

147 FERC ¶ 61,220
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Cheryl A. LaFleur, Acting Chairman;
Philip D. Moeller, John R. Norris,
and Tony Clark.

Eagle Crest Energy Company

Project No. 13123-002

ORDER ISSUING ORIGINAL LICENSE

(Issued June 19, 2014)

Introduction

1. On June 22, 2009, Eagle Crest Energy Company (Eagle Crest) filed, pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),¹ an application for an original license to construct, operate, and maintain its proposed Eagle Mountain Pumped Storage Hydroelectric Project. The 1,300-megawatt (MW) project will be located on the site of the inactive Eagle Mountain mine, in Riverside County, California, near the town of Desert Center. The project will operate as a closed-loop, pumped storage facility with water for the initial reservoir fill and replenishment supplied by groundwater wells. The project will occupy private lands and approximately 699.2 acres of federal land under the jurisdiction of the U.S. Department of the Interior (Interior), Bureau of Land Management (BLM).²

2. As discussed below, this order issues an original license for the project.

¹ 16 U.S.C. §§ 797(e) and 808 (2012).

² The project is required to be licensed under section 23(b)(1) of the FPA, 16 U.S.C. § 817 (2012) because it occupies federal lands.

Background

3. On January 11, 2010, the Commission issued public notice that was published in the *Federal Register*³ accepting the application for filing, indicating the application was ready for environmental analysis, and establishing a March 15, 2010 deadline for filing motions to intervene, comments, and final recommendations, terms and conditions, and prescriptions.

4. The Citizens for the Chuckwalla Valley (Desert Protection Society);⁴ California State Water Resources Control Board (State Water Board); Metropolitan Water District of Southern California (Metropolitan Water District); Kaiser Eagle Mountain, LLC (Kaiser); Mine Reclamation, LLC (Mine Reclamation);⁵ and County Sanitation District No. 2 of Los Angeles County (County Sanitation District) filed timely motions to intervene.⁶ Eagle Crest filed responses to some of these motions.⁷

5. Brendan Hughes; Kaiser; Mine Reclamation; National Parks Conservation Association (Parks Conservation); Joshua Tree National Park (Park Service); Metropolitan Water District; Office of the Secretary, Department of the Interior (Interior); Johnney Coon; County Sanitation District; and Timothy Anderson filed comments to which Eagle Crest responded in an April 23, 2010 filing. BLM filed late comments on August 23, 2010 and Eagle Crest responded to these comments on September 15, 2010.

³ 75 Fed. Reg. 22122-22123 (January 14, 2010). An Errata to the January 11 notice (correcting paragraphs j., n., and p.) was issued January 14, 2010, and published in the *Federal Register* on January 20, 2010, 75 Fed. Reg. 23217-23218.

⁴ On October 26, 2011, Citizens for Chuckwalla Valley informed the Commission that they had reorganized as the Desert Protection Society and requested that the service list be amended accordingly. The service list has been amended. This order refers to this group as the Desert Protection Society.

⁵ Kaiser is the majority owner of Mine Reclamation.

⁶ Timely, unopposed motions to intervene are granted by operation of Rule 214(c) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214(c) (2013).

⁷ On March 24, 2012, Eagle Crest responded to, but did not oppose, the motions to intervene filed by the County Sanitation District, Metropolitan Water District, and Kaiser.

6. A draft environmental impact statement (EIS) was prepared by Commission staff and issued on December 23, 2010, analyzing the impacts of the proposed project and alternatives to it, and setting a deadline of February 28, 2011, for comments and interventions. Two public meetings on the draft EIS were held in Palm Desert, California on February 3, 2011.⁸ Phillip R. Hu filed a timely motion to intervene and Interior filed a timely notice⁹ of intervention in response to the draft EIS. The State Water Board, Center for Biological Diversity, U.S. Environmental Protection Agency (EPA), Johnney Coon, San Geronio Chapter of the Sierra Club, Metropolitan Water District, Philip R. Hu, JoAnn and Warren Dean, Advisory Council on Historic Preservation, Brendan Hughes, Eagle Crest, Kaiser and Mine Reclamation (jointly), Desert Protection Society, Interior, Park Service, and County Sanitation District filed comments on the draft EIS.

7. Commission staff issued a final EIS on January 30, 2012. Interior, EPA, the County Sanitation District, Parks Conservation, and the Metropolitan Water District submitted comments on the final EIS.¹⁰ Eagle Crest responded to Interior's comments.¹¹ References and citations in this order to the EIS are to the final EIS, unless otherwise noted.

8. Staff held a public meeting with BLM on May 8, 2013, to discuss BLM's comments on the EIS and issues associated with land withdrawals under section 24 of the FPA. A summary of this meeting was filed in the Commission's public record for this proceeding on July 16, 2013.

9. The Metropolitan Water District, Kaiser, Mine Reclamation, County Sanitation District, Phillip R. Hu, and Interior (on behalf of the Park Service) oppose issuance of a license for the project. The interventions, comments, and recommendations have been fully considered in determining whether, and under what conditions, to issue the license.

⁸ These meetings were recorded and a transcription is in the public record.

⁹ Under Rule 214(a) of the Commission's Rules of Practice, Interior became a party to the proceeding upon timely filing a notice of intervention. 18 C.F.R. § 385.214(a) (2013).

¹⁰ Letters filed February 29, 2012; March 8, 2012; March 1, 2012; March 9, 2012; and March 19, 2012, respectively.

¹¹ Letter filed March 21, 2012.

Project Description

A. Project Area

10. The Eagle Mountain Project will be located in two largely inactive mining pits in the Eagle Mountain mine. Under current land ownership, the proposed project will occupy 2,527 acres of land, of which 699.2 is federal land managed by BLM with the remaining 1,827.9¹² acres privately owned.

11. The Eagle Mountain mine was an iron ore mine closed in 1986 and is the location of the primary proposed project works. This area, referred to throughout the license as the Central Project Area, includes all of the project's facilities except its linear features (e.g., primary transmission line and the water supply pipeline) and some monitoring wells.

12. Numerous high-voltage transmission lines and service roads cross the area south of the project site. The Colorado River Aqueduct, which conveys water to coastal southern California from the Colorado River, is located just northeast of the project area extending through the Coxcomb Mountains and continuing in a southwesterly direction, passing the eastern portion of the project area in a buried pipe before entering the Metropolitan Water District's pumping plant.

B. Project Facilities

13. The project's primary features will include an upper reservoir, an upper water conveyance system, a powerhouse with generating/pumping facilities, a lower water conveyance system, a lower reservoir, water supply and treatment facilities, and a transmission system. These proposed facilities are discussed in more detail below. For reference, Appendix B shows a schematic of the project's features.

1. Upper Reservoir

14. An existing mine pit will be used as the project's upper reservoir. Two roller-compacted concrete dams, each a little over 1,000 feet long, will be added at low points along the pit's rim to provide a reservoir surface area of 191 acres and an active storage

¹² This acreage includes 448.6 acres within the project boundary associated with a public/private land transfer currently in litigation.

capacity of 17,700 acre-feet at an elevation of 2,485 feet above mean sea level (msl). One of the dams will be equipped with an overflow spillway that will route excess water to Eagle Creek.¹³

15. The upper reservoir will have a combination inflow and outflow structure that will connect it to the powerhouse via a water conveyance system. The upper reservoir will also have an outflow pipe that will connect it to the project's water treatment system.

2. Upper Water Conveyance System

16. An upper water conveyance system will convey water from the upper reservoir through a 3,963-foot-long upper tunnel and 1,348-foot-long vertical shaft connected to an underground surge tank. From the vertical shaft, flows will pass through a 1,560-foot-long lower pressure tunnel into a manifold that will transition to four 500-foot-long penstocks leading to the project powerhouse.

3. Powerhouse

17. The underground powerhouse will include four reversible pump-turbine units rated at 325 MW each for a total of 1,300 MW. Access to the powerhouse from the surface will be provided via a 6,625-foot-long tunnel.

4. Lower Water Conveyance System

18. A lower water conveyance system will be used to move water between the powerhouse and the lower reservoir. It will include four 75-foot-long draft tube tunnels connected to the powerhouse pump-turbines, and a manifold to transition the draft tube tunnels to a single 6,835-foot-long tailrace tunnel that will connect with the lower reservoir.

5. Lower Reservoir

19. Eagle Crest will convert a second existing mine pit to serve as the project's lower reservoir. The 163-acre lower reservoir will have a total storage capacity of 21,900 acre-feet and a useable storage of 17,700 acre-feet at a normal maximum water surface elevation of 1,092 feet msl.¹⁴ The lower reservoir will include a spillway and spillway

¹³ Eagle Creek is nearly always dry except during very rare rain events.

¹⁴ The entire storage capacity of the lower reservoir can be contained within the existing pit; therefore, no dams are necessary to form the lower reservoir.

channel extending 6,665 feet from the spillway to convey spill flows to an alluvial fan¹⁵ in the Chuckwalla Valley.

