

FACT SHEET
U.S. Environmental Protection Agency, Region 9
Draft Underground Injection Control Class I Non-Hazardous Permit
Permit Number R9UIC-CA1-FY17-1R
CXA La Paloma, LLC

Location:

The one (1) Existing Injection Well and two (2) Proposed Injection Wells are all located in Section 27, Township 30 South, Range 22 East, Northeast ¼ Section, approximately two (2) miles east-southeast of the City of McKittrick, California.

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I. Purpose of the Fact Sheet

The U.S. Environmental Protection Agency, Region 9 (EPA) has prepared this fact sheet for the draft Underground Injection Control (UIC) Class I Non-hazardous Industrial Waste Disposal Well Permit (“Draft Permit”), proposed to be issued to CXA La Paloma, LLC (CXA or “Permittee”). Pursuant to EPA’s permitting regulations in Title 40 of the Code of Federal Regulations (C.F.R.) § 124.8, this fact sheet includes a brief description of the facility and activities being permitted, the type of fluids or pollutants being injected, a summary of the basis for permit conditions including regulatory citations and appropriate supporting references to the record, background information on the permit process, a description of EPA’s final decision-making process, and the name and telephone number of a contact person for additional information.

II. Description of the Facility

CXA owns and operates a 1,022-megawatt, combined cycle, natural gas-fired electrical power plant (“La Paloma Generating Plant,” LPGP, or “the Facility”) located approximately two (2) miles east-southeast of the City of McKittrick, California. The combined cycle power block consists of four combustion turbine generators and four heat recovery steam generators located on a 400-acre site.

The Permittee will inject industrial nonhazardous fluids produced during power production processes into the existing injection well WD-3 or into one of the two proposed injection wells WD-6 or WD-7, if constructed. Existing injection well WD-3 was permitted by EPA on March 6, 2008 as a Class I non-hazardous waste injection well, and it was completed, tested, and placed into service in May of 2009. Four other injection wells authorized by that permit were never constructed. CXA is currently authorized to operate existing injection well WD-3.

On October 2, 2017, EPA received a timely application for the renewal of La Paloma Generating Company, LLC’s (LPGC) Class I UIC permit. Ownership was transferred from LPGC to CXA by minor modification of the existing Permit on November 30, 2017. During EPA’s technical review of the application, EPA requested additional supplemental information. In response to EPA’s technical review, the application was further updated in June 2018, December 2019, and most recently in April 2021.

The current LPGP water injection well facilities include the WD-3 injection well, wellhead, well pad, access roads, and injection pipelines, and three high pressure service pumps. The current well (WD-3) and proposed injection wells (WD-6 and WD-7) will be operated on a rotating basis with only one injection well operating at any given time.

Wastewater generated at LPGP consists primarily of cooling tower blowdown from the power plant cooling process with lesser volumes of boiler and evaporative cooler blowdown, wash water, filter backwash, equipment drains, and stormwater from equipment containment areas.

Before final discharge to the UIC disposal well, wastewater passes through the filtration portion (multi-media filters and reverse osmosis system) of LPGP’s Zero Discharge wastewater treatment system. The filtrate (reverse osmosis concentrate) is then pumped into the UIC disposal well. Pretreatment of both wastewater and raw water effectively removes solids that could potentially plug the injection zone.

Under the Draft Permit, the Permittee is limited to injecting the above-described wastewater fluids, and the Permittee is required to provide EPA with the characterizations of all wastewater injectate.

CXA’s total injection volume may not exceed 26,784,000 gallons per month or 864,000 gallons per day.

If permit renewal is authorized, the Permittee would continue to inject into the Upper Miocene Olig Sand Member of the Reef Ridge Formation at an approximate depth of 4,381 feet to 5,268 feet below ground surface. The Olig Sand at La Paloma WD-3 has greater than 10,000 mg/L

total dissolved solids and is confined above by the approximately 2,475-foot-thick undifferentiated San Joaquin-Etchegoin Formation, which is located below the lowermost underground source of drinking water (USDW). The Olig Sand is confined below by the Reef Ridge Miocene Shale.

III. Brief Summary of Specific Permit Conditions

To ensure that the proposed project/injection activity complies with all relevant Safe Drinking Water Act (SDWA) regulations at 40 C.F.R. Parts 124, 144, 146, 147, and 148 and to protect public health and USDWs, EPA is proposing the following conditions for construction, testing, corrective action, operation, monitoring and reporting, plugging and abandonment, and financial assurance in the Draft Permit. The sections below summarize the proposed conditions, requirements, and other permit considerations.

Requirements Prior to Drilling, Testing, Constructing, or Operating (Part II, Section A of the Draft Permit)

The UIC regulations require that a permittee choose a financial assurance mechanism from a list of options. CXA provided evidence to EPA of financial assurance for the plugging and abandonment of well WD-3 as required by 40 C.F.R. § 146.10, and the Draft Permit would require that CXA maintain adequate financial assurance throughout the Facility's operational life. 40 C.F.R. § 144.52(a)(7). In addition, the Draft Permit requires CXA to provide adequate notification to EPA prior to testing the wells and the injection formation, and to timely report the results of those activities. The Draft Permit also requires CXA to notify EPA and perform required testing and provide financial assurance prior to constructing, testing, operating, or any other activities for the proposed injection wells WD-6 and WD-7.

Conditions for All Wells Authorized by this Permit (Part II, Section B of the Draft Permit)

The Draft Permit identifies the precise locations of the existing well WD-3 and the planned location of the proposed injection wells WD-6 and WD-7. Construction details, injection well formation testing, the injection interval, monitoring devices, and proposed changes and workovers are specified in this section.

The Draft Permit also includes schematics for the existing well and draft schematics for the proposed injection wells. CXA will be required to submit updated well schematics for the proposed injection wells prior to commencing drilling and construction of those wells. Drilling or constructing of the proposed injection wells WD-6 and WD-7 requires additional written approval from EPA.

The Draft Permit requires CXA to conduct regular pressure fall-off tests (FOTs) to determine and monitor formation characteristics. 40 CFR § 146.13(d)(1). FOTs are pressure transient tests that consist of shutting in an injection well and measuring the pressure drop off over time to assess the pressure buildup in the injection zone.

The Draft Permit also requires CXA to install and maintain monitoring devices necessary to obtain samples of the injection fluids, and to continuously measure and record the injection

pressure, annulus pressure, flow rate, and injection volumes for the existing wells and the proposed injection wells. CXA must give advance notice to EPA of any planned physical alterations or additions to any of these wells. 40 C.F.R. § 144.51(l)(1).

The Draft Permit authorizes continued operation of existing well WD-3. The construction and operation of proposed injection wells WD-6 and WD-7 are contingent upon meeting specified permit conditions. CXA shall submit updated information for the proposed injection wells WD-6 and WD-7 and must receive written EPA approval prior to commencing drilling and construction of the wells.

Corrective Action (Part II, Section C of the Draft Permit)

Applicants for Class I injection well permits are required to identify the location of all known wells within the injection wells' Area of Review (AOR) that penetrate the injection zone. 40 C.F.R. § 144.55.

EPA required CXA to evaluate the AOR and the potential need for corrective action by calculating the Zone of Endangering Influence (ZEI), which is the lateral distance in which the pressures in the injection zone may cause the migration of the injectate into a USDW, based upon the methodology set forth in 40 C.F.R. § 146.6(a).

If the ZEI extends beyond the AOR, CXA must identify any wells requiring corrective action that are within the ZEI and submit to EPA a list of the wells, along with their locations and construction data. Corrective action may include, but is not limited to, re-entering, plugging, and abandoning any production, exploratory, or other wells that penetrate the injection zone and are located within the ZEI. 40 C.F.R. §§ 144.55 and 146.7. CXA may not commence corrective action activities prior to submitting a plan to EPA and receiving written approval.

CXA identified an AOR of 1,500 feet from each existing or proposed injection well based on the dispersion volumetric calculated ZEI. CXA tabulated data on all wells within the AOR, which EPA reviewed. After reviewing the data, EPA has determined that no corrective action is required at this time.

The Draft Permit will require that the critical pressure and ZEI re-evaluation be completed annually, based on the annual injection well FOT and other factors.

Well Operation (Part II, Section D of the Draft Permit)

CXA must demonstrate that the existing well WD-3 has mechanical integrity and that the proposed injection fluid is not hazardous. Additionally, prior to any approval to operate the proposed injection wells WD-6 and WD-7, CXA must conduct a mechanical integrity test (MIT) to demonstrate that the wells have mechanical integrity. Mechanical integrity is demonstrated when there are no significant leaks in the casing, tubing, or packer, and there is no significant fluid movement into a USDW through vertical channels adjacent to the well bore. 40 C.F.R. § 146.8(a). The Draft Permit requires periodic MITs via a casing/tubing annular pressure test at least once every five (5) years, continuous pressure monitoring in each operating well, and a radioactive tracer and a temperature log (or other approved diagnostic tool or procedure)

annually to ensure protection of USDWs. 40 C.F.R. §146.13(b). The tubing/casing annulus pressure of each injection well will also be continuously monitored and recorded to verify that internal mechanical integrity of the wellbore is maintained during operations, as required by 40 C.F.R. § 144.51(q). Radioactive tracer and temperature surveys will be conducted to verify the absence of significant fluid movement through vertical channels adjacent to the wellbore. CXA must submit to EPA cementing records and cement evaluation logs after installing and cementing casing, conducting a cement squeeze job, or any well cement repair of any approved well. Loss of mechanical integrity of any well authorized by the Draft Permit requires CXA to send notification to EPA and take action to restore and confirm mechanical integrity of the well.

The injection pressure and injection volume limitations in the Draft Permit for the existing injection well WD-3 are based on the results of the SRT conducted on well WD-3 on October 31, 2008, and both limitations were approved by EPA. 40 C.F.R. § 146.13(a). If WD-6 or WD-7 are approved and constructed, a new SRT will be required on each of those wells and volume/rate limitations for those wells will be determined based on the results. The Draft Permit also requires that CXA operate each well in a manner that does not initiate or propagate fractures in the injection formation or the confining zone, or cause migration of injection or formation fluids into or between USDWs. Authorized injection fluids will be limited to wastewater collected at the CXA Facility, as described in the Draft Permit. CXA must also document any particulate filters used upstream of any of the approved injection wells.

Monitoring, Recordkeeping, and Reporting of Results (Part II, Section E of the Draft Permit)

In each injection well, the Draft Permit requires continuous monitoring of injection fluid temperature, injection rate, daily injection volume, total cumulative volume, well head injection pressure, and annular pressure. The injectate must be sampled quarterly to determine the quantities/values of the following constituents using EPA-approved methods: inorganics (major anions and cations, and trace metals); solids (total dissolved solids and total suspended solids); general and physical parameters (temperature, turbidity, pH, conductivity, hardness, specific gravity, alkalinity, biological oxygen demand, density, and viscosity); volatile organic compounds; and semi-volatile organic compounds. 40 CFR § 146.13(b).

All sampling analyses must be performed at a certified laboratory. Pursuant to the Draft Permit, CXA is required to maintain all operational and monitoring records, and to submit four (4) quarterly reports to EPA each year that include the results of the required monitoring, among other things. 40 C.F.R. § 146.13(c).

Plugging and Abandonment (Part II, Section F of the Draft Permit)

CXA will be required to plug and abandon any well authorized by the Draft Permit as provided in the Plugging and Abandonment Plans in Appendix G of the Draft Permit, which CXA submitted pursuant to 40 C.F.R. § 144.51(o). After a cessation of injection operations for two (2) years for any well, CXA must plug and abandon the inactive well in accordance with the Plugging and Abandonment Plan unless CXA notifies EPA of its intent to reactivate the well, has demonstrated that the well will be used in the future, and describes actions or procedures to ensure that the well will not endanger USDWs during the period of temporary abandonment, as required by 40 C.F.R. § 144.52(a)(6). The inactive well must pass an initial internal MIT before

EPA authorizes temporary abandonment status. EPA may change the way any well will be plugged if the well is modified during its permitted life or if the proposed Plugging and Abandonment Plan for the well is not consistent with EPA requirements for construction or mechanical integrity.

Financial Assurance (Part II, Section G of the Draft Permit)

CXA established financial assurance for the plugging and abandonment of existing well WD-3 in the amount of \$131,000 by demonstrating that the cash funded trust satisfies the requirements of 40 C.F.R. § 144.63. The financial assurance mechanism and amount will be reviewed annually and updated as needed. EPA may also require CXA to change to an alternate method for demonstrating financial assurance and to periodically estimate and update the Plugging and Abandonment Plan and/or the cost associated with it.

CXA will be required to supply evidence of increased financial assurance for EPA review and approval prior to constructing and drilling proposed injection wells WD-6 and WD-7.

Duration of Permit (Part II, Section H of the Draft Permit)

EPA proposes to issue the Permit and the authorization to inject for a period of ten (10) years unless terminated under the conditions set forth in Part III, Section B.1. of the Draft Permit. 40C.F.R. § 144.36.

IV. Permit Process

Application and Review Period

The EPA Water Director has authority to issue permits for underground injection activities under 40 C.F.R. § 144.31. CXA is applying for UIC Permit Number R9UIC-CA1-FY17-1R to renew its existing UIC Class I non-hazardous permit (No. CA10710001).

EPA received a permit application dated October 2, 2017 from LPGC (now known as CXA) for the renewal of their existing UIC Class I non-hazardous permit. On March 5, 2018, EPA determined that the permit application was administratively complete and began the technical review of the application.

During EPA's technical review, CXA provided clarifications and supplemental information to modify and update the permit application in response to technical questions from EPA. After completing a thorough review of all submitted information, EPA has determined that the information provided by CXA is sufficient to prepare the Draft Permit. The Draft Permit, if finalized, would authorize the continued operation of existing well WD-3 and the construction and operation of the proposed injection wells WD-6 and WD-7 for ten (10) years.

Based on our review of the proposed well construction, operational standards, monitoring requirements, and existing geologic setting, EPA believes the activities allowed under the proposed Draft Permit are protective of USDWs, defined at 40 C.F.R. § 144.3, as required under the SDWA.

Compliance with other Federal Statutes

As part of the permit process, pursuant to 40 C.F.R. § 144.4, EPA is required to consider other federal laws, specifically Section 7 of the Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (NHPA).

Endangered Species Act (ESA)

Under Section 7 of the ESA, EPA is required to ensure that any action authorized by EPA does not jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat. For the reasons set forth below, EPA finds that this project will have no effect on endangered or threatened species or critical habitats.

In June 1999, the U.S. Fish and Wildlife Services (FWS) issued a Biological Opinion (Bi-Op) on the effects of the original power plant facility construction and operation. The actual footprint of the LPGP is much smaller than the area considered in the Bi-Op, which included the many transmission lines and pipelines associated with the Facility. In contrast, EPA's renewal of the existing UIC permit only presents the potential change of drilling two additional UIC wells within the existing footprint of the generation station on highly disturbed land. LPGP's ongoing implementation of the 1999 Biological Resources Mitigation Implementation and Monitoring Plan will ensure the reduction of potential impacts and any changes to site conditions or occurrences of listed species through, among other things, the required annual reporting.

In addition, the applicant prepared and submitted a Biological Evaluation ("BE") dated April 27, 2021, which included an evaluation of site inspections, filings, and reports, as well as an analysis of a current Information for Planning and Consultation (IPaC) report. The BE supports EPA's finding of no effects to any endangered species or critical habitat. "No effect" determinations of listed species do not require review by FWS.

In May 2021, EPA also requested technical assistance from the National Marine Fisheries Service (NMFS), which informed EPA that because the project is not near or within anadromous waterways, or in critical habitat for any of their species, consultation with NMFS was not necessary for this project.

National Historic Preservation Act (NHPA)

The historic preservation review process mandated by Section 106 of NHPA is outlined in regulations issued by the federal Advisory Council on Historic Preservation titled "Protection of Historic Properties," found at 36 C.F.R. Part 800. Considering these requirements, EPA determines whether the proposed federal UIC permit is an undertaking and, if so, whether it has the potential to cause effects on historic properties. Because issuance of a federal permit is considered a federal undertaking, EPA must meet the statutory responsibilities under Section 106.

On June 25, 2020, EPA sent a consultation letter to the Tejon Indian Tribe. Our consultation letter included a project description and the area of potential effect, and it provided the

opportunity for the Tribe to consult with EPA and to assist the Agency in identifying any culturally significant properties that the proposed undertaking might affect. On August 25, 2020, the Tribe's Environmental Director responded that the Tribe had no comments or concerns with this project moving forward as proposed.

In a letter dated May 7, 2021, EPA consulted with the California State Historic Preservation Officer (SHPO) by describing the project, identifying the area of potential effect, outlining the steps taken to identify historic properties, and providing EPA's finding of no historic properties affected by this undertaking.

The SHPO, in a letter dated June 3, 2021, did not object to EPA's finding that no historic properties will be affected by this undertaking.

Based upon available information and EPA's investigation, EPA has concluded there is no effect on any historic or culturally significant properties as a result of approving this project.

Public Participation

The public has thirty (30) days to review and comment on the Draft Permit. 40 C.F.R. § 124.10. The Draft Permit, public notice, this fact sheet, CXA's permit application, and other supporting documents are available for public review online at <http://www.regulations.gov> under docket number EPA-R09-OW-2021-0605.

The public comment period begins on October 9, 2021 and ends on November 9 2021. During this period, all written comments on the Draft Permit can either be submitted online at www.regulations.gov under docket number EPA-R09-OW-2021-0605 or e-mailed to Dave Basinger at basinger.david@epa.gov, who is also available by phone at (415) 972-3506 to answer any questions about the Draft Permit.

All persons, including the applicant, who object to any condition of the Draft Permit or EPA's decision to prepare a Draft Permit must raise all reasonably ascertainable issues and submit all reasonable arguments supporting their position by the close of the comment period. 40 C.F.R. § 124.13. EPA has not scheduled a public hearing but could do so if there is a significant degree of public interest in the Draft Permit. 40 C.F.R. §§ 124.11 and 124.12. In the event EPA schedules a public hearing, EPA will provide thirty (30) days advance notice of the hearing to the public. 40 C.F.R. § 124.10. EPA is providing additional notice of the public comment period by publication in the *Bakersfield Californian* newspaper.

Final Decision-Making Process

After the close of the public comment period, EPA will review and consider all comments relevant to the Draft Permit and application. EPA will send a response to comments to the applicant and each person who has submitted written comments or requested notice of the final permit decision. EPA will also post the response to comments document on www.regulations.gov under docket number EPA-R09-OW-2021-0605. The response to comments will contain: a response to all significant comments on the Draft Permit; EPA's final permitting decision; any permit conditions that are changed and the reasons for the changes; and

procedures for appealing the final decision. The final decision shall be to either issue or deny the Permit.

The final decision shall become effective no sooner than thirty (30) days after the service of the notice of decision. 40 C.F.R. § 124.15. Within thirty (30) days after the final permit decision has been issued, any person who filed comments on the Draft Permit, participated in any public hearing on this matter, or takes issue with any changes in the Draft Permit, may petition the Environmental Appeals Board to review any condition of the permit decision. Commenters are referred to 40 C.F.R. § 124.19 for procedural requirements of the appeal process. If no comments request a change in the Draft Permit, the Permit shall become effective immediately upon issuance. 40 C.F.R. § 124.15.