CPS Energy's fourth alternative is to use temporary storage tanks while a new surface impoundment is constructed. The SRH Pond has a hydraulic retention capacity of 2 million gallons. Temporary tanks are available in a range of capacities. Frack tanks can hold 21,000 gallons, while modular tanks can accommodate 1 million gallons. The maximum height of a modular tank is about 12 feet and, therefore, would require a large, flat graded area. CPS Energy states that to replace the hydraulic capacity of the SRH Pond, 100 frac tanks or five modular tanks (380,000 gallons each) would be required. However, the space to locate temporary tanks near the SRH Pond is limited. CPS Energy asserts that locating the temporary tanks remotely is not feasible due to the 13 wastestreams discharging to the SRH Pond and the hydraulic requirements of pumping these wastestreams.

CPS Energy states that due to the small capacity of the frac tanks, they would quickly fill with solids and, therefore, their use is not a viable option. It states that the wastestreams contain 0–50% solids with average flowrates ranging from 0 to 700 gpm. Under typical operating conditions, a 380,000-gallon modular tank would be full of solids in one to two months. Additionally, the company asserts that the geosynthetic membrane used for the modular tanks is susceptible to mechanical damage when removing the solids from the tanks. Thus, damage to the temporary tank liner during solids removal presents the environmental risk of uncontrolled wastewater discharge. CPS Energy states that the solids removed from the tank would need to be placed in a new containment/processing area for decanting, drying, and then loaded into trucks for transport to the landfill. It concludes that due to the limited area available for installation,

requirements for dewatering the solids for landfilling, and the risks associated with solids removal, temporary tanks are not a technically feasible option.

CPS Energy's fifth alternative is the construction of a new CCR surface impoundment. CPS Energy selects this alternative because designing and constructing a new lined CCR surface impoundment is the least complex alternative, and it can be implemented in the shortest expected duration. Although the overall expected duration for design and construction is 44 months, since CPS Energy has already begun the planning process, the remaining duration from December 2020 through start-up and initial operation is only 33 months. This schedule allows for management of CCR and non-CCR wastestreams in the SRH Pond to cease by September 1, 2023.

EPA is proposing that CPS Energy adequately evaluates alternatives for their site-specific limitations. The assessment of the limited space available for the temporary storage tanks appears to be accurate. Based on the information provided by CPS Energy, EPA proposes to conclude that construction of a new lined surface impoundment is the most appropriate alternative to manage the wastestreams currently being discharged into the SRH Pond.

Selected Alternative Capacity for the SRH Pond. CPS Energy states that the wastestreams currently discharged to the SRH Pond will be transferred to a new 3-acre surface impoundment, the "Plant Drains Pond." This pond will receive wastestreams to be treated and reduce TSS, and then recycled to the FGD system or discharged through a permitted outfall. CPS Energy includes a process flow diagram in Exhibit 3.8 of the SRH Pond Demonstration.⁷ The Plant Drains Pond will be located approximately 3,000 feet north of the SRH Pond, within the boundaries of the Calaveras Power Station. CPS Energy depicts this in Exhibit 3.9 of the SRH Pond

⁷ See pdf page 21 of the SRH Pond Demonstration

Demonstration.⁸ CPS Energy states that this location was selected based on geotechnical and hydrogeological information and is the closest available location for the new surface impoundment. It states that, due to the distance from the SRH Pond to the new Plant Drains Pond, a transfer system is required. The system will include: two 100% capacity Transfer Tanks, three 50% capacity Transfer Pumps, four transfer lines, and one area runoff collection sump with two sump pumps.

The Plant Drains Pond will be constructed as a single surface impoundment with an east and west cell. A manually operated gate in the separator wall will be closed during normal operation but can be opened if needed. One cell can be isolated, drained, and the solids removed while the other cell is in operation. The overall storage capacity of the Plant Drains Pond will be approximately 14 acre-feet, 7 acre-feet per cell.

CPS Energy states that the Plant Drains Pond design will comply with the criteria in the regulations (40 C.F.R. § 257.72) and will include a composite liner. It states that the pond liner system will be composed of the following layers:

- Reinforced concrete (exposed protective layer)
- Compacted fill (protective layer)
- Non-woven geotextile (protective layer)
- High density polyethylene (HDPE) geomembrane liner (upper liner component)
- Geosynthetic clay liner (lower liner component)
- Non-woven geotextile (cushion layer)
- Prepared subgrade (scarified, proof-rolled, and compacted)

⁸ See pdf page 22 of the SRH Pond Demonstration

The reinforced concrete top layer will cover the bottom of the pond and extend approximately three feet up the sidewalls. It will be designed to protect the geomembrane liner during removal of solids from the pond. CPS Energy elaborates that above the concrete layer, the geomembrane liner will be covered with soil cement or similar aggregate material to protect it from potential damage. The Plant Drains Pond embankments will have a 3:5:1 slope and width of 20 feet at the crown. The crown will have a radius of not less than 50 feet to facilitate vehicle access for operation, maintenance, and removal of solids.

b) Evaporation Pond Analysis

CPS Energy evaluates multiple alternatives for new capacity on-site to replace the Evaporation Pond. Three alternatives are thoroughly discussed in the Demonstration: 1) retrofitting an existing surface impoundment; 2) using temporary storage tanks during the construction of the new CCR surface impoundment; and 3) constructing a new CCR surface impoundment. CPS Energy states that the primary goal of the alternatives is to consolidate wastestreams at the Calaveras Power Station so that treatment can be accomplished at a single centralized location, as opposed to the four existing wastewater treatment ponds (WWTPs) located on-site.

The first alternative CPS Energy evaluates is retrofit of an existing impoundment. CPS Energy states that retrofit of an existing surface impoundment to receive the Evaporation Pond flows is the most complex alternative. As previously stated, none of the impoundments (CCR and non-CCR) at Calaveras are lined in accordance with the CCR Rule. Excluding the Evaporation Pond, there are nine active surface impoundments. Of these, six are dedicated to stormwater management. These impoundments do not have capacity to manage the additional wastestreams from Evaporation Pond. Additionally, these impoundments would not be able to

manage the industrial wastewaters from the Evaporation Pond and still meet the low discharge limits for metals (specifically iron and copper). CPS Energy states this would require a major amendment to the discharge permit renewal, which would take one to two years for approval. Two of the remaining ponds not associated with stormwater management do not have the capacity to manage the wastestreams from the Evaporation Pond. The last remaining surface impoundment is the SRH Pond, which CPS Energy concludes is unable to be retrofitted. CPS Energy states that the footprint of the Evaporation Pond is not large enough to handle both the planned sanitary and industrial wastestreams. Lastly CPS Energy states that this alternative was not selected because none of the existing surface impoundments has the capacity to handle the wastestreams managed by the Evaporation Pond.

The second alternative CPS Energy evaluates is to use temporary storage tanks while the new Evaporation Pond is constructed. The existing Evaporation Pond has a hydraulic retention capacity of over 5 million gallons. During typical plant operations, non-CCR flow volume to the existing Evaporation Pond ranges between one to two million gallons per year. The existing Evaporation Pond does not have an inlet or discharge pipe and only receives various non-CCR wastestreams via tanker trucks. CPS Energy states that in the short term, while a new Evaporation Pond is being constructed, an estimated one million gallons of storage will be required for the power plants to continue operation.

CPS Energy states that by using frac tanks with capacities of 21,000 gallons, approximately 50 frac tanks would be required. It states that finding a location for 50 frac tanks would be difficult, and the overall required footprint would be even larger due to the necessary spill containment measures. It states that an additional downside to the frac tanks is that they

would not allow for evaporation of the liquids, and ultimately the contents would have to be managed by the new Evaporation Pond once it is in service.

The other option for temporary storage is modular tanks. CPS Energy states that in order to store the required volume, six-foot high tanks (assuming a water height of four feet) would require approximately 34,000 square feet of flat space. Such tanks would allow for a greater surface area for additional evaporation. CPS Energy states that the availability of a flat space of this size is limited at the site. It concludes that, due to the limited area available for installation and the risk of release to the environment, temporary storage tanks are not a technically feasible option.

The third alternative CPS Energy evaluates is constructing a new surface impoundment. CPS Energy selects this alternative because, it asserts, it is the least complex, and it can be implemented in the shortest duration. Within 22 months, this alternative will allow the cessation of non-CCR wastestreams to the Evaporation Pond (by May 26, 2022).⁹ CPS Energy states that constructing a new lined surface impoundment also retains the primary operational functionality of the existing Evaporation Pond and requires minimal modifications to the existing plants. Additionally, CPS Energy states that this alternative allows for a single Evaporation Pond, constructed with a liner system compliant with State requirements, to store and treat both domestic wastewater and the industrial wastestreams. Finally, it allows for the existing Evaporation Pond to be closed in accordance with the regulations.

EPA is proposing to conclude that CPS Energy adequately evaluated alternatives to manage the wastestreams for the Evaporation Pond.

⁹ On March 1, 2022, CPS Energy notified EPA that it has experienced delays and updated the requested date to September 30, 2022.

Selected Alternative Capacity for the Evaporation Pond. CPS Energy selected constructing a new Evaporation Pond surface impoundment. It identifies the following primary scope items for construction of the new Evaporation Pond:

- Construction of the new Evaporation Pond to store and treat domestic wastewater and industrial wastestreams. The preliminary footprint is approximately 6.5 acres and consists of two cells to assist with pond maintenance. The new Evaporation Pond will be constructed with a liner system that will be compliant with State requirements.
- Redirection of the existing industrial wastestreams to the new Evaporation Pond.
- Commencement of closure of the existing Evaporation Pond.
- Consolidation of domestic wastestreams from the four existing WWTPs. CPS Energy included a process flow diagram of this in Exhibit 3.3.¹⁰ New pumps will be provided at each existing WWTP for pumping from the various units to the Sommer/Deely WWTP. A preliminary force main alignment is shown in Exhibit 3.4¹¹; however, the Sommers/Deely WWTP will be relocated to be adjacent to the Evaporation Pond.
- Direction of WWTP flows to the new Evaporation Pond.

2. Evaluation of CPS Energy's Justification for Time Requested to Develop Selected Alternative Disposal Capacities

As discussed above in Section II.A., facilities must demonstrate that the amount of time requested in the demonstration is the fastest technically feasible time to develop the selected

¹⁰ See pdf page 15 of the Evaporation Pond Demonstration

¹¹ See pdf page 16 of the Evaporation Pond Demonstration

alternative disposal capacity by including a visual timeline and narrative discussion to support the time requested. 40 C.F.R. § 257.103(f)(1)(iv)(A)(I)(iii) and § 257.103(f)(1)(iv)(A)(3).

CPS Energy developed the required timeline and narrative and, based on its evaluation, determined that the best alternative capacities for Calaveras Power Station is development of a new Evaporation Pond and a new CCR surface impoundment, the Plant Drains Pond. As discussed below, EPA is proposing to conclude that CPS Energy has justified the time requested to develop the alternative disposal capacities.

a) SRH Pond Replacement

CPS Energy requests an alternative compliance date of September 1, 2023, to continue using the SRH Pond until the new Plant Drains Pond is operational. It states that the overall project duration is 44 months. However, CPS Energy started work on the new Plant Drains Pond prior to submitting the Demonstration in November 2020. Therefore, at the time of submitting the Demonstration, the remaining project duration is 33 months. The remaining project activities are shown in Exhibit 3.13 – “Expected Durations for Remaining Project Activities of the SRH Pond Demonstration.”¹² This exhibit is shown below in Table 3.

Table 3 – Expected Durations for Remaining Project Activities

Phase	Remaining Major Project Activities	Expected Durations (months)
1	Contractor Bid, Selection and Award	9
2A	Procurement and Manufacture of Engineered Equipment	14
2B	Final Detailed Design	14
2C	Construction	17
3	Start-up and Commissioning	3
4	Initial Operation and Tuning	2
	Total Project Duration from Issue of RFP	33

¹² See pdf page 28 of the SRH Pond Demonstration

The first phase, Contractor Bid, Selection, and Award is estimated to last 9 months, from December 8, 2020, through August 16, 2021. This phase involves the following steps:

- Contractor Bid Period – 8 weeks
- Bid Evaluation and Management Review – 8 weeks
- Contract Negotiation – 6 to 8 weeks
- CPS Energy Board Review and Approval – 8 weeks
- Contract Award – 2 to 4 weeks

The second phase has three parts: 2A Procurement and Manufacture of Engineered Equipment; 2B Full Detailed Design; and 2C Construction (time frames shown in Table 3 above). These three parts can be completed in time frames that partially overlap with each other. The phase 2A Procurement and Manufacture of Engineered Equipment is anticipated to last from September 16, 2021, through December 8, 2022. CPS Energy states in the Demonstration that this phase will include vendor-engineered equipment and fabricated components. The vendor engineered equipment will include pumps, agitators/mixers, clarifier, clarifier flocculant system and enclosure, electrical power distribution center, emergency diesel generator, distributed control system expansion, automated valves, and instruments. The fabricated components will include tanks (large, field-erected knockdown tanks and small shop fabricated tanks), structural and access steel (in general and in the clarifier area), and shop fabricated piping spools.

The timeline shows phase 2B Full Detailed Design is anticipated to last from August 17, 2021, through November 1, 2022. CPS Energy states that completion of this phase is dependent of the receipt of final information from the engineered equipment vendors. More detailed information for the equipment and components is required to develop the Issue for Construction (IFC) packages to be released to the contractor. CPS Energy states that three or more IFC

packages will be issued to the construction contractor in the following stages: 1) Civil Earthworks (pond design); 2) Structural and Mechanical; and 3) Electrical, Instrumentation and Controls. Each of these IFC packages are shown on the timeline in Exhibit 3.15 of the Demonstration.¹³ CPS Energy states that issuing multiple IFC packages to the contractor will allow construction to proceed with the project on the shortest feasible schedule.

The Demonstration timeline shows phase 2C Construction lasting from October 18, 2021, through March 30, 2023. The construction phase involves several steps, including civil construction of the Plant Drains Pond, civil/structural and mechanical construction of the Pond and Transfer System Areas, and Electrical and Instrumentation Construction of the Pond and the Transfer System Areas. Each of these steps are anticipated to overlap with each other to maximize the amount of work accomplished during the overall phase. The civil construction of the Plant Drains Pond involves the site prep work, including clearing debris and relocating a gravel roadway. Construction of the pond will include building the foundation and placing the liner system. The mechanical and structural construction involves installation of equipment such as pumps, piping, clarifiers, polymer skid, and enclosure of the power distribution centers. The electrical and instrumentation construction involves installation of all the electrical components and installing the instrumentation and controls for both the Pond and the Transfer System Areas.

During the final stages of construction, CPS Energy will begin working with the Texas Commission of Environmental Quality (TCEQ). TCEQ approval of the final construction is required prior to discharging wastewater into the new surface impoundment. Therefore, CPS Energy states that prior to initial operation of the Plant Drains Pond, the Engineer of Record will

¹³ See pdf pages 35 – 37 of the SRH Pond Demonstration

submit construction test records, sealed design information, and a certification of design to TCEQ.

The timeline shows the third phase, Start-up and Commissioning, will last from March 31, 2023, to June 30, 2023. CPS Energy states that this phase will involve pre-operational testing and checkout of components, subsystems, and systems. Checkout encompasses all mechanical, electrical, instrumentation, and control components followed by functional testing of the system. CPS Energy states that this activity will be performed in series, beginning with component checks, followed by component operation, subsystem function checks, and finally, overall system checkout.

The final phase is the Initial Operation, Tuning, and Testing. CPS Energy states that two months are planned for this phase from June 30, 2023, to September 1, 2023.¹⁴ The primary activities during this period will involve tuning the process control loops and setpoint adjustment. Control setting adjustments may include flush durations, valve speed, level setpoints, process variables controlling equipment start/stop functions, clarifier coagulant and flocculant dosage rates, instrument air pressure settings for pneumatic operators, final adjustment of electrical settings, and pump variable speed response rate. At the completion of initial operation period wastestreams to the SRH Pond will cease and be redirected to the Plant Drains Pond System.

EPA evaluated the timeline and the discussion CPS Energy provides in the Demonstration and is proposing that the time requested is reasonable, but is missing a discussion on required elements for a new CCR surface impoundment. The workplan and timeline do not include the installation of a groundwater monitoring network for the new CCR surface

¹⁴ See pdf pages 35 – 37 of the SRH Pond Demonstration

impoundment, or the collection of baseline samples prior to receipt of wastestreams. Prior to initial receipt of waste into a new CCR impoundment, it is required to be in compliance with the groundwater monitoring requirements including a groundwater monitoring system, development of a groundwater monitoring sampling and analysis plan, and obtaining a minimum of eight independent samples for each background well. 40 C.F.R. § 257.90(b)(2). EPA is proposing for CPS Energy to comply with the groundwater monitoring requirements in 40 C.F.R. § 257.90(b)(2) prior to the requested cease receipt of waste date for the SRH Pond, September 1, 2023.

b) Evaporation Pond Replacement

CPS Energy started construction of the Evaporation Pond replacement on September 14, 2020, several months prior to its November 30, 2020, Demonstration submission. It states that it will take 22 months to construct a new Evaporation Pond from the date of the Demonstration submission. The new Evaporation Pond was originally proposed to be completed on September 1, 2022, with cease receipt of waste to the existing Evaporation Pond on May 26, 2022. CPS Energy notified EPA that they experienced permitting delays causing it to no longer be able to meet the requested date of May 26, 2022. CPS Energy requested an updated requested cease receipt of waste date of September 30, 2022. The timeline (Figure 3.2 of the Evaporation Pond Demonstration¹⁵) depicts the phases and steps that will occur to complete the new Evaporation Pond. The timeline shows the following phases: 1) Detailed Design, 2) Permitting, 3) Contractor Bid, Selection, and Award, 4) Procurement, and 5) Construction.

CPS Energy shows that the first phase, Detailed Design, lasts from September 14, 2020, until March 4, 2021. The timeline shows design, coordination, and design review meetings when

¹⁵ See pdf page 26 of the Evaporation Pond Demonstration

the design is at 30%, 60%, and 90% complete. The timeline shows that all these Detailed Design steps are part of the critical timeline path.

The second phase, Permitting, is projected to last from November 26, 2020, until April 14, 2021. Therefore, most of the permitting work will happen concurrently with the Detailed Design and the Contractor Bid, Selection, and Award phases. Permitting is not shown to be on the critical timeline path. CPS Energy states that the construction drawings for the new Evaporation Pond design will be submitted to TCEQ for General Permit, Texas Pollutant Discharge Elimination, and Engineer's Certification of Surface Impoundment review and permit approval. Additionally, a Tree Survey and Cultural Resources review will be submitted to the City of San Antonio for review and approval. Lastly, the permit drawings will be submitted following the 60% review meeting. CPS Energy will issue the detailed design drawings for bid prior to receiving the permit but will not award the construction contract until the TCEQ approval is received.

The third phase, Contractor Bid, Selection, and Award, will last from January 8, 2021, until October 14, 2021. The Demonstration shows that each step within this phase is on the critical timeline path. CPS Energy states that it is composed of the following steps: 1) Develop/Issue Construction Package, 2) Contractor Bidding Period, 3) Evaluation of Bids, 4) Contract Negotiation, 5) Board of Trustees Review and Approval; and 6) Contract Award. CPS Energy states that steps one through four are each planned to last eight weeks. CPS Energy states that step five, Board of Trustees Review and Approval, requires a minimum of two months, because the Board meets once per month and the agenda being set one month in advance for each meeting. Lastly, CPS Energy states that a minimum of two weeks is needed for the Contract Award step.

The fourth phase, Procurement, lasts from October 15, 2021, until March 31, 2022.¹⁶ The timelines shows that this phase is dependent on when the Contract Award is completed. The timeline shows that this phase includes: composite liner material procurement by the contractor, shop drawings and review for the pond, lift station equipment procurement by the contractor, and shop drawings and review for the lift station.

The fifth phase, Construction, starts at the same time as Procurement and is scheduled to be completed on September 1, 2022. Construction will proceed as follows:

- Contractor will begin construction of the new Evaporation Pond, including mobilization, site clearing, and earthwork to build the pond berms (October 2021–January 2022).
- Contractor will install TCEQ-required leak detection system and composite liner system, and protective cover over the pond bottom (January–April 2022).
- Startup and commissioning of the new Evaporation Pond (April–May 2022). At this point, CPS Energy can redirect non-CCR flows to the new Evaporation Pond and may begin closure of the existing Evaporation Pond.
- Contractor will install force main/lift stations to consolidate WWTP wastestreams and direct them to the new Sommers/Deely WWTP location (April–May 2022).
- Contractor will relocate the Sommers/Deely WWTP effluent to the new EP (May–July 2022).
- Startup and commissioning of the new force main and Sommers/Deely WWTP (August–September 2022).

¹⁶ EPA is basing the review off the original Demonstration submission and realizes that there are certain items that might have already occurred. CPS Energy supplied EPA with an update on March 1, 2022, on the schedule, however it did not provide an updated timeline to show the effects on each phase or the steps.

CPS Energy states in the Demonstration that the new Evaporation Pond will be operational and finalized by May 26, 2022, which will allow for final receipt of non-CCR wastestreams into the existing Evaporation Pond. EPA evaluated the justification for the time requested by CPS Energy for the Evaporation Pond and EPA is proposing to determine that the schedule is as fast as is feasible.

Pursuant to EPA's request for an update, on March 1, 2022, CPS Energy states that they had delays with the permitting from the City of San Antonio. Due to these permitting delays, CPS Energy fell behind schedule. CPS Energy states that it is now working towards a cease receipt of waste date of September 30, 2022.

D. Evaluation of CPS Energy's Compliance Documentation

The Part A Rule requires that a facility must be in compliance with all the requirements in 40 C.F.R. part 257 subpart D in order to be approved for an extension to the cease receipt of waste deadline. 40 C.F.R. § 257.103(f)(1)(iii). In this case, as discussed below, EPA has identified deficiencies in the monitoring network, statistical analysis, and the reporting of radium results. EPA discusses these issues in detail below.

As stated in Section II.A. above, the regulations require development of a groundwater monitoring network that will identify the baseline level of constituents in the uppermost aquifer upgradient of a CCR unit, so that those levels can be compared with the levels in the wells downgradient of the CCR unit. *See* 2015 CCR rule preamble at 74 FR 21302, 21399-400. The objective of a groundwater monitoring system is to analyze groundwater to determine whether it has been contaminated by the CCR unit being monitored. Prompt contaminant detection is important in order for corrective measures to be developed to stop migration of contaminants as soon as possible.

To ensure detection of a release, the regulations establish a general performance standard that all groundwater monitoring systems must meet: all groundwater monitoring systems must consist of a sufficient number of appropriately located wells that will yield groundwater samples in the uppermost aquifer that represent the quality of the background groundwater and the quality of groundwater passing the downgradient waste boundary. 40 C.F.R. § 257.91(a)(1), (2).

Because hydrogeologic conditions vary so widely from one site to another, the regulations do not prescribe the exact number, location, and depth of monitoring wells needed to achieve the general performance standard. Rather the regulation requires installation of a minimum of one upgradient and three downgradient wells, as well as any additional monitoring wells necessary to achieve the general performance standard of accurately representing the quality of the background groundwater and the groundwater passing the waste boundary. 40 C.F.R. § 257.91(c)(1), (2). The number, spacing, and depths of the monitoring wells must be determined based on a thorough characterization of the site, including a number of specifically identified factors relating to the hydrogeology of the site (e.g., aquifer thickness, groundwater flow rates and direction). 40 C.F.R. § 257.91(b). Groundwater elevation measurements must be obtained around the unit(s) at sampling events over time to calculate groundwater flow direction at those times and identify seasonal and temporal fluctuations. Further, any facility that determines that the regulatory minimum number of wells is adequate must provide a factual justification for that decision. 40 C.F.R. § 257.91(f). In essence, the regulation establishes a presumption that the minimum of one upgradient and three downgradient wells is not sufficient, and it requires the facility to rebut the presumption in order to install only this minimum.

In addition, the placement of the monitoring wells is critical to proper characterization of the groundwater, but even a sufficient number of properly placed wells will not provide adequate characterization if the sampling and analysis of data are not properly conducted.

EPA is proposing to determine that CPS Energy did not adequately demonstrate compliance with multiple portions of the regulations. First, CPS Energy failed to meet requirements in the regulations for the groundwater monitoring well placement and networks at the SRH Pond, Evaporation Pond, Fly Ash Landfill (FAL), and North and South Bottom Ash Ponds (collectively referred to as the BAPs) in accordance with 40 C.F.R. § 257.91. Second, the alternative source demonstrations are inadequate and fail to illustrate that the CCR unit is not the source in accordance with 40 C.F.R. § 257.94(e)(2) and therefore reliance on the ASDs led to noncompliance with other requirements. Third, CPS Energy failed to conduct statistical analysis in accordance with 40 C.F.R. § 257.93(h)(2). Fourth, CPS Energy did not correctly report radium 226/228 results in the Annual GWMCA Reports in accordance with Appendix IV to 40 C.F.R. part 257.

1. Groundwater Monitoring Well Placement and Network

The regulations require facilities to submit several groundwater monitoring compliance documents as part of their demonstrations so that EPA can thoroughly evaluate the groundwater monitoring network and the site hydrogeology for every CCR unit at the facility. 40 C.F.R. § 257.103(f)(1)(iv)(B)(2), (3) and (4). EPA evaluated the documentation CPS Energy provided in the Demonstration and reviewed the 2018 through 2022 Annual Groundwater Monitoring and Corrective Action (GWMCA) Reports. The Demonstration provides information for four groundwater monitoring systems: a groundwater monitoring system for the SRH Pond, Evaporation Pond, FAL, BAPs. EPA is proposing to determine that all four groundwater

monitoring systems are inadequate for multiple reasons set forth below, and, therefore, do not adequately demonstrate compliance with the regulations.

a) Fly Ash Landfill (FAL)

EPA reviewed the groundwater monitoring well network for the FAL and is proposing to determine that the monitoring network is inadequate. First, the location of the background monitoring wells prevents adequate characterization of background groundwater that has not been affected by a CCR unit. Second, the downgradient well spacing does not monitor all potential contaminant pathways. Third, downgradient wells are not located at the waste boundary.

40 C.F.R. § 257.91(a)(1) requires the owner or operator to accurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit. The potentiometric surface maps included in the Demonstration¹⁷ and the 2021 and 2022 Annual GWMCA reports¹⁸ indicate that neither background monitoring wells JKS-45 nor JKS-57 are consistently upgradient of the FAL. The potentiometric surface maps dated May 2017, June 2017, August 2017, October 2017, and April 2018 show that background well JKS-45 is downgradient or side-gradient to the groundwater flow. The maps dated October 2018 and later show the monitoring well is upgradient of the FAL. Therefore, this well does not meet the requirements for a background monitoring well due to potential impacts from the FAL prior to October 2018. The potentiometric surface maps dated April 2018, October 2018, April 2020, October 2020, April 2021, and October 2021 show the background monitoring well JKS-57 as downgradient or side-gradient from the FAL. Therefore, this well is not consistently upgradient

¹⁷ Appendix D: Groundwater Flow Direction Maps. Pages 145-153 of the Evaporation Pond Demonstration and pages 163-171 of the SRH Pond Demonstration.

¹⁸ See FAL January 2021 – Annual Groundwater Monitoring Report and FAL January 2022 – Annual Groundwater Monitoring Report.

and is not a proper background monitoring well due to potential effects of a CCR unit. Based on the review of the potentiometric surface maps, the ideal location to obtain the most accurate background data is the north-west corner of the FAL.

Additionally, the potentiometric surface maps show that the spacing between downgradient monitoring wells JKS-45 and JKS-60 at the northeast corner of the FAL is leaving potential contaminant pathways unmonitored. The flow pattern shows this area as being the central downgradient point. This corner of the FAL contains JKS-59, a groundwater elevation observation well that is not used to monitor groundwater quality but potentially could be.

Lastly, the downgradient monitoring wells are not placed at the CCR unit waste boundary. 40 C.F.R. § 257.91(a)(2) requires the downgradient monitoring system to be installed at the waste boundary to ensure detection of groundwater contamination in the uppermost aquifer. In two of the potentiometric surface maps, dated October 2017 and October 2018, the FAL is shown to be only the larger square, and the two areas to the east and south-east are not part of the FAL. However, Demonstration Figure 3.1 – Surface Impoundment Location Map – shows the area directly east as also being part of the FAL.¹⁹ The area to the south-east is the Fly Ash Runoff Pond. Due to the uncertainty about the location of the CCR unit boundary, EPA cannot determine whether JKS-60 or JKS-46 are located at the unit boundary. It is clear that JKS-31 and JKS-33 are not located at the unit boundary but rather are next to the Fly Ash Runoff Pond, instead of the FAL. This is not in compliance with 40 C.F.R. § 257.91(a)(2).

b) Evaporation Pond

EPA is proposing to determine that the monitoring network at the Evaporation Pond is inadequate due to the location of the background monitoring well. 40 C.F.R. § 257.91(a)(1)

¹⁹ See pdf page 44 in the SRH Demonstration or pdf page 25 in the Evaporation Pond Demonstration

requires the owner or operator to obtain samples that accurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit. The Evaporation Pond groundwater monitoring network utilizes JKS-47 and JKS-63, which was replaced by JKS-63R in May 2019, and JKS-64 as background monitoring wells.

JKS-63/63R have yielded samples that have very high levels of total dissolved solids (TDS) and other constituents. This suggests it may be affected by the Evaporation Pond, possibly that sampling errors have occurred (e.g., not being properly purged prior to sampling), or the integrity of the well is compromised.²⁰ The TDS concentrations are significantly higher than the other monitoring wells around the Evaporation Pond and the nearby well JKS-64. These concentrations range from 4,700 to 7,240 mg/L for JKS 63/63R, while other monitoring wells for the Evaporation Pond detect TDS at concentrations ranging from 514 to 2,000 mg/L. Additionally, the concentration levels of chromium, cobalt, lithium, and radium 226 and 228 are elevated at MW-JKS 63/63R, compared to samples from JKS-64 and the downgradient monitoring wells, which do not yield respective elevated levels of these constituents.

JKS-47 has also yielded elevated levels of calcium, chloride, sulfate, and TDS compared to the other background well, JKS-64. JSK-47 has calcium levels ranging from 26.2 mg/L to 168 mg/L while JSK-64 has levels ranging from 20.6 mg/L to 31.4 mg/L. JKS-47 has sulfate concentrations ranging from 171 to 369 mg/L while JKS-64 has concentrations 164 mg/L to 196 mg/L. This could indicate that JKS-47 is impacted by the CCR unit.

Several potentiometric surface maps and associated groundwater elevations included in the Demonstration and the 2022 Annual GWMCA report²¹ (e.g., June 2017, April 2018, April 2021) indicate that groundwater mounding and radial flow is occurring beneath the Evaporation

²⁰ See Appendix E: Constituent Concentrations Summary Tables in the Demonstration.

²¹ Evaporation Pond 2022 Annual GWMCA Report

Pond. This indicates leakage from the Evaporation Pond into the underlying, uppermost aquifer. Such groundwater mounding and radial flow from the Evaporation Pond towards JKS-47 and JKS-63/63R would make them downgradient, not upgradient.

Based on these reasons, EPA is proposing to determine that JKS-63/63R and JKS-47 have been affected by the Evaporation Pond or that sampling errors may be resulting in elevated detections of constituents. Therefore, this is not in compliance with 40 C.F.R. § 257.91(a)(1). EPA is proposing that CPS Energy evaluate the background wells of the groundwater monitoring network for the Evaporation Pond according to the criteria in the regulation.

c) SRH Pond

EPA reviewed the groundwater monitoring well network for the SRH Pond and is proposing to determine that the monitoring network fails to comply with the regulations for a number of reasons. First, background well JKS-49 appears to be potentially impacted by the SRH Pond. Second, portions of the downgradient waste boundary have no monitoring wells and potential contaminant pathways are unmonitored. Third, the groundwater monitoring system has been amended and the revised monitoring system has not been certified by a Professional Engineer (P.E.) to be in compliance with the requirements of 40 C.F.R. § 257.91.

The background well JKS-49 is not consistently depicted as upgradient of the SRH Pond. In the 2020 through 2022 Annual GWMCA Reports,²² JKS-49 is depicted as downgradient of the SRH Pond. In the Demonstration, the potentiometric surface maps and the constituent concentrations of background wells JKS-49 and JKS-51²³ suggest that neither well may accurately represent the water quality that is not impacted by the SRH Pond. JKS-51 shows

²² See SRH Pond January 2020, 2021, and 2022 – Annual Groundwater Monitoring Reports in the Docket

²³ Appendix D: Groundwater Flow Direction Maps to the Demonstrations and Appendix E: Constituent Concentrations. Pages 172–181 of the SRH Pond Demonstration and page 154–163 of the Evaporation Pond Demonstration

lower levels of boron but increasingly higher levels of sulfate and TDS that are not seen in the downgradient wells. JKS-49 has high concentrations of boron and a higher pH than what is found in the downgradient wells. This information shows that these background wells might be impacted by a CCR unit and therefore are not providing representative background groundwater data. Based on this information, EPA is proposing that a new background well be installed further upgradient from the SRH Pond to the northwest. EPA is proposing to conclude that the groundwater monitoring network for the SRH Ponds fails to meet the requirements of 40 C.F.R. § 257.91(a).

The potentiometric surface maps in Appendix D to the Demonstration indicate that the downgradient wells do not monitor all potential contaminant pathways from the SRH Pond, as required by 40 C.F.R. § 257.91(a)(2). Groundwater flow direction from October 2017 to April 2019 is depicted from the northeast to the south.²⁴ Since October 2019, the groundwater flow direction has shifted. It is depicted to be more radial, generally from west to east.²⁵ Therefore, the eastern boarder of the SRH Pond is downgradient, and a lack of monitoring wells along this boundary means that all potential contaminant pathways are not monitored.

Additionally, the downgradient eastern border of the SRH Pond is upgradient of the BAPs. Due to the proximity to the BAPs and the fact that the monitoring network is not a multiunit system for the SRH Pond and BAPs, the boundary between the CCR units needs to be monitored in order to characterize groundwater quality between those units and to accurately identify the source of any potential release. Therefore, this downgradient eastern boundary of the SRH Ponds is required to be monitored.

²⁴ Appendix D: Groundwater Flow Direction Maps to the Demonstrations. Pages 172-178 of the SRH Pond Demonstration and pages 154-160 of the Evaporation Pond Demonstration.

²⁵ SRH Pond January 2020, 2021, and 2022 Annual GWMCA Reports

In the groundwater monitoring system certification,²⁶ JKS-49 is not included in the monitoring network. However, in the 2018 through 2022 Annual GWMCA Reports, CPS Energy includes this well as part of the analysis to calculate background levels of constituents in 40 C.F.R. Part 257, Appendix III and IV. Adding a background well to a groundwater monitoring system could result in failure to meet the requirements of 40 C.F.R. § 257.91 if, for example, the new well is impacted by a CCR unit and its data would artificially elevate background levels of any constituents, resulting in inaccurate representation of groundwater quality. If a background well were to be added to the groundwater monitoring network after the initial P.E. certification required by 40 C.F.R. § 257.91(f), that prior certification would not be relevant for the revised groundwater monitoring system. The previous certification would need to be updated so that a P.E. could review the well placement and determine whether it met the requirements of 40 C.F.R. § 257.91(a)(1). For these reasons, EPA is proposing to conclude that the groundwater monitoring network for the SRH Ponds fails to meet the requirements of 40 C.F.R. § 257.91(f).

d) Bottom Ash Ponds (BAPs)

EPA reviewed the groundwater monitoring well network for the BAPs and is proposing to determine that the monitoring network fails to meet the requirements of 40 C.F.R. § 257.91(a)(2). EPA is proposing that the number and spacing of the monitoring wells is insufficient to monitor all potential contaminant pathways.

EPA reviewed the potentiometric surface maps found in both Appendix D to the Demonstration and the 2021 and 2022 Annual GWMCA Reports.²⁷ Based on this review, EPA is proposing that the groundwater flow is not fully characterized. Due to the lack of groundwater observation wells or monitoring wells along the northern boundary of the North BAP, the

²⁶ Calaveras Power Station Groundwater Monitoring System 2017

²⁷ BAP January 2021 and January 2022 – Annual Groundwater Monitoring Report

potentiometric maps do not show the complete groundwater flow pattern along this boundary of the CCR unit. The potentiometric surface maps show that the northern boundary of the North BAP could be downgradient, however the contour lines end at this part of the unit boundary, making it impossible to determine what the flow pattern is beyond the unit. EPA is proposing that CPS Energy define the groundwater flow along the northern boundary of the North BAP to determine if it is downgradient. If it is in fact downgradient, groundwater monitoring wells should be installed in order to monitor all potential contaminant pathways. EPA is proposing that there should be at least one downgradient monitoring well along the northern boundary of the North BAP to characterize the groundwater flow, the quality of groundwater passing the waste boundary, and to monitor all potential contaminant pathways.

Additionally, background well JKS-49 is not consistently depicted as upgradient of the BAPs. In the 2020 through 2022 Annual GWMCA Reports, JKS-49 is depicted as downgradient. The boron levels of JKS-49 are elevated (approximately 3 mg/L) compared to upgradient well JKS-51 (approximately 0.51 mg/L). Given the depiction of JKS-49 as downgradient of the BAPs in the 2020-2022 Annual GWMCA Report and the elevated boron levels, EPA is proposing that JKS-49 should be considered a downgradient well and that background conditions should be determined by a well clearly not impacted by the unit.

In the groundwater monitoring system P.E. certification,²⁸ JKS-51 was not included in the monitoring network. However, in the 2018 through 2022 Annual GWMCA Reports, CPS Energy included data from this well to calculate background levels of constituents in Appendix III and IV to 40 C.F.R. Part 257. If a background well were to be added to the groundwater monitoring network after the initial P.E. certification required by 40 C.F.R. § 257.91(f), that

²⁸ Calaveras Power Station - Groundwater Monitoring System 2017

prior certification would not be relevant for the revised groundwater monitoring system. The previous certification would need to be updated so that a P.E. could review its placement and determine whether it met the requirements of 40 C.F.R. § 257.91(a)(1).

2. *Alternate Source Demonstrations*

If it is determined that there was a statistically significant increase (SSI) over background levels for one or more of the constituents in Appendix III to 40 C.F.R. part 257 at a monitoring well at the downgradient waste boundary, CPS Energy could complete an alternative source demonstration (ASD) to show that a source other than the unit was the cause of the SSI. 40 C.F.R. § 257.94(e)(2). If a successful ASD for an SSI is not completed within 90 days, an assessment monitoring program must be initiated. A successful ASD will demonstrate that a source other than the CCR unit is responsible for the SSI. In order to rebut the site-specific monitoring data and analysis that resulted in an SSI, an ASD requires conclusions that are supported by site-specific facts and analytical data. Merely speculative or theoretical bases for the conclusions are insufficient.

At the Calaveras Power Station, SSIs were detected in the BAPs, Evaporation Pond, and FAL for constituents in Appendix III to 40 C.F.R. 257 in sampling events in October 2017 through 2021. SSIs of boron and fluoride were detected in four wells at the BAPs (JKS-48, JKS-50R, JKS-55, and JKS-56). Boron, fluoride, and pH SSIs were detected in three Evaporation Pond wells (JKS-36, JKS-61, and JKS-62). SSIs of calcium, pH, and chloride were detected in four FAL wells (JKS-31, JKS-33, JKS-46, and JKS-60). For each SSI, an ASD was conducted.²⁹ Each of the ASDs concluded that the monitored unit was not the source of the SSIs. No alternative source was identified in any of the ASDs other than natural variability. EPA is

²⁹ See Calaveras Alternate Source Demonstration 2018, 2019, 2020, and 2021 in the docket

proposing to determine that the ASDs did not provide sufficient evidence to substantiate that natural variability was the source of the SSIs and that the BAPs, Evaporation Pond, and FAL were not the sources.

Generally, the ASDs attribute the SSIs to natural variability and claim that the SSIs could not have come from the monitored units. The following lines of evidence are presented: 1) historically measured concentrations of pH and fluoride are of a similar range to SSIs measured downgradient of the Evaporation Pond and FAL, therefore reflecting natural variation in the area; 2) effluent from the BAPs has lower concentrations of constituents than were detected in the wells with SSIs; and 3) a lack of SSIs for other Appendix III constituents in the well with the boron SSI indicates that the source is not coal ash.

The ASDs claim that variability resulting from “naturally occurring” sources is responsible for all of the constituents with SSIs. The ASDs did not identify a particular naturally occurring source as the cause. No evidence is provided to show any alternate sources actually exist at the facility and are hydraulically connected to the downgradient compliance wells and are the cause of the SSIs. Further, no sampling data from actual upgradient background wells are provided to show that elevated concentrations are typical of the aquifer. The historical data provided in the ASDs also provide an incomplete record of groundwater quality and geochemistry in the wells identified as “background.” The time periods used for the data comparisons do not span the entire time period from the start of sampling in 1988 to the present. First, it is unclear why monitoring data would have been collected only on the dates for which data were provided. This incomplete data set is insufficient to document historic natural variability and raises questions about whether the data presented could have been chosen selectively for the narrative of the ASD. Second, the North and South BAPs were constructed in

1977; the FAL was constructed in 1992; and the Evaporation Pond was installed as a landfill prior to 1990, then converted to a pond in 1996.³⁰ In order to provide sufficient evidence for an ASD for a particular impoundment, relevant data would need to be presented to confirm the validity of the upgradient location determination. Assuming this has first been done, comparisons or attributions of geochemical conditions in valid upgradient monitoring wells to “natural” and/or “background” conditions must be based on a data set that includes representative data under the range of typical hydraulic conditions at that location. Since the comparisons were not based on data with such conditions, the ASDs are insufficient.

As discussed previously, the current monitoring well system is also insufficient to characterize groundwater quality at the downgradient boundary of both the BAP and the FAL. Groundwater flow maps show that in the BAPs, flow direction changes and the upgradient wells are at least occasionally downgradient (Figure 2B).³¹ The groundwater flow maps for the FAL show that one of the upgradient wells, JKS-57, is downgradient of the FAL.³² Therefore, the high concentrations of CCR constituents in upgradient wells is more likely indicative of contamination of the background wells by the units. If poor well placement resulted in groundwater samples that fail to accurately characterize background groundwater concentrations, then the groundwater monitoring system would need to be modified to replace the wells and reclassify wells as downgradient as appropriate.

The argument presented in the ASD, regarding the comparison between boron concentrations in grab samples of pond water to those detected in the downgradient well JKS-50R is inconclusive because it assumes no chemical reactions happen in the aquifer matrix below

³⁰ 2015 Annual Inspection Report, Calaveras Power Station, January 15, 2016, p. 3

³¹ Annual GWMCA Report BAP 2021 pdf page 24

³² Annual GWMCA Report FAL 2021 pdf page 22 and 23

the landfill, and that samples from the pond are representative of groundwater. Chemical processes (e.g., ion exchange, precipitation) may occur in the aquifer below the unit as groundwater travels from upgradient to downgradient wells. Other geochemical differences between effluent and the groundwater samples (e.g., oxidation reduction potential, dissolved oxygen) can affect the solubility and leachability of chemicals. Effluent composition may be different than that of contaminated groundwater because of longer contact time and lower ratio of water to solid material. There is no reason to think the concentration of boron in the effluent should be maintained in the groundwater until it travels to the downgradient well. Therefore, water quality of the effluent is not a reasonable proxy for groundwater quality.

The ASD further contends that a lack of other SSIs in well JKS-50R is evidence that the SSI detected must come from an alternative source and not the BAPs. However, as discussed previously, background well JKS-49 is periodically hydraulically downgradient of the BAP and elevated boron and other constituents at JKS-49 may reflect leakage from the BAP rather than natural variation. Therefore, if JKS-49 results are used as background they could yield unrepresentative data that mask detection of additional SSIs in downgradient wells. Thus, the lack of additional SSIs at JKS-50R could be more reflective of improper background selection and statistics than it is of natural variation of background groundwater quality.

3. *Failure To Conduct Statistical Analysis*

As required under 40 C.F.R. § 257.94(b), the owner or operator is required to sample on at least a semi-annual basis while in detection monitoring. Then, as required under 40 C.F.R. § 257.93(h)(2), the owner or operator must determine within 90 days after sampling and analysis whether there is an SSI over background for each constituent in the monitoring program that applies to the CCR unit. Upon review of Calaveras Power Station's 2018 through 2021 Annual

GWMCA Reports for the BAPs, SRH Pond, Evaporation Pond, and FAL, EPA is proposing to determine that CPS Energy failed to provide evidence of statistical analysis for the spring sampling events. CPS Energy appears to have only conducted statistical analysis, and subsequent ASDs, for the fall sampling events. This does not comply with 40 C.F.R. § 257.93(h)(2). EPA is proposing this lack of statistical analyses results in failure to comply with 40 C.F.R. § 257.93(h)(2) at the SRH Pond, BAPs, Evaporation Pond, and FAL.

4. *Incorrect Reporting of Radium*

Appendix IV to 40 C.F.R. part 257 contains constituents that are found in CCR and were found to present a reasonable probability of adverse impacts on health or the environment. One of these constituents is radium 226/228 combined. In the review of Appendix E of the Demonstration for all the groundwater monitoring wells for the BAPs, SRH Pond, Evaporation Pond, and the FAL, EPA found that the radium reported was not a combined level and some of the results are a negative value for example -1.37 picocuries per liter.

The levels of individual radium 226 and radium 228 were quantified in the 2016 and 2017 baseline samples. Appendix IV specifies that a combined level and analysis is required to show a statistical comparison between compliance well samples and background levels for radium 226/228 combined concentrations. EPA is proposing that CPS Energy correct the reported radium levels in the Annual GWMCA Reports to include radium 226/228 combined concentrations.

Additionally, there are several results for radium 226 and 228 that were reported with a negative value. Some examples of these results are JKS-49 Feb 2017 for radium 228, JKS-51 May and June 2017 for radium 228, JKS-50R Feb 2017 for radium 228, and March 2017 for radium 226. A negative result could be considered a valid result when the magnitude of the

negative result is greater than 1.65 times the reported combined standard uncertainty. In such a case, a valid “negative” value would be considered a non-detect concentration. However, the reported laboratory result may be determined to be invalid for a variety of laboratory QA/QC reasons including nonrepresentative instrument background or blank signal or an inaccurate determination of radionuclide interferences. Due to the lab reports not being included in the Annual GWMCA reports, EPA cannot confirm if the negative reported values are valid or invalid. EPA is proposing that CPS Energy correct the reported values to show if they are valid or invalid results. EPA recognizes that the negative reported values might be corrected when the combined levels are reported rather than individual isotopes.

IV. EPA’s Proposed Action

A. Proposed Conditional Approval

On January 11, 2022, EPA proposed to conditionally approve the request submitted for Spurlock Power Station to extend the cease receipt of waste date for an unlined CCR surface impoundment. See “Conditional Approval of an Alternative Closure Deadline for H.L. Spurlock Power Station, Maysville, Kentucky” (Spurlock proposal) (Docket ID No. EPA-OLEM-HQ-2021-0595). EPA explained in that proposed action that the Agency was clarifying and revising its original interpretation of the regulations at 40 C.F.R. § 257.103(f)(3) to allow the Agency to issue conditional approvals in certain limited circumstances. EPA proposed to limit conditional approvals to situations where the actions necessary to address the noncompliance are straightforward and the facility will be able to take the necessary actions well before the extended deadline that it requested. EPA further described the situations where a conditional approval might be appropriate as those that involve relatively straightforward technical issues where the remedies for the noncompliance are easily identified and quickly implemented. In such

cases, EPA noted that conditions can be readily developed to bring the facilities into compliance and allow EPA to evaluate whether the conditions are met based on appropriate documentation.

EPA then identified specific examples of situations in which the Agency anticipated that the characteristics necessary to support a conditional approval might (and might not) be present. Spurlock proposal pgs. 9-13. Specifically, EPA stated in the Spurlock proposal that the Agency did not anticipate issuing conditional approvals in cases where “the noncompliance involves more complicated technical issues where the specific actions necessary to come into compliance cannot be easily identified and/or cannot be remedied quickly.” Spurlock Proposal pg. 13. EPA further stated that the necessary conditions to bring a facility into compliance are likely to be more complicated and time-consuming where a facility is not in compliance with corrective action requirements or where a facility is out of compliance with several regulatory requirements. *Id.* EPA concluded by stating that “[i]n situations in which there is affirmative evidence of harm at the site, such as where a facility has delayed corrective action, EPA cannot grant additional time for the impoundment to operate without some evidence that these risks are mitigated,” and that the Agency would evaluate each demonstration on a case-by-case basis to determine whether a conditional approval is warranted based on the facts surrounding each facility. *Id.*³³

EPA is incorporating the justification for granting conditional approvals set forth in the proposed Spurlock decision.

³³ See Mountaineer (Docket ID No EPA-HQ-OLEM-2021-0842) proposal wherein EPA is proposing to find that Mountaineer meets the criteria discussed in Spurlock for a conditional approval even though its situation has some characteristics that EPA warned in Spurlock might make it difficult to meet the criteria for a conditional approval (e.g. corrective action issues).

For Calaveras Power Station, EPA conducted a thorough review of its Demonstration and additional information from CPS Energy. Based on that review, EPA developed conditions, and believes that compliance with the proposed conditions can be evaluated based on the documentation we propose to require. In addition, the conditions EPA developed will require compliance in a short enough time period after the final decision that the conditional approval would not authorize a sustained period of continued operation of a deficient CCR surface impoundment without evidence that the risks are being adequately mitigated.

For these reasons, EPA is proposing to conditionally approve an extension request of the cease receipt of waste date to use the SRH Pond until September 1, 2023, provided that the following conditions are met:

1. Within 30 days of the date of EPA's final decision,³⁴ CPS Energy shall post on its public CCR website a statement committing to meet all the conditions to qualify for the conditional approval.
2. No later than five days after the date of EPA's final decision CPS Energy shall cease receipt of waste into the Evaporation Pond.
3. No later than 60 days after the date of EPA's final decision, CPS Energy shall submit to EPA a revised plan for the groundwater monitoring systems for the SRH Ponds, North and South BAPs, Evaporation Pond, and the FAL that meet the performance standard required by 40 C.F.R. § 257.91. This condition will not be met until EPA approves the revised plan. The plan must address the following items:
 - a) Characterization of groundwater flow direction around the CCR units, taking into account seasonal or temporal fluctuations and any effects of extraction

³⁴ The date of EPA's final decision means the date that the decision is signed, not the effective date of the decision.

wells, supported by a sufficient number of groundwater elevation measurements, appropriately located and spaced, to support a determination that the proposed groundwater monitoring systems meet the criteria in 40 C.F.R. § 257.91(a) and (b);

- b) Identification of wells or the installation of new wells that characterize background groundwater quality and their locations;
 - i. CPS Energy shall provide information about samples used to calculate background levels to demonstrate that they meet the performance standard in 40 C.F.R. § 257.91(a)(1)(ii), including when they were obtained, operational status of the CCR unit at that time, and the sampling and analytical results and procedures used;
 - c) Installation of wells at the downgradient waste boundary of the CCR units, with sufficient number and adequate spacing to monitor all potential contaminant pathways, consistent with the performance standard in 40 C.F.R. § 257.91(a)(2) based on criteria in 40 C.F.R. § 257.91(b); and
 - d) P.E. certifications that document how the revised groundwater monitoring systems meet the performance standard in 40 C.F.R. § 257.91.
4. No later than 60 days after the date of EPA’s approval of the revised plan of the groundwater monitoring system at each CCR unit, CPS Energy shall complete installation of new wells at that unit.
5. No later than 90 days after the date of EPA’s approval of both the groundwater monitoring system and the sampling and analysis plan for each CCR unit, CPS Energy shall sample all wells in the revised groundwater monitoring systems at all

CCR units in accordance with 40 C.F.R. § 257.95(b). All groundwater sampling and data analyses shall be conducted in accordance with the requirements of 40 C.F.R. §§ 257.93 through 257.95.

6. No later than 30 days after the date of EPA's final decision, CPS Energy will post amended Annual Groundwater Monitoring and Corrective Action Reports to include combined radium 226/228 results and validating the negative radium values.
7. No later than September 1, 2023, and prior to initial operation of the Plant Drains Pond, CPS Energy will comply with the groundwater monitoring requirements of a new CCR surface impoundment in accordance with 40 C.F.R. § 257.90(b)(2).

Proposed Procedures.

EPA does not intend that the addition of these conditions establish independently enforceable requirements. Rather, existing statutory and regulatory requirements remain enforceable in accordance with their terms and any past or future noncompliance could be the basis for penalty assessment. These added conditions must be met for CPS Energy to obtain, and maintain, approval for an alternative deadline pursuant to 40 C.F.R. § 257.103(f)(1). This means that failure to meet the conditions would result in revocation of the conditional approval, but that failure would not itself be grounds for enforcement action. CPS Energy may be subject to enforcement of the underlying noncompliance upon which the conditions were premised, and CPS Energy would be subject to enforcement for noncompliance if it continued to use the surface impoundment past the new deadline to cease receipt of waste, as well as for any other noncompliance either identified in the final decision or detected apart from this process.

EPA is further proposing that, if CPS Energy fails to meet any of the conditions in the final decision, the conditional authorization will be automatically revoked and will convert to a

denial. In such an event, EPA is proposing that CPS Energy's deadline would revert to 135 days from the date of EPA's final decision, which is the deadline that would have been established had EPA originally denied the extension request. See Section IV.B.2 of this document for further discussion of the basis for that deadline. In addition, if EPA notifies CPS Energy that a submission required under any of the conditions listed above does not meet the relevant performance standards, EPA is proposing that the conditional approval would automatically convert to a denial as of the date of the notification to CPS Energy. In this case, the new deadline to cease receipt of waste would be 135 days from the date of the notification.

EPA is proposing that CPS Energy post a notice on its public CCR website within 5 days of meeting each condition. EPA is not proposing to provide an opportunity for notice and comment or to otherwise establish any process to further adjudicate issues relating to CPS Energy's compliance with the conditions. EPA may approve a submitted plan with or without comments or may deny the plan outright. In either case EPA does not intend to provide any opportunity for further consultation. EPA will notify CPS Energy if the Agency determines that a condition has not been met but has not yet determined the form or timing of the notification. One option that EPA is considering would be to send a letter to CPS Energy and post a notice on the Agency's website. EPA requests comment on whether these procedures would be appropriate, and on whether there are alternative mechanisms that would be more appropriate.

Although EPA is proposing a conditional approval, EPA is also taking comment on whether it should deny the extension request on the grounds that it fails to meet the requirements of 40 C.F.R. § 257.103(f)(1)(iv) based on the proposed findings of noncompliance identified in Section III above. EPA is doing so in case it determines that the regulations should not be interpreted to allow conditional approvals or that circumstances make a conditional approval

inappropriate in this case. Such circumstances might include: substantial disagreement about the conditions that would be necessary to come into compliance, CPS Energy's indication that it is not interested in a conditional approval, or the actions necessary to come into compliance would take longer than the amount of time that would be granted to continue operation of the unit. If EPA determines that a conditional approval is not appropriate, EPA will issue a denial as its final decision.

B. Deadline to Cease Receipt of Waste

1. Conditional Approval

EPA is proposing that CPS Energy's deadline to cease receipt of waste will be September 1, 2023, for the SRH Pond, provided CPS Energy meets all the conditions described above. If CPS Energy fails to meet all the specified conditions, or ceases to comply with any of the conditions, then its conditional approval would automatically convert to a denial. EPA is proposing that in such an event CPS Energy's deadline to cease receipt of waste would be determined as set forth below for a denial.

2. Denial

This section proposes the new deadline to cease receipt of waste in the event EPA's final decision denies CPS Energy's request for an extension or EPA issues a conditional approval that converts to a denial. EPA is proposing that CPS Energy would be required to cease receipt of waste to the Evaporation Pond within fourteen days of the date of the Agency's final decision.

EPA is also proposing that CPS Energy would be required to cease receipt of waste of the SRH Pond within 135 days of the date of the Agency's final decision establishing the revised deadline. EPA is further proposing that, under certain circumstances described below, EPA could authorize additional time for CPS Energy to continue to use the impoundment to the extent

necessary to address demonstrated grid reliability issues. Those circumstances are that 1) CPS Energy submits a planned outage request to the Electric Reliability Council of Texas (ERCOT) within 15 days of EPA's final decision and 2) CPS Energy provides the ERCOT determination disapproving the planned outage and the formal reliability assessment upon which it is based to EPA within 10 days of receiving them.³⁵

The regulations state that when EPA denies an application for an extension, the final decision will include the facility's deadline to cease receipt of waste, but the regulations do not provide direction on what the new deadline should be. 40 C.F.R. § 257.103(f)(3). EPA is proposing to set a new deadline for CPS Energy to cease receipt of waste that would be 135 days from the date of the final decision on CPS Energy's Demonstration. This would provide CPS Energy the same amount of time that would have been available to the facility had EPA issued a denial immediately upon receipt of the Demonstration (i.e., from November 30, 2020, when EPA received the submission, to April 11, 2021, the regulatory deadline to cease receipt of waste). This amount of time thus puts the facility in the same place it would have been had EPA immediately acted on the Demonstration, and therefore adequately accounts for any equitable reliance interest CPS Energy may have had after submitting its Demonstration. Moreover, as discussed further below, this date should provide CPS Energy with adequate time to coordinate with and obtain any necessary approvals from ERCOT for any outage of the coal-fired boiler(s) that may be necessary. This proposed deadline for CPS Energy to cease receipt of waste is the same as the proposed effective date of EPA's final decision (*see* Section VI below).

³⁵ EPA is proposing the same process for evaluating electric reliability impacts as set forth in the proposed Part A decisions issued on January 11, 2022. EPA received comments on the process for determining electric reliability impacts. EPA continues to evaluate those comments and will respond to them when EPA issues a final decision on one or more of the January 11, 2022, proposed determinations. This proposed action is not a response to those comments and no final decision has been made to date.

Given that this proposed deadline (135 days from the date of EPA’s final decision) is sooner than the deadline requested by CPS Energy, EPA understands that it is likely that the coal-fired boiler(s) associated with the CCR units will temporarily need to stop producing waste (and therefore power) until either construction of the alternative disposal capacities is completed and commercially operational or some other arrangements are made to manage its CCR and/or non-CCR wastestreams. *See* discussion of adverse effects above in Section III.B. In CPS Energy’s Demonstration it noted that if the requested deadline were not granted, it “might” affect the reliability of the electricity grid. CPS Energy provided no information or evidence to support the statement.

This facility operates as part of the ERCOT system. ERCOT is a regional transmission organization (RTO) that is responsible for managing the flow of electric power for approximately 90% of Texas’s electric load. Comments submitted by other RTOs on the Part A decisions proposed on January 11, 2022, indicate that, depending on the timing of the outage, it is possible that a temporary outage could have an adverse, localized impact on electric reliability, or otherwise adversely affect the reliability of the grid. But whether a particular outage would actually adversely affect reliability must be determined based on the fact-specific circumstances associated with the proposed outage. EPA expects this would also be the case for facilities operating as part of the ERCOT system.

EPA does not currently have an evaluation from Calaveras Power Station’s transmission authority (i.e. ERCOT) supporting CPS Energy’s assertions that the temporary outage of the coal-fired boiler at Calaveras Power Station would trigger local reliability violations³⁶ or would

³⁶ A local reliability violation might occur, for example, if transmission line constraints limit the amount of power that can get to an area from plants outside that area.

otherwise adversely affect resource adequacy requirements. In addition, especially with advance notice, there are a wide array of tools available to utilities, system operators, and State and Federal regulators to address situations where the outage of a generating unit might otherwise affect local electric reliability conditions.

EPA is sensitive to the importance of maintaining enough electricity generating capacity to meet the region's energy needs, including meeting specific, localized issues. EPA understands that in some instances temporarily taking generating units (including coal-fired units) offline could have an adverse, localized impact on electric reliability (e.g., voltage support, local resource adequacy). If a generating asset were needed for local reliability requirements, the grid operator (e.g., ERCOT) might not approve a request for a planned outage. In such instances, the owners/operators of the generating unit could find themselves in the position of either operating in noncompliance with RCRA or halting operations and thereby potentially causing adverse reliability conditions.

EPA is obligated to ensure compliance with RCRA to protect human health and the environment. Where there is a conflict between timely compliance and electric reliability, EPA intends to carefully exercise its authorities to ensure compliance with RCRA while taking into account any genuine, demonstrated risks to grid reliability identified through the process established by ERCOT that governs owner and operator requests for planned outages.³⁷

Accordingly, EPA is proposing to rely on established processes and authorities used by ERCOT to determine whether a planned outage necessary to meet the new deadline would cause a demonstrated reliability issue. ERCOT is responsible for coordinating and approving requests

³⁷ See, ERCOT protocols, Section 3: Management Activities for the ERCOT System, June 1, 2022, available for download at <https://www.ercot.com/mktrules/nprotocols/current>.

for planned outages of generation and transmission facilities, as necessary, for the reliable operation of the ERCOT RTO. In ERCOT, power plants are required to submit a request at least 3 days (or 30 days for a Black Start facility) in advance of a planned outage to allow ERCOT to evaluate whether the resource is needed to maintain grid reliability, among other scheduling considerations. ERCOT will request the event be rescheduled if it determines that the planned outage would adversely affect reliability. If ERCOT approves a planned outage request, the outage may proceed and there would be no reason to expect that the outage would affect reliability. However, if a request would cause reliability issues, ERCOT will work with the generation owner to implement appropriate solutions. The ERCOT member may also request ERCOT's assistance in scheduling a planned outage.

ERCOT may rely on different bases in determining whether to request the generating facility to reschedule a planned outage. For example, a reschedule request may be issued because of timing considerations taking into account previously approved planned outage requests, in which case EPA would expect the plant owner to work with ERCOT to plan an outage schedule that can be approved by ERCOT and also satisfies the plant owner's RCRA obligations, without regard to any cost implications (e.g., in meeting any contractual obligations with third parties) that may result for the plant owner under a revised proposed outage schedule.

However, in some cases ERCOT might determine that the planned outage could not occur without triggering operational reliability violations. In such cases, the system operator might determine that the generating unit would need to remain in operation until remedies are implemented. EPA is aware of no evidence that such is the case with Calaveras Power Station.

For CPS Energy, EPA is proposing to rely on ERCOT's procedures for reviewing planned maintenance outage and similar requests. Accordingly, EPA is proposing that, if

ERCOT approves CPS Energy's request, EPA would not grant any further extension of the deadline to cease receipt of waste (i.e., the deadline would be 135 days from the date of EPA's final decision). If, however, ERCOT requests that CPS Energy move its planned outage or requires alternative solutions to be implemented prior to an outage that exceeds the compliance timeline allowable under RCRA based on a technical demonstration of operational reliability issues, EPA is proposing that, based on its review of that decision and its basis, EPA could grant a further extension (i.e., beyond 135 days of the date of EPA's final decision). EPA is further proposing that such a request could only be granted if it were supported by the results of the formal reliability assessment(s) conducted by ERCOT that established that the temporary outage of the boiler during the period needed to complete construction of alternative disposal capacity would have an adverse impact on reliability. In such a case EPA is proposing that, without additional notice and comment, it could authorize continued use of the impoundments for either the amount of time provided in an alternative schedule proposed by ERCOT or the amount of time EPA determines is needed to complete construction of the alternative disposal capacity based on its review of the Demonstration, whichever is shorter. EPA is further proposing that a request from ERCOT to move a requested outage until other solutions are in place without a finding of technical infeasibility for demonstrated reliability concerns would not support EPA's approval of an extension of the date to cease receipt of waste because any concern about outage schedules and their implications for plant economics could be resolved without an extension of RCRA compliance deadlines (e.g., through provision of replacement power and/or capacity; rearranging plant maintenance schedules; reconfiguration of equipment).

To obtain an extension, EPA is proposing that CPS Energy must submit a request for an outage to ERCOT within 15 days of EPA's final decision. To avoid the need for serial requests

and submissions to ERCOT, EPA is proposing to require CPS Energy to contact ERCOT and request assistance in scheduling the planned outage so that CPS Energy and ERCOT can determine the shortest period of time during an overall planned outage period in which the generating unit must be online to avoid a reliability violation. EPA expects that CPS Energy and ERCOT will plan the outage(s) and return-to-service periods—and any other needed accommodations—in ways that minimize the period of actual plant operations.

Finally, to obtain an extension from EPA, CPS Energy must submit a copy of the request to ERCOT and the ERCOT determination (including the formal reliability assessment) to EPA within 10 days of receiving the response from ERCOT. EPA would review the request and, without further notice and comment, issue a decision.

One hundred and thirty-five days should normally provide adequate time to obtain a decision from ERCOT. According to the ERCOT Outage Scheduling Manual, the normal process for obtaining approval for a planned outage occurs within two months or less.³⁸ If a generating facility submits a request for a planned outage at least 45 days prior to the planned outage, ERCOT will accept the request, but may discuss alternatives to minimize reliability and cost impacts. If a generating facility submits a request less than 45 days in advance of the planned outage, ERCOT will approve or reject the request within 1-5 business days. However, EPA solicits comment on whether 135 days from the date of the final decision provides sufficient time to accommodate the normal process of obtaining approval for a planned outage.

V. Conclusion

EPA is proposing to conditionally approve the extension request in the Demonstration submitted by CPS Energy for the SRH Pond at Calaveras Power Station. Additionally, EPA is

³⁸ ERCOT, Nodal Protocols, Section 3: Management Activities for the ERCOT System, June 1, 2022, pages 3-23 to 3-24, available for download at <https://www.ercot.com/mktrules/nprotocols/current>.

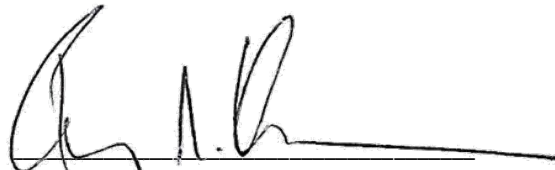
proposing that CPS Energy failed to explain the lack of on-site alternative capacity available for the Evaporation Pond wastestreams. If EPA's final action is a denial, CPS Energy must cease receiving waste within 14 days for the Evaporation Pond and 135 days for the SRH Pond of the date of the Agency's final decision. If EPA determines circumstances warrant a conditional approval, as described above, and CPS Energy provides appropriate commitments in response to this proposal that it is interested in accepting a conditional approval, EPA is proposing to condition this approval on CPS Energy timely taking those actions specified in Section IV.A of this proposed decision. If finalized, a conditional approval would allow CPS Energy to continue placing CCR and non-CCR wastestreams into the SRH Pond until September 1, 2023, and require CPS Energy to cease receipt of waste in the Evaporation Pond within five days of the final decision. If at any time CPS Energy fails to comply (or ceases compliance with) any of the conditions, the proposed conditional approval would terminate and revert to a denial. In such a case the deadline to receipt of waste would be as discussed in Section IV.B.2 above.

VI. Effective Date of a Denial

EPA is proposing to establish an effective date for the final decision on CPS Energy's Demonstration of 135 days after the date the final decision is signed. EPA is proposing to align the effective date with the new deadline that EPA is proposing to establish for CPS Energy to cease receipt of waste. EPA is doing so for all the reasons discussed as the basis for proposing to establish the new cease receipt of waste discussed in Section IV of this document.

07/12/2022

Date



Barry N. Breen

Acting Assistant Administrator