6. Water Supply and Treatment Systems

20. Eagle Crest will construct a water supply system to convey water from new groundwater wells to the project for the initial reservoir fill and future replenishment. The water supply system will include three wells, with pumps located about 13 miles southeast of the Central Project Area, and a 15.5-mile-long underground water supply pipeline extending from the wells to the lower reservoir. The water treatment system will be used to maintain reservoir water quality and will include a reverse osmosis system,¹⁶ and associated pipelines and desalination ponds.¹⁷

7. Transmission System

21. The project's transmission system will include four, 6,000-foot-long, 18-kilovolt (kV) underground transmission cables extending from the powerhouse to the ground surface, and then 4,000 feet overhead to a 500-foot-wide by 1,100-foot-long switchyard. Project power will then be transmitted to Southern California Edison's (SCE) Red Bluff substation via a 16.4-mile-long, double circuit 500-kV primary transmission line.

22. Eagle Crest proposes to route the transmission line along existing access roads for 3.6 miles from the Central Project Area to an intersection with the Colorado River Aqueduct. At this point, the line will parallel an existing 160-kV SCE transmission line for 10.9 miles southeast to a point southeast of the Desert Center Airport,¹⁸ then south for 1.9 miles to the Red Bluff substation.

¹⁵ An alluvial fan is a fan-shaped deposit of sediment formed where flowing water abruptly loses velocity. Alluvial fans are typically found at or near the foot of a mountain.

¹⁶ Reverse osmosis is a process for removing contaminants by applying pressure to contaminated water to force it through a semipermeable membrane. The semipermeable membrane "filters" out contaminants allowing only uncontaminated water (permeate) to pass. The leftover water is in the form of a saltwater solution (brine).

¹⁷ In desalination ponds, evaporation separates the brine into solids for disposal.

¹⁸ The Desert Center Airport is a private-use airport located six miles northeast of the central business district of Desert Center, in Riverside County, California.

8. Appurtenant Facilities

23. The project's appurtenant facilities will include about 6 miles of access roads and administration buildings.

Project Boundary

24. The project boundary encloses the land necessary for the safe operation and maintenance of the project including the upper reservoir, upper water conveyance system, powerhouse, lower reservoir, lower water conveyance system, water supply system, water treatment system, transmission system, and appurtenant facilities.

Proposed Project Operation

25. The project will use off-peak energy to pump water from the lower reservoir to the upper reservoir during periods of low electrical demand. The operation will be reversed by passing water from the upper to the lower reservoir during periods of high electrical demand. Eagle Crest will use available power produced by existing and proposed wind and/or solar projects in the area to provide at least a portion of the pumping power to the project. The project will also be able to provide ancillary services to the electric grid, including load following, system regulation through spinning and non-spinning reserve, and immediately available 1,300 MW of standby generating capacity.

26. The proposed energy storage volume will permit the project to generate at full capacity for up to 10 hours each weekday, with up to 14 hours of pumping each weekday night and additional pumping during the weekend to fully refill the upper reservoir. The daily water level fluctuation will be about 100 feet in the upper reservoir and 150 feet in the lower reservoir.

27. If precipitation ever fills the upper reservoir beyond its capacity, the project will discharge excess water from the upper reservoir's spillway into the ephemeral Eagle Creek, from which it will flow into the lower reservoir. In these emergency instances, if the capacity of the lower reservoir is exceeded, any excess water that cannot be pumped back to the upper reservoir will be discharged from the lower reservoir spillway into an artificial channel and onto the alluvial fan on the desert floor.

28. To protect reservoir water quality, water will be drawn from the upper reservoir and routed to the project's reverse osmosis facility. The treated water will then be sent to the lower reservoir.

Summary of License Requirements

29. As summarized below, the license, which authorizes 1,300 MW of energy capacity, requires a number of measures to protect water quantity and quality, wildlife, land use, recreation, cultural, aesthetic resources, and air quality.
30. Because of site access restrictions during development of its license application, the license requires Eagle Crest, prior to commencing construction, to conduct certain site-specific investigations and design monitoring programs to protect environmental resources. These investigations include hydrologic, hydraulic, geotechnical and hydrogeologic surveys, as well as soil testing and sensitive species surveys.
31. To protect geologic and soil resources, the license requires Eagle Crest to implement a Soil Erosion and Sedimentation Control Plan to ensure that construction effects on erosion and sedimentation are minimized.
32. To protect groundwater quality that may be affected by reservoir seepage, the license requires Eagle Crest to install and operate a reverse osmosis desalination facility and desalination ponds to remove the concentration of dissolved solids that may accumulate in the reservoirs as a result of evaporation. The license requires Eagle Crest to file annual reports on all aspects of potential project impacts including reservoir seepage well levels and water quality; aquifer water level monitoring wells; and water supply well production and drawdown.
33. The license requires Eagle Crest to measure and monitor potential subsidence¹⁹ in the vicinity of, and to protect, the Colorado River Aqueduct.
34. To minimize project-related effects on desert bighorn sheep, the license requires Eagle Crest to design and install lighting at its facilities to prevent the casting of light into adjacent habitat.
35. To protect the Couch's spadefoot toad, the license requires Eagle Crest to prepare a protection plan that: details methodologies for surveys in construction areas not previously surveyed; limits disturbance by minimizing construction areas; ensures that project roads preserve existing desert wash topography and flow patterns; avoids disturbing or restricting flow to areas that could support Couch's spadefoot toad; and identifies mitigation measures to be implemented when avoidance is not possible.

¹⁹ Soil subsidence is the lowering or sinking of land surface soils due to hydrocompaction caused by consolidation and settling of soils under elevated groundwater levels.

36. To protect botanical resources, the license requires Eagle Crest to conduct pre-construction surveys to identify special-status plants,²⁰ and designate avoidance areas in construction zones.
37. To protect native vegetation, the license requires Eagle Crest to revise its proposed Revegetation Plan to include: the use of certified weed-free hay, straw, and topsoil; criteria for measuring success; and irrigation of transplants once a month for a two-year period.
38. To control the spread of invasive species, the license requires Eagle Crest to revise its proposed Invasive Species Monitoring and Control Plan to include mitigation for project-related soil disturbance, and to monitor areas where water from the operation of the project may be introduced to the desert environment (e.g., well heads sites and reservoirs). To prevent the establishment of woody vegetation around reservoirs that could serve as habitat for predators of the desert tortoise, the license requires Eagle Crest to remove woody riparian vegetation from around project reservoirs annually.
39. To protect avian species, the license requires Eagle Crest to design and construct raptor-friendly transmission lines in accordance with industry standards; schedule and manage construction activities to avoid nesting migratory birds and raptors; and minimize and manage the effects of desalination ponds on migratory birds.
40. To protect bats, badgers, and kit foxes from the effects of construction and operation, the license requires Eagle Crest to develop a wildlife protection plan.
41. To protect wildlife from hazards associated with project facilities, the license requires Eagle Crest to construct and monitor security and/or exclusion fencing around project reservoirs, the collection substation, and desalination ponds.
42. To minimize project-related effects on the federally listed desert tortoise and its habitat, the license requires Eagle Crest to develop a Desert Tortoise Clearance and Relocation/Translocation Plan, Predator Monitoring and Control Plan, and a Habitat Mitigation Plan. The license also requires Eagle Crest to construct and monitor exclusion fencing and conduct construction only during daylight hours in areas without wildlife exclusion fencing or those areas that have not been cleared of tortoises. To further protect the desert tortoise, as well as the Coachella Valley milkvetch plant, the license

²⁰ Special-status species include federally listed species and species proposed for federal listing, state protected species, BLM sensitive species, and other rare or vulnerable species identified in the Northern and Eastern Colorado Desert Coordinated Management Plan.

requires Eagle Crest to develop a Worker Environmental Awareness Program.

43. To minimize disruption to existing local and recreation-related traffic, the license requires Eagle Crest to prepare a plan for coordinating construction schedules with the BLM and posting notice of construction activity and temporary road/access closures.

44. To protect aesthetics resources, the license requires Eagle Crest to develop a night sky monitoring plan to establish baseline conditions and incorporate methods to limit nighttime sky lighting (e.g., directional lighting), and a visual effects protection plan to minimize adverse visual effects created during project construction.

45. To protect cultural resources, the license requires Eagle Crest to implement its Historic Properties Management Plan to avoid, or provide mitigation for, any adverse effects to, historic properties caused by the project both prior to and during construction and operation.

46. To protect air quality, the license requires Eagle Crest to implement an air quality monitoring and protection plan.

Water Quality Certification

47. Under section 401(a)(1) of the Clean Water Act (CWA),²¹ the Commission may not issue a license authorizing the “construction or operation of facilities, which may result in any discharge into the navigable waters ...”²² unless the state water quality certifying agency either has issued water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year.²³

48. Eagle Crest’s proposed “closed-loop” pumped storage project will not discharge into any navigable waters. In emergencies, when water from precipitation enters the project’s reservoirs beyond their capacity to absorb, the project will discharge excess waters from the upper reservoir’s spillway into the ephemeral Eagle Creek, where it will flow into the lower reservoir. In instances when the lower reservoir becomes full, any excess water that cannot be pumped back to the upper reservoir will be discharged from

²¹ 33 U.S.C. § 1341(a)(1) (2012).

²² *Id.*

²³ Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project. 33 U.S.C. § 1341(d) (2012).

its spillway into an artificial channel, flowing downhill toward and over the Colorado River Aqueduct and onto an alluvial fan, where the water will either evaporate or be absorbed into the ground.

49. The record shows that Eagle Creek is a dry wash, lacking any flow except during very rare rain events in the extremely dry climate of the western Sonoran Desert. Eagle Creek has only had flow on 4 separate days over a 2,282-day period of record.²⁴ During the rare occurrence when Eagle Creek does flow, it currently empties into a mine pit, the proposed lower reservoir, from which no discharge occurs. The project will continue to capture and recycle as makeup water any normal runoff from Eagle Creek. Eagle Creek is not navigable and is not connected to any navigable or interstate waterway of any kind, and no showing has been made in either this proceeding or by the State Water Board that any contaminants which may enter Eagle Creek or the alluvial fan could be transported to any navigable or interstate waterway.

50. Because the project will not discharge into waters of the United States, it does not require water quality certification.²⁵ Nevertheless, in 2008, Eagle Crest applied to the State Water Board for water quality certification under the CWA. Eagle Crest withdrew and refiled its application each year until July 16, 2013,²⁶ when the State Water Board issued certification for the project that contained 35 conditions. For the reasons discussed above, the conditions of the certification need not be included in the license as mandatory conditions. We do, however, consider the certificate's environmental conditions as recommendations submitted under section 10(a)(1) of the FPA and address them later in

²⁴ See EIS at 65.

²⁵ The Clean Water Act defines “navigable waters” broadly as “waters of the United States, including the territorial seas.” 33 U.S.C. § 1362(7) (2012). This definition applies not only to the discharge of pollutants, but also to the water quality certification requirement of section 401 of the act. However, it is not without limits. The Supreme Court has held that this definition includes only relatively permanent, standing or flowing bodies of water, not intermittent or ephemeral flows of water, and only those wetlands with a continuous surface connection to bodies that are waters of the United States in their own right. See *Rapanos v. United States*, 547 U.S. 715 (2006).

²⁶ The water quality certification was filed with the Commission on July 22 and 29, 2013.

this order.²⁷ The conditions (or portions of conditions) that are administrative in nature and are tied to the State Water Board's Clean Water Act authority (e.g., asserting the State Water Board's authority to approve or deny plans or require the licensee to undertake studies) are not required by this license.

Coastal Zone Management Act

51. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),²⁸ the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 6 months of its receipt of Eagle Crest's certification. By letter of April 28, 2009, the California Coastal Commission notified Eagle Crest that the project is not located within the state-designated California coastal zone and is not subject to the California coastal zone program review.²⁹ Therefore, no consistency certification is required.

Section 4(e) Findings

52. Section 4(e) of the FPA³⁰ provides that the Commission can issue a license for a project located within any reservation only if it finds that the license will not interfere or be inconsistent with the purpose for which such reservation was created or acquired.

53. FPA section 4(e) further requires that Commission licenses for projects located within federal reservations must include all conditions that the Secretary of the department under whose supervision the reservation falls shall deem necessary for the adequate protection and utilization of such reservation. A portion of the Eagle Mountain Project will be located on land which is under Interior's BLM supervision. The Secretary of the Department of the Interior did not file any 4(e) conditions and there is no evidence

²⁷ We treat the environmental measures contained in conditions 1 through 9 of the certification as section 10(a) recommendations. Generally, these measures address: site-specific surveys; wildlife protection; mitigation of effects from construction activities; erosion control; pollution prevention; groundwater supply monitoring and protection; surface water quality protection; groundwater quality monitoring and seepage management; water treatment; and waste management, storage, and disposals.

²⁸ 16 U.S.C. § 1456(c)(3)(A) (2012).

²⁹ See section 9.3 of the Final License Application filed on June 22, 2009.

³⁰ 16 U.S.C. § 797(e) (2012).

or allegation in this proceeding to indicate that licensing of the Eagle Mountain Project, with the conditions of the license, will interfere with the purposes of the BLM-administered land.

Threatened and Endangered Species

54. Section 7(a)(2) of the Endangered Species Act (ESA) of 1973³¹ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed, threatened, and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

55. Two federally listed species are known to occur in the Eagle Mountain Project vicinity: the Coachella Valley milkvetch plant and the desert tortoise.

56. In the EIS, staff indicated that surveys did not document the presence of Coachella Valley milkvetch in the project area.³² Staff concluded that the project area contains little, if any, potential habitat for this plant, and therefore, the proposed project would have no effect on this species.³³

57. To protect desert tortoises, Commission staff recommended, and this license requires, the following measures: (1) determine, and acquire, appropriate acreage to mitigate for project-related effects to desert tortoise habitat (Article 416);³⁴ (2) monitor and control desert tortoise predators (Article 417); (3) provide worker education about desert tortoises through a Worker Environmental Awareness Program (Article 418); and (4) clear and relocate desert tortoises from construction areas, and construct only during daylight hours in areas without wildlife exclusion fencing or those areas that have not been cleared of desert tortoises (Article 415).³⁵

58. In a final Biological Assessment (BA) issued on April 21, 2011, Commission staff

³¹ 16 U.S.C. § 1536(a) (2012).

³² See EIS at 172.

³³ See EIS at 177.

³⁴ Article 416 also requires that the mitigation lands be incorporated into the project's boundary, once designated, to ensure the lands are protected for the term of the license.

³⁵ The State Water Board also recommended measures to protect desert tortoises, which are consistent with the measures in these license articles.

concluded that the proposed project is likely to adversely affect the desert tortoise, because the project would disturb desert tortoise habitat and would increase desert tortoise predation at and near the project by attracting desert tortoise predators. With the BA, staff requested formal consultation with FWS. In response to staff's BA, on April 10, 2012, FWS filed its Biological Opinion with the Commission, determining that the project is not likely to jeopardize the continued existence of the desert tortoise or destroy or adversely modify designated critical habitat. However, to ensure the proposed action will minimize the impact of incidental take³⁶ of desert tortoise, FWS's Biological Opinion includes an incidental take statement with reasonable and prudent measures and terms and conditions that require Eagle Crest to: (1) conduct surveys for desert tortoise in the Central Project Area prior to any land-disturbing activities; (2) employ an authorized biologist to capture, handle, or relocate tortoises; and (3) design and construct exclusion fencing in construction areas and around project facilities to minimize risks of injury and mortality to tortoises and other wildlife.

59. The terms and conditions of the incidental take statement are set forth in Appendix A of this order and incorporated into the license by ordering paragraph (D). These measures are required by various license articles as discussed below.

60. The Biological Opinion also includes a conservation recommendation³⁷ to co-locate the transmission line with the water supply pipeline which will be located west of Kaiser Road. We consider this recommendation under section 10(a)(1) of the FPA, as discussed below.

³⁶ Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

³⁷ Section 7(a)(1) of the ESA directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

National Historic Preservation Act

61. Under section 106 of the National Historic Preservation Act (NHPA)³⁸ and its implementing regulations,³⁹ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register (defined as historic properties) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

62. To satisfy these responsibilities, the Commission executed a Programmatic Agreement (PA) with the California SHPO on September 27, 2011. The PA requires Eagle Crest to implement its February 2011 HPMP for the term of any license issued for this project. Article 425 requires Eagle Crest to implement the PA and HPMP. Execution of the PA and implementation of the HPMP fulfills the Commission's responsibilities under the NHPA.

Recommendations of Federal and State Fish and Wildlife Agencies Pursuant to Section 10(j) of the FPA

63. Section 10(j)(1) of the FPA⁴⁰ requires the Commission, when issuing a license, to include conditions based on recommendations by federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,⁴¹ to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project. Neither FWS nor the California Department of Fish and Game filed 10(j) recommendations for the Eagle Mountain Project.

³⁸ 16 U.S.C. §§ 470 *et seq.* (2012).

³⁹ 36 C.F.R. pt. 800 (2013).

⁴⁰ 16 U.S.C. § 803(j)(1) (2012).

⁴¹ 16 U.S.C. §§ 661 *et seq.* (2012).

Section 10(a)(1) of the FPA

64. Section 10(a)(1) of the FPA⁴² requires that any project for which the Commission issues a license be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

65. As discussed above, on July 16, 2013, the State Water Board issued a certification under the CWA for the Eagle Mountain Project that includes measures to protect public use and environmental resources.⁴³ We consider these measures as recommendations under the broad public-interest standard of section 10(a)(1), and they are discussed below.

A. Hydrology and Groundwater Supply

66. BLM states that the Chuckwalla Valley Groundwater Basin (Chuckwalla Basin) is connected to the Colorado River through the Palo Verde Mesa Groundwater Basin (Palo Verde Mesa Basin) and the Palo Verde Valley Groundwater Basin (Palo Verde Valley Basin). BLM estimates groundwater outflow from the Chuckwalla Basin into the Palo Verde Mesa Basin to be between about 400 and 1,200 acre-feet per year.⁴⁴ In 2006, Interior was directed to identify groundwater that should be considered river water,⁴⁵ which led to the U.S. Geologic Survey's (Geological Survey) development of the Accounting Surface Method.⁴⁶ BLM states that the accounting surface within the Chuckwalla Valley is between 238 feet and 240 feet above sea level, and that water pumped from this level is groundwater that would be replaced by Colorado River water.

⁴² 16 U.S.C. § 803(a)(1) (2012).

⁴³ Filed with the Commission on July 29, 2013.

⁴⁴ Interior's comments on final EIS at 7.

⁴⁵ See *Arizona v. California*, 547 U.S. 150 (2006) (The Consolidated Decree of 2006).

⁴⁶ The purpose of the method is to identify wells located outside of the lower Colorado River floodplain that cause lower Colorado River water to flow into the aquifer (and thus be consumed) when water is drawn from the well. See Wiele, S. M., S. A. Leake, S.J. Owen-Joyce, and E. H. McGuire. 2009 (Update of the accounting surface along the lower Colorado River).

67. BLM misapplies the Accounting Surface Method to the project. Under the method, the accounting surface is defined as the elevation of the static water table that would exist in the portion of the river aquifer located outside of the river floodplain if the river aquifer consisted entirely of river water. If a well has a static water level elevation above the accounting surface, it is presumed that water drawn from the well is replaced by precipitation and tributary accretion, and not by the lower Colorado River. If a well has a static water level elevation below the accounting surface, it is presumed that water drawn from the well is replaced by the Colorado River and thus consumes Colorado River water.⁴⁷

68. The Geological Survey's Colorado River Accounting Surface⁴⁸ estimates that the accounting surface is between 238 and 240 feet above mean sea level (msl) in the Chuckwalla Valley Groundwater Basin. The actual groundwater level in the basin near the project's proposed water supply wells is about 450 feet above msl, or about 210 feet above the accounting surface. The maximum projected drawdown at the project's wells is 50 feet, leaving the water table at its lowest point still 160 feet above the accounting surface.⁴⁹ In other words, because the project's water supply wells will retain the groundwater water level at its lowest point, 160 feet above the accounting surface, the project will not consume lower Colorado River water.

69. BLM predicts that the Eagle Mountain Project and the nearby Desert Harvest (Solar) Project and other water users in the valley will cause overdraft conditions in the Chuckwalla Valley Groundwater Basin during each year between 2014 and 2025. BLM predicts a total water use for the Eagle Mountain Project of 4,456 acre-feet per year for initial filling of the system and 2,050 acre-feet per year for normal operations, to compensate for losses due to evaporation and leakage.

70. BLM's estimates of the project's water use are substantially less than the EIS estimates of 17,700 acre-feet per year for initial fill and 2,507 acre-feet per year for normal operations. The EIS found that recharge in the Chuckwalla Valley Groundwater Basin is about 12,700 acre-feet per year, which exceeds project withdrawals in all years with the exception of the initial fill period. The EIS estimates that cumulative groundwater withdrawals in the Chuckwalla Groundwater basin will be between 14,667 and 18,381 acre-feet per year during the period of normal operations which means there

⁴⁷ See Wiele, S. M., S. A. Leake, S.J. Owen-Joyce, and E. H. McGuire. 2009 (Update of the accounting surface along the lower Colorado River).

⁴⁸ *Id.*

⁴⁹ See EIS at 104.

would be a slight overdraft of the aquifer compared to its annual recharge.⁵⁰ However, the total amount of water available in storage in the aquifer is estimated to be 10 million acre-feet and the total groundwater withdrawal from the project over a 50-year license term would be less than one percent of the volume of available groundwater stored in the aquifer.⁵¹

71. The State Water Board recommends: (1) monitoring groundwater levels to confirm that project pumping rates do not exceed historic (1965-1986) pumping rates; (2) limiting the amount the project may drawdown the groundwater table (maximum allowable change); and (3) monitoring aquifer drawdown at 10 monitoring wells. It also recommends that the amount the project may draw down the groundwater table (maximum allowable change) at well MW-111 in the Palen Valley near the Colorado River Aqueduct be determined post-licensing and in consultation with the State Water Board.

72. Article 403 requires a plan, in consultation with the State Water Board, to establish a network of water level monitoring wells and sets the maximum allowable change for each well. If the project's water withdrawals cause the water level to decline by more than the maximum allowable change, the article requires Eagle Crest to reduce pumping. The article also requires the licensee to establish the maximum allowable change to the ground water table at well MW-111, or an appropriate alternative at a nearby site. The requirements of these articles are consistent with the State Water Board's recommendations.

73. The State Water Board also recommends that, if the monitoring results indicate project operations have adversely affected water levels of existing nearby privately owned wells (by increasing the pumping depth by more than 5 feet, as compared to the pre-project baseline condition), Eagle Crest should develop a plan to mitigate the impacts to the neighboring wells. The State Water Board identified five potential mitigation measures: (1) reduce or cease project pumping; (2) replace pumps or modify pumping systems on affected wells; (3) deepen affected well(s); (4) replace affected well(s) with a new well(s); and (5) compensate well owners for increased pumping costs associated with lower water levels.

74. This license does not include a requirement for mitigating project effects on private, third-party wells. The Commission does not have the authority to adjudicate

⁵⁰ See EIS at 113.

⁵¹ See EIS at A-39.

claims for, or to require, payment of damages.⁵² Well owners who believe that their wells are adversely affected by the project and its drafting of the aquifer must seek redress in the appropriate court.⁵³ Moreover, section 10(c) of the FPA makes clear that a licensee of a hydropower project “shall be liable for all damages occasioned to the property of others by the construction, maintenance, or operation of the project works...”⁵⁴

B. Groundwater Quality and Seepage Management

75. EPA is concerned that the effects on groundwater quality and the unknown extent of acid rock drainage from the filling of the two reservoirs remain unresolved.⁵⁵ As part of the Pre-Design Site Investigation Plan, the license requires Eagle Crest to collect field samples and conduct analyses to determine the site-specific acid production potential and neutralizing capacity. Although the reverse osmosis system to maintain water quality in the reservoir would not be designed to treat pH, if the required water quality monitoring shows a drop in pH, the system could be retrofitted to treat the water. Article 401 requires Eagle Crest to conduct site investigations to determine potential water quality impacts to the reservoirs and groundwater associated with ore-body contact. Article 402 requires Eagle Crest to test excavated material for acid producing potential and if necessary dispose of it outside the reservoir. Article 406 requires Eagle Crest to operate the reverse osmosis desalination facility to maintain the reservoir at the same water quality as the source groundwater. We conclude that the testing and disposal requirements combined with the treatment system, and the seepage recovery system, will protect water quality both in the reservoir and in the groundwater.

76. The Metropolitan Water District states that it is unclear if the groundwater level and quality monitoring would extend past the initial four years of monitoring and suggests a long-term monitoring schedule. In the first four years of project operation, the water table will drop significantly because of the large amount of pumping required for the initial fill of the project’s reservoirs. However, in the long term, the effect of the

⁵² See, e.g., *Ohio Power Co.*, 71 FERC ¶ 61,092, at 61,312 (1995) (citing to *South Carolina Public Service Authority v. FERC*, 850 F.2d 788 (D.C. Cir. 1988)).

⁵³ See *PacifiCorp*, 133 FERC ¶ 61,232 (2010), *order on reh’g*, 135 FERC ¶ 61,064 (2011); *Portland General Electric Company*, 107 FERC ¶ 61,158, at PP 27-33 (2004); *FPL Energy Maine Hydro, LLC*, 106 FERC ¶ 61,038, at PP 53-55 (2004).

⁵⁴ 16 U.S.C. § 803 (2012).

⁵⁵ EPA filing of March 8, 2012.

groundwater withdrawal by the project should not cause the aquifer to approach depletion nor cause the groundwater table to decline below maximum historical drawdown levels.⁵⁶ Article 403 requires Eagle Crest to develop a groundwater monitoring plan, with monthly monitoring during the first four years of pumping (i.e., the initial fill period), quarterly monitoring for the next seven years which should capture the maximum water table decline, and semi-annual monitoring thereafter, for the term of the license when changes to groundwater levels are expected to be small. Article 404 requires groundwater quality monitoring in the vicinity of the project's reservoirs, desalination ponds, seepage recovery wells, and water supply wells over the term of the license.

77. To minimize seepage from the reservoirs, the State Water Board recommends that the reservoirs be partially or fully lined, and that vertical seepage interceptor wells be installed to recover seepage from the reservoirs. The State Water Board also recommends groundwater quality monitoring with the installation of horizontal monitoring wells underneath brine ponds to: (1) quantify seepage; (2) monitor groundwater quality; and (3) allow for early detection of groundwater degradation.

78. The State Water Board also recommends that Eagle Crest develop a seepage management plan to identify zones of anticipated seepage, establish criteria for evaluating seepage management strategies, provide corrective actions to address a potential reservoir liner failure, finalize seepage abatement measures to minimize seepage from the reservoirs, and develop final seepage recovery well designs to maintain groundwater levels.

79. Because seepage from the reservoirs has the potential to raise local groundwater levels and adversely affect the proposed landfill, which is addressed below, the EIS recommended various measures to control seepage and manage groundwater levels consistent with the State Water Board's recommendations.⁵⁷ Article 405 of the license requires Eagle Crest to use reservoir liners to control seepage and for Eagle Crest to conduct aquifer testing to confirm that aquifer characteristics like seepage are as expected.⁵⁸ Article 405 also requires Eagle Crest to develop a seepage management and monitoring plan detailing the location and pumping capacity of the seepage recovery

⁵⁶ See EIS at 98, 102-104.

⁵⁷ See EIS at 311.

⁵⁸ An aquifer test is performed by pumping a well, measuring the yield of the well, measuring the decline in the water level in the well, and the decline in the water level in one or more nearby observation wells and using the results of the tests to compute the hydraulic conductivity of the aquifer.

wells and the final design of the reservoir liner. The article also requires the installation of observation wells to monitor the groundwater levels below the Colorado River Aqueduct and the proposed landfill, and a seepage management plan to regulate the rise in groundwater levels below the aqueduct and maintain groundwater levels at least 5 feet below the bottom of landfill liners. In addition, consistent with the State Water Board's recommendations, the license requires development of a groundwater quality monitoring plan (Article 404) and the protection of groundwater at the desalination ponds (Article 406).

80. The State Water Board recommends that Eagle Crest develop a contingency plan that specifies how Eagle Crest will modify or cease project operations and restore groundwater to pre-project conditions, if adverse impacts to groundwater quality cannot be mitigated. As noted above, the license requires multiple measures to protect groundwater quality and groundwater levels in the project area. In addition, Articles 404, 405, and 406 reserve the Commission authority to direct Eagle Crest to modify project structures or operations, or conduct other appropriate actions if groundwater quality and groundwater level monitoring indicates that such actions are necessary to protect groundwater quality and land uses within the project area. For these reasons, we find that a contingency plan is not necessary.

C. Colorado River Aqueduct

81. The Metropolitan Water District⁵⁹ is concerned that the project could threaten the safe operation and integrity of the Colorado River Aqueduct, which passes just over a mile east of the lower reservoir,⁶⁰ and it seeks assurances that construction and operation of the hydropower project would not proceed without the Water District's consent. The Water District explains that it seeks to ensure that any construction of project facilities (e.g., access roads, water pipeline) on top of the buried aqueduct would be done in a manner that will protect the aqueduct. In addition, it is concerned that the potential for ground subsidence could affect the stability of the buried aqueduct.

⁵⁹ See Metropolitan Water District's filings of March 10, 2010; February 28, 2011; and March 19, 2012.

⁶⁰ The Aqueduct follows contour lines on its way from the Colorado River to the West Coast, where it supplies water to Southern California. The water supply project operates continuously, for all but a few weeks each year when it is taken down for regular maintenance. During non-operating periods, the Metropolitan Water District relies on local reservoirs to provide for its water supply needs.

82. We agree that the aqueduct is a critical infrastructure serving the public interest and its operation and maintenance must not be adversely affected by construction and operation of the Eagle Mountain Project. Accordingly, as discussed below, the license contains many requirements (Articles 304, 403, 405, and 407) to ensure that the project's construction, operation, and maintenance do not harm the aqueduct.

83. We require Eagle Crest to coordinate access and construction with the Water District in Article 407. With respect to subsidence, as explained in the EIS, subsidence can occur as the result of alteration of groundwater levels. Although the EIS concluded the risk of subsidence due to pumping is low,⁶¹ it recommended measures to address the Water District's concerns about potential soil subsidence caused by potential seepage from the reservoirs or by over drafting of the aquifer. We agree and the license requires the measures. To prevent soil subsidence caused by excessive drawdown of the water table, Article 403 requires Eagle Crest to establish a network of groundwater monitoring wells with maximum allowable change thresholds, with an adaptive management component requiring the reduction of water withdrawals should drawdown exceed the allowable thresholds. To prevent subsidence caused by liquefaction, Article 405 requires the installation of seepage recovery wells between the reservoir and the aqueduct and a seepage control design that will limit the rate of seepage from the reservoirs. Article 403 also requires monitoring of the groundwater levels below the aqueduct.

D. Joshua Tree National Park

84. The Park Service and other commenters in this proceeding have argued that the proposed project would adversely affect resources of the Joshua Tree National Park, whose easternmost boundaries lie 1.5 miles from the project. They particularly object to the project's potential effects on groundwater; on local species which inhabit both the park and the project area, such as bighorn sheep; on the dark night sky enjoyed by park visitors; and on the project's potential interference with public access to the park.⁶² The Park Service requests that, if a license is granted for the project, the Park Service be consulted on adaptive management measures affecting the following resources:

⁶¹ See EIS at 109.

⁶² Interior comments on draft EIS at 7-9, and on final EIS at 1-5; Parks Conservation comments on final EIS.

groundwater, air quality, wildlife, night skies, viewshed, natural soundscapes, and invasive plants.⁶³ The Park Service also asks that Eagle Crest be required to compensate park staff for the costs of participating in this consultation.⁶⁴

85. The license requires that the Park Service be consulted on the development of numerous plans designed to protect groundwater, air quality, wildlife, aesthetic resources, and plants. Specific concerns about the project's effects on groundwater supply are addressed above. Construction, operation, and maintenance of the project could adversely affect land uses, including recreation and aesthetics in the project area.⁶⁵ The license requires implementation of measures to limit the effects of construction on recreation, land use, and aesthetics by coordinating planned road closures and other schedules with the public (Articles 419); limiting lighting effects on dark sky conditions (Article 420); minimizing visual degradation of the area by limiting the construction footprint, and reducing the color contrast of the transmission line towers and the water supply pipeline to the surrounding area (Article 421). These will ensure project effects are mitigated to the extent practicable. We note, however, as was discussed in the EIS, that the major entrances to the park and its two visitors centers are located far to the west and north, and there is no direct road access to the park from the project area.⁶⁶

86. The Commission cannot require Eagle Crest to enter into an agreement with the Joshua Tree National Park to compensate it for costs related to consultation for the project, and any agreement that Eagle Crest might voluntarily enter into would not be a requirement of this license.⁶⁷

E. Proposed Landfill

87. In the 1990s, the County of Riverside approved a proposal by Kaiser to develop a large "trash-to-rail" landfill on Eagle Mountain and incorporated the proposal into its

⁶³ Interior comments on draft EIS at 8, and on final EIS at 1-2.

⁶⁴ Interior comments on final EIS at 1-2, 13-14.

⁶⁵ See EIS at 331.

⁶⁶ See EIS at 189-94, 204-08.

⁶⁷ However, pursuant to section 10(e) of the FPA, 16 U.S.C. § 803(e) (2012), licensees are required to pay annual charges to, among other things, reimburse the United States for the costs incurred by federal agencies in carrying out their responsibilities with respect to hydropower projects.

land use plans for the mountain.⁶⁸ Local residents and environmental groups challenged this proposal in state court, which ruled in favor of the landfill. But it could not go forward without a land exchange in the extensive disposal areas on the mountain, between BLM and Kaiser.⁶⁹ Although BLM approved the exchange, a court appeal was successful in staying full implementation of the exchange, including construction and operation of the landfill.⁷⁰ While title to the exchanged lands is now held by Kaiser, BLM has not acted on the court remand, which remains pending before the agency.⁷¹ Some of the Eagle Mountain Project facilities would be located on lands that are part of the proposed land exchange.

88. Kaiser and LA Sanitation District oppose the hydropower project, on the grounds that it would be incompatible with the landfill and materially interfere with it.⁷² Eagle Crest has denied these allegations.⁷³ The EIS concluded that, unless the Eagle Mountain

⁶⁸ Riverside Specific Plan No. 305, adopted September 8, 1997. See especially: the map showing the Eagle Mountain Landfill Specific Plan (CM Engineering Associates); Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the landfill, prepared for BLM and the County of Riverside (January 1997); and Kaiser Motion to Intervene and Protest, at 15. The National Park Service and U.S. Geological Survey were cooperating agencies under NEPA for the EIS/EIR.

⁶⁹ The Sanitation District entered into a Purchase and Sale Agreement with Kaiser, to acquire the landfill, once Kaiser acquired all of the legal rights necessary for its construction and operation. Sanitation District, Motion to Intervene & Protest, at 3; Kaiser, Motion to Intervene & Protest, at 6.

⁷⁰ Interior Record of Decision, Eagle Mountain Landfill, Land Exchange CACA-30070, Right-of-Way Grants CACA-25594, 31926 (September 25, 1997); *National Parks & Conservation Ass'n v. BLM*, 606 F.3d 1058 (9th Cir. 2009).

⁷¹ Summary of Public Meeting with BLM, filed on July 16, 2013; Interior comments on final EIS at 6-7; Eagle Crest responses to Interior comments at 6-7.

⁷² Kaiser Protest & Intervention, at 10-14, and Comments on draft EIS, at 16-19 and Attachment 1, Geosyntec Consultants, Technical Review Comments, February 25, 2011; and County Sanitation District, Motion to Intervene & Protest, page 3, Comments on draft EIS, Detailed Comments, at 23-26, and Comments on final EIS, at 2-3, and Attachment A, at 4-5.

⁷³ Eagle Crest, Response to Comments on Ready for Environmental Analysis Notice, April 23, 2010, at 17-18, 23-27, 33-36.

Project and the landfill are constructed simultaneously, both projects could be constructed without construction conflicts.⁷⁴ Potential conflicts include: (1) the project's occupation of two proposed rail yards and related landfill facilities, including those for receiving some shipments of trash by truck and access roads near the Colorado River Aqueduct; (2) the project's prevention of direct access to proposed disposal areas on the mountain; (3) the project reservoirs' uncontrolled seepage effects on the landfill; and (4) the project's use of leftover mine tailings from abandoned mining activities.

89. With regard to alleged conflicts over use of the mountain and surrounding areas for the hydropower project versus the landfill, we note that although the two projects would occupy the same general area, the hydropower project is located either underground or away from the proposed landfill footprint, with the exception of the lower reservoir which would occupy a future phase (Phase V) of the landfill.⁷⁵ In addition, although the proposed trash receiving facilities and associated access roads in the area near the aqueduct may be affected by overflows from the hydropower project during a probable maximum precipitation event, as discussed below, it does not appear that the project would prevent construction of these new facilities for the landfill.

90. Uncontrolled seepage from the project's reservoirs has the potential to interfere with the landfill by raising the water table above the elevation where waste would be placed. However, Article 405 requires a Seepage Management and Monitoring Plan that will prevent adverse impacts to the proposed landfill by maintaining the groundwater level at least 5 feet below the bottom of the proposed landfill liner.⁷⁶

⁷⁴ See EIS at 215-217. On May 22, 2013, the Sanitation District issued a public notice stating it was no longer negotiating to use the proposed Eagle Mountain landfill site. Given the significant uncertainty surrounding the landfill project and the benefits the Eagle Mountain Project would provide, we find that it is appropriate to issue this license, with the expectation that should the proponent continue to pursue development of the landfill, the parties will be able to work in good faith to resolve any future construction or operation issues.

⁷⁵ The landfill would be constructed in five phases. Phase I would be designed to accommodate up to about 10,000 tons of trash per day. When the deliveries exceed 10,000 tons per day, Phase II would be constructed to accommodate up to 20,000 tons per day. Additional phases would be added as deliveries of trash increase. The landfill is not expected to reach the final phase (Phase V) until 2088, well after the term of the license.

⁷⁶ See EIS at 216.

91. We do not address the dispute between these entities over access to the tailings left over on or adjacent to the mountain from the abandoned mining operations.⁷⁷ The license does not affect ownership or control of those tailings, which Eagle Crest claims would be useful in constructing the project but which would also be useful in constructing and operating the landfill. Where, how, and at what cost Eagle Crest obtains materials necessary to construct the project is up to Eagle Crest to determine.

92. In conclusion, we find that Kaiser and LA Sanitation District have not shown that the proposed hydropower project would be totally incompatible with construction and operation of a landfill on Eagle Mountain. At the same time, however, it is clear that there are conflicts between the hydropower project and the landfill as noted above. While we acknowledge some conflicts, we are confident that the entities can settle their disputes so that both the hydropower project and the proposed landfill could co-exist, as discussed in the EIS.⁷⁸

F. Spillway Capacity

93. Kaiser and the Sanitation District commented that the proposed hydropower project and the proposed spillways would be unable to handle the expected flood flows.⁷⁹ Originally, most of the rain falling on the mountain gathered in the ephemeral stream or dry wash known as Eagle Creek and drained to the southeast. As mining operations on the mountain and the town, with associated facilities, were developed in this area, the drainage was altered to its present state, where Eagle Creek drains into the abandoned East Pit on the lower part of the mountain. The hydropower project would use the East Pit as the lower reservoir. Eagle Creek will continue to drain into the East Pit but the location will change from an empty pit to a reservoir that will alternate between being empty and full depending on project operations. Any overflows from the upper reservoir would exit via a spillway and enter Eagle Creek, terminating in the lower reservoir.

94. During a Probable Maximum Precipitation (PMP) event causing a Probable Maximum Flood (PMF), the lower reservoir may not be able to absorb all of these waters, depending on available storage capacity.⁸⁰ Eagle Crest proposes to construct a

⁷⁷ Kaiser Motion to Intervene & Protest, at 4-5, 14; Eagle Crest Response to Comments on Ready For Environmental Analysis Notice, at 33, 38-39.

⁷⁸ See EIS at 215-17.

⁷⁹ See EIS at A-20.

⁸⁰ See EIS at 83-87.

spillway on the lower reservoir and an artificial channel extending from that reservoir off the mountain and east over the aqueduct into the desert. Both the upper and lower reservoirs would have an available storage capacity of 17,700 acre-feet. Assuming the PMF results in 11,520 acre-feet of runoff to the lower reservoir, Eagle Crest states that the project would have sufficient capacity to absorb it, because it could utilize both the lower reservoir's spillway and the project's pumps to move water from the lower reservoir to available storage in the upper reservoir, as needed. However, Eagle Crest fails to consider a scenario where at the time of the PMF, the lower reservoir is at full capacity and the project's pumps are off-line and can't be utilized to move flow in excess of the spillway capacity to the upper reservoir. Therefore, the Exhibit F drawing Figure DLA 5-4 showing the design of the lower reservoir spillway is not approved, because the present design is likely insufficient to safely convey flood flows and protect the Colorado River Aqueduct at times when the project's pumps are offline.

95. Article 304 requires Eagle Crest to consult with a Board of Consultants to assess potential impacts of the project design and operations on the Colorado River Aqueduct. The Board of Consultants will make recommendations on the project's final design. Article 304 also requires the licensee to file after each Board meeting a statement of intent to comply with the Board's recommendations, or a statement identifying a plan to resolve any issues. Article 306 requires that the licensee to submit final contract drawings and specifications with the Commission 60 days prior to the start of construction. Article 202 requires the licensee to file a revised drawing of the lower reservoir spillway within 30 days of submitting final contract drawings, specifications and supporting design report to the Commission's Division of Dam Safety and Inspections (D2SI)–San Francisco Regional Engineer. This will ensure that the spillway will be properly designed and constructed.

96. The State Water Board recommends that Eagle Crest determine whether modifications to the Eagle Creek's channel are necessary to contain flood flows and investigate the adequacy of the Eagle Creek channel to accommodate emergency spill from the project dams.

97. We agree. Article 309 of the license requires Eagle Crest to perform an Inflow Design Flood and Hazard Classification study that includes: (1) an incremental hazard evaluation to determine the effects on downstream structures in the event of a dam failure; (2) a recommendation for the project's hazard potential classification; and (3) an assessment of the adequacy of the project's spillway capacity. The adequacy of the project's design to control the spillflow will be addressed by the Board of Consultants (Article 304).

98. The appropriate design flood should factor in the hazard potential of downstream structures and inhabitants. The design flood will be determined by the Commission's Division of Dam Safety and Inspections based on the recommendations of the Board of Consultants upon completion of the Inflow Design Flood and Hazard Classification Study required by Article 309.

G. Pre-Construction Site Investigations

99. As noted above, Eagle Crest did not have access to the Central Project Area during the development of its license application. Therefore, the State Water Board recommends that Eagle Crest conduct pre-construction site investigations of the Central Project Area to: (1) confirm that the proposed project feature locations are appropriate; (2) provide basic design parameters for the final layout of project features; and (3) confirm the relevance of the previous Central Project Area studies relied on during the environmental review of the project.

100. The State Water Board recommends that Eagle Crest evaluate the potential effects on reservoir and groundwater quality that may result from water contact with any remaining mine ore-bodies at the Eagle Mountain mine. Because the creation of a pumped storage reservoir in a former open pit iron mine has the potential to acidify water in the reservoir, the EIS recommended,⁸¹ and Article 402 requires, an evaluation and testing of the acid producing potential of remnant ore bodies.⁸²

101. The State Water Board recommends that Eagle Crest evaluate the geologic and geotechnical conditions in the area where project structures would be located. Given the extent of excavation needed to construct project facilities, the EIS recommended site-specific geotechnical investigations in these areas to determine the sites' geologic integrity.⁸³ We agree, and Article 304 requires an investigation of these topics by a Commission-approved Board of Consultants (Board). The article requires Eagle Crest to provide the Board with contract plans and specifications, a supporting design report, and other documents describing in detail how the project will be constructed in a safe manner in accordance with the Commission's Engineering Guidelines and oversight and in consideration of the project site's geologic integrity. Due to the scale of the project and its close proximity to the Colorado River Aqueduct, Article 304 also requires Eagle Crest

⁸¹ See EIS at 92-94.

⁸² Ore bodies are a mass of ore that is of different character from the adjoining rock.

⁸³ See EIS at 57.

to retain the Board to review and oversee the design and construction of the project. The Board will help ensure that the project is safe and does not adversely affect the Colorado River Aqueduct.

102. The State Water Board recommends that Eagle Crest establish baseline information on groundwater levels and quality. The EIS concluded that monitoring to verify background groundwater levels and background water quality is necessary to establish baseline conditions and to protect existing groundwater uses.⁸⁴ We agree, and the license requires Eagle Crest to determine background groundwater levels (Article 403) and background groundwater quality (Article 404) and develop monitoring networks after consultation with the State Water Board and other agencies.

103. The State Water Board recommends that Eagle Crest study project effects on the reduction in the Chuckwalla aquifer storativity⁸⁵ that could occur if the Chuckwalla aquifer is confined and the cone of depression⁸⁶ caused by Eagle Crest's groundwater pumping lowers the groundwater surface to a point below the top of the aquifer. Water in a confined aquifer is under pressure and when this pressure is removed by excessive drawdown, the porous sands and gravels which form the aquifer can compact under the weight of the earth and reduce its ability to store and release water. However, information on the record is unclear with regard to the extent of aquifer confinement.⁸⁷ Therefore, Article 401 requires Eagle Crest to investigate both aquifer confinement and project effects on storativity. Depending on the results of this investigation, the final design of the long-term groundwater monitoring network and the maximum allowable drawdown in the monitoring wells (required by Article 403) may be modified to ensure that the project does not lower the groundwater surface to an elevation below the top of a confined aquifer.

⁸⁴ See EIS at 299, 302.

⁸⁵ Storativity, also referred to as the storage coefficient, is the volume of water an aquifer releases from or takes into storage per unit surface area of the aquifer per unit change in head.

⁸⁶ A cone of depression, also known as a zone of influence, is the localized lowering of the water level immediately surrounding a pumping well. As the distance from the well increases, the local water level slowly rises to that of the prevailing level of the aquifer. The cone-shaped water level around the well forms, where the pumping rate of the well exceeds the surrounding aquifer recharge rate.

⁸⁷ See Eagle Mountain Project Draft EIR Appendix C, Technical Memorandum 12.4 Groundwater Supply, filed July 28, 2010.

104. The State Water Board recommends that Eagle Crest confirm the predicted seepage rates from the reservoirs. We agree, and Article 401 requires that Eagle Crest perform initial investigations of seepage of reservoirs and tunnels, and Article 405 requires Eagle Crest to confirm aquifer characteristics and test seepage recovery wells. The results of the site investigations will be used to develop the seepage management plan, also required by Article 405, which will finalize the design of the seepage recovery well network and seepage reduction measures, such as lining the inside of the reservoirs.

105. The State Water Board recommends that Eagle Crest conduct species surveys in the Central Project Area prior to project construction to update information about sensitive wildlife species, and make any necessary modifications to protective measures based on the updated information. Consistent with these recommendations, the EIS recommended measures and/or surveys in areas not previously surveyed for special-status plants, Couch's spadefoot toad, migratory birds, burrowing owls, raptors nests, badger and kit fox burrows, and bat roosts and foraging areas.⁸⁸ The license requires Eagle Crest to conduct pre-construction surveys for special-status plants (Article 412), and other sensitive wildlife species such as burrowing owls (Article 414), Couch's spadefoot toad (Article 411), nesting migratory birds and raptors (Article 413), and badger and kit fox (Article 414) to identify locations of these species.

H. Wildlife

106. The State Water Board recommends that Eagle Crest develop a Wildlife Protection Plan to protect wildlife and their habitats from project-related effects.

107. The EIS concluded that noise and land-disturbing activities from project construction could disturb nesting birds and cause injury or mortality to burrowing owls. Further, the EIS noted that the salts and heavy metals in the proposed desalination ponds associated with the proposed reverse osmosis facility and project transmission lines could pose health risks to birds.⁸⁹ Consistent with the State Water Board's recommendation, the license requires a Comprehensive Avian Protection Plan (Article 413) that includes pre-construction surveys and protection measures for nesting migratory birds, raptors, and burrowing owls.

108. The EIS also concluded that land-disturbing activities from project construction could adversely affect small mammal habitat, and wildlife could become trapped in open

⁸⁸ See EIS at 303-05.

⁸⁹ See EIS at 165-66, 329.

pipeline trenches.⁹⁰ Therefore, consistent with the State Water Board's recommendation, the license requires a Comprehensive Wildlife Protection Plan (Article 414) that includes pre-construction surveys and protective measures for bats, badgers, and kit foxes.

109. To protect Couch's spadefoot toad,⁹¹ the State Water Board recommended that Eagle Crest implement the following measures: (1) during construction, examine ephemeral pools from early spring through fall for larvae, and avoid the pools during construction if larvae are present; (2) if avoidance is not possible, construct new pools to which larvae would be translocated; and (3) avoid disturbance of impoundments and restriction of surface flow to impoundments.

110. The EIS recommended protection measures for Couch's spadefoot toad consistent with those recommended by the State Water Board.⁹² Article 411 requires those measures.

I. Pollution Prevention

111. The State Water Board recommends several measures for the prevention of pollution that may impact surface or groundwater, including spill prevention and non-hazardous and hazardous waste management, storage, and disposal. These typical best practices will prevent the contamination of soils, surface water, and groundwater at hydroelectric projects. Article 422 therefore requires Eagle Crest to develop a water and soil pollution prevention plan to address each of the provisions recommended by the State Water Board.

J. Surface Water Quality

112. The State Water Board recommends that reservoir water quality be maintained at a level equivalent to, or better than, baseline water quality values and that seepage from the reservoirs not cause groundwater to: exhibit a pH of less than 6.5 or greater than 8.5 pH units; or acquire taste, odor, toxicity or color that creates a nuisance or impairs beneficial use. The State Water Board recommends a surface water monitoring plan to ensure that reservoir water quality is maintained.

⁹⁰ See EIS at 153.

⁹¹ Couch's spadefoot toad is designated as a BLM Sensitive Species and a California Species of Special Concern.

⁹² See EIS at 148, 313.

113. The State Water Board also recommends that Eagle Crest develop and implement a water treatment, waste management, and disposal plan to maintain the reservoirs' water quality.

114. The EIS concluded that Eagle Crest can maintain water quality through the operation of its proposed reverse osmosis desalination facility.⁹³ The system will take untreated water from the upper reservoir and return clean water to the lower reservoir. The filtrate water, which will be high in salts, will be discharged to desalinization ponds where evaporation changes the filtrate into solids that are then disposed of. Article 406 requires reservoir and reverse osmosis facility monitoring to ensure that water quality is maintained in a manner consistent with that recommended by the State Water Board.

115. Consistent with the State Water Board's recommendation for a water treatment, waste management, and disposal plan, Article 408 requires Eagle Crest to implement a salt management storage and disposal plan.

K. FWS Conservation Recommendation

116. In the final EIS, staff recommended a primary transmission line route that extends southeast of the project about 16.4 miles mostly along existing road and power line rights-of-way to a connection point with SCE's Devers to Palo Verde 2 line at the existing Red Bluff substation.

117. FWS, in its Biological Opinion, recommends that Eagle Crest relocate a 6.8-mile-long portion of the proposed transmission line to co-locate it with the water supply pipeline west of Kaiser Road, which would minimize surface disturbance and fragmentation of habitat in an area of concern for the desert tortoise.

118. Commission staff sought comments and interventions from all affected landowners, federal and state agencies, and Eagle Crest, on FWS' recommended modification to the transmission line route.⁹⁴ Eagle Crest expressed its concerns regarding the FWS route based on environmental issues, the need for a new right-of-way

⁹³ See EIS at 301-02.

⁹⁴ Commission staff letter dated May 10, 2012.

to accommodate the route, and proximity of the route to a school.⁹⁵ Metropolitan Water District of Southern California expressed concerns about the proximity of the FWS route to its air strip and the potential to interfere with its operations.⁹⁶

119. In comparison to FWS' recommended transmission line route, the EIS-recommended route would: (1) require less revegetation; (2) have fewer predation risks associated with perching and nesting habitat for raptors; (3) result in less disturbance to sensitive desert tortoise habitat; (4) occur in less desert tortoise designated critical habitat; and (5) would not interfere with Metropolitan Water District's aviation operations. Therefore, we decline to adopt FWS' recommendation.

L. Invasive Plant Species Monitoring and Control

120. Land-disturbing activities associated with project construction, and the construction and operation of the proposed reservoirs could result in the establishment and encroachment of invasive plant species in the project area. The EIS recommended expanding Eagle Crest's proposed plan to monitor and control invasive species to include seepages and project-affected lands,⁹⁷ and the removal of woody vegetation from around reservoirs that may provide habitat for desert tortoise predators.⁹⁸ Article 410 of the license requires these measures.

M. Desert Bighorn Sheep

121. The EIS identified a sub-population of desert bighorn sheep, a BLM sensitive species,⁹⁹ inhabiting the project area on Eagle Mountain and adjoining areas in Joshua Tree National Park. The EIS concluded that these sheep could be affected by facility lighting and by minor and temporary disturbances associated with construction.¹⁰⁰

⁹⁵ Letter filed with the Commission on June 7, 2012.

⁹⁶ Letter filed with the Commission on July 13, 2012.

⁹⁷ See EIS at 328-29.

⁹⁸ See EIS at 320, 328.

⁹⁹ BLM sensitive species are those species that are neither federally listed as endangered or threatened, nor proposed for federal listing, but which are designated by BLM for special management consideration.

¹⁰⁰ See EIS at 160-62.

122. The license includes measures to protect desert bighorn sheep from the dangers of project facilities including construction activities. The license includes measures for designing, installing, and maintaining facility lighting to prevent casting of light into adjacent native habitat (Article 420); and implementing the Worker Environmental Awareness Program (Article 418).

123. Eagle Crest proposed an enhancement measure to provide a new source of drinking water for the sheep, by allowing access to water in the project reservoirs.¹⁰¹ However, FWS' Biological Opinion prohibits Eagle Crest from providing drinking water for any desert wildlife, on the grounds that it would adversely affect the desert tortoise by attracting or subsidizing predators, such as coyotes, wild dogs, ravens, and gulls, which would benefit from the new water supply.¹⁰² As a result, the license does not include any measures for providing access to water in the project reservoirs for bighorn sheep or other species.

N. Construction Activities

124. Land-disturbing activities associated with project construction may result in higher levels of dust in the air, and operation of construction equipment may be a source of emissions. Eagle Crest proposes multiple measures to protect air quality and the EIS found that each of these proposed measures would help protect air quality. Certain measures in the erosion and sediment control plan required by Article 302 will help to minimize dust levels during project construction. In addition, Article 423 requires an air quality monitoring and protection plan, which will include the establishment of air quality standards to be met during construction, and an adaptive management approach to comply with the established standards. With the implementation of the air quality monitoring and protection plan, Eagle Crest's construction activities will be monitored for compliance with the established air quality standards.

125. Construction of the project would have a temporary effect on noise levels in the project area. Eagle Crest proposes to equip all construction equipment with properly operating and maintained mufflers and intake silencers, consistent with the manufacturer's standard and to comply with the Riverside County's applicable noise ordinance codes. In the EIS, Commission staff recommended Eagle Crest's proposal finding that compliance with county noise ordinance codes during construction would minimize the effect of construction noise.¹⁰³ Because Eagle Crest will have to comply

¹⁰¹ See EIS at 125-43, 159-62.

¹⁰² See FWS Biological Opinion filed April 13, 2012.

¹⁰³ See EIS at 334.

with local ordinances that are not preempted by our jurisdiction; there is no need to include a specific requirement in the license to comply with applicable noise codes.¹⁰⁴

O. Seismicity

126. A number of parties are concerned about earthquake risks to the project, noting that the San Andreas Fault is nearby and there are other faults closer to the project whose potential impacts have not been fully analyzed.¹⁰⁵

127. The EIS reviewed the available scientific and commercial information on the known seismic risks to project dams and other infrastructure and concluded that the risks of earthquakes in the project area was low due to the absence of active faults.¹⁰⁶ Eagle Crest is required to develop information and prepare reports related to the seismicity and the structural stability of project works for the Board of Consultants in Article 304. The results of these investigations would be used to develop the final engineering design for the proposed project. The design of the dams and other structures would be reviewed and evaluated by the Board of Consultants and the Commission's Division of Dam Safety and Inspections, as required by Article 304 of the license. Only after the Commission's Division of Dam Safety and Inspections deems the final project design safe, would Eagle Crest be granted final approval to construct the project.

P. Landowner Concerns

128. Local landowners in the Desert Center community have objected to the proposed project on many grounds related to the use and enjoyment of their properties. They object to any taking of their lands for project purposes, including the right-of-ways for the water supply pipeline and primary transmission line, the congestion and pollution they claim would be caused by construction activities, and interference with the peace and quiet of the desert. Finally, they object to adverse effects on their water wells, which they claim would be inevitable, given the large water needs of the proposed hydropower project.

¹⁰⁴ See *PacifiCorp*, 133 FERC ¶ 61,232, at P 140 (2010).

¹⁰⁵ *E.g.*, Interior comments on final EIS at 8; County Sanitation District comments on final EIS at 8.

¹⁰⁶ See EIS at 56.

129. Regarding the use of lands for project purposes, Eagle Crest must first obtain permission to access private lands. If an agreement cannot be reached with an affected landowner, Eagle Crest would have to go to state or federal court to obtain any land rights required for project purposes. Appropriate compensation would be owed to a landowner for such rights.¹⁰⁷

130. The EIS carefully considered the landowners' concerns with construction-related disturbance and congestion, and general project effects on aesthetic resources, recommending various measures to address them.¹⁰⁸ The license requires various measures to limit adverse impacts on the landowners and others in the community during construction and operation of the project (Articles 419 through 423).

131. Regarding Landowners' concerns with potential adverse effects on their water wells, as discussed above, the FPA section 10(c) makes clear that a licensee of a hydropower project "shall be liable for all damages occasioned to the property of others by the construction, maintenance, or operation of the project works...."

132. After the final EIS was issued, Mr. David Allan noted, by letter filed on May 17, 2012, that the transmission line associated with this project may have safety concerns associated with aircraft and the effects of electromagnetic fields (EMF) on the public and wildlife. He, therefore, suggests that the transmission line be buried underground.

133. The vast majority of transmission lines in the Chuckwalla Valley are above ground, including the existing 500-kV Devers-Palo Verde and the 500-kV Devers-Palo Verde No 2 transmission lines. Much of the project's primary transmission line will be co-located with other transmission routes, and no agency (e.g., Department of Defense or the Federal Aviation Administration) raised any safety concerns with the recommended above-ground primary transmission line or its route. Regarding Mr. Allan's concerns with EMFs, review of the available scientific literature indicates that there is uncertainty concerning whether, and how, exposure to EMF might adversely affect human and animal health. The National Institute of Environmental Health Sciences issued the most authoritative assessment of effects of EMFs on humans and animals in June 1999. After Congressionally mandated research, it concluded that the evidence for a risk of cancer and other human disease from the EMFs around power lines is "weak."¹⁰⁹

¹⁰⁷ See section 21 of the FPA, 16 U.S.C. § 814 (2012).

¹⁰⁸ See EIS at 331-33.

¹⁰⁹ National Institute of Environmental Health Sciences, National Institutes of Health. NIEHS Report on Health Effects from Exposure to Power-Line Frequency

134. Commission staff estimates that the cost of burying the 500-kV line associated with the project would be at least five times the cost of an above-ground transmission line, or about \$3 million per mile. For these reasons, the license does not require the project's primary transmission line to be buried.

Exemption of the FERC Form 80 Recreation Report

135. The FERC Form 80 Recreation Report (Form 80) collects recreation usage data on recreation facilities at projects through the term of their licenses. The project has little or no potential for recreation, because access to the project reservoirs will be restricted and the linear transmission line and pipeline corridors are not conducive to recreation. Therefore, Eagle Crest is exempt from filing the Form 80 during the term of its license (Article 424).

THE National Environmental Policy Act (NEPA)

136. Several entities have criticized Commission staff's environmental review of the Eagle Mountain Project. They point out that Kaiser, the landowner of record, has not allowed Eagle Crest access to the Central Project Area to perform geotechnical surveys (soil, infiltration, runoff, etc.), so that the project's impacts to the local environment are poorly characterized or unknown.¹¹⁰

137. During the NEPA process, Commission staff relied on publicly available information, such as prior environmental documents associated with the Eagle Mountain Landfill EIS, the Environmental Impact Report by Riverside County for the Landfill, BLM's Record of Decision approving the land exchange for the landfill in the Central Project Area, recent aerial photography, historical information, mining studies, and information from nearby and similar areas, to analyze the environmental impacts of the project and prepare the EIS. This material provided substantial information about environmental resources in the project area. Additionally, the EIS recommended that Eagle Crest conduct surveys and develop and implement appropriate mitigation measures before any land-disturbing activities begin, and to refine the project's design and proposed measures prior to the start of construction. Eagle Crest is required to conduct detailed site investigations of the Central Project Area after access is obtained (Article

Electric and Magnetic Fields. NIH Publication No. 99-4493. National Institute of Environmental Health Sciences, Research Triangle Park, NC, 1999.

¹¹⁰ Interior comments on draft EIS at 1-2, and on final EIS at 7-8, 10; County Sanitation District comments on final EIS; EPA comments on final EIS, Detailed Comments at 1; Kaiser comments on draft EIS at 1-3.

401). We conclude that these sources of information, the best commercially or scientifically available, were adequate to support the NEPA process.

138. Commenters have also alleged that the Commission should have examined environmental justice concerns in the manner directed by Executive Order 12898.¹¹¹

139. The EIS considered such concerns to be unfounded.¹¹² There is no evidence to suggest that Eagle Crest selected the Eagle Mountain site to take advantage of an economically disadvantaged community. To the contrary, the record makes clear that the site has unique features, including abandoned mining pits and elevation differentials, which make it suitable for use by a pumped storage project. In addition, the project would bring the advantages of more jobs and economic activity to Riverside County and the local community. Furthermore, as the Commission has made clear in previous orders, acknowledged by EPA, the Commission is as an independent regulatory agency not subject to the terms of Executive Order 12898.¹¹³

140. EPA has argued that the Commission should have evaluated the effect of climate change on the proposed project.¹¹⁴

141. It would be too speculative to attempt to predict future scenarios that may occur due to climate change. If there is a need to modify project operations or facilities to accommodate changes because of climate change or related factors during the license term, and reliable data became available to justify such modifications, the Commission has retained the authority to reopen the license to determine whether additional environmental measures are necessary.¹¹⁵

¹¹¹ EPA comments on draft EIS, Detailed Comments at 4-5; EPA comments on final EIS, Detailed Comments at 2; Desert Protection Society comments on draft EIS at 3-4.

¹¹² See EIS at A-99.

¹¹³ See, e.g., *Idaho Power Company*, 110 FERC ¶ 61,345 (2005); *Sound Energy Solutions*, 107 FERC ¶61,263, at P 109 (2004).

¹¹⁴ EPA comments on draft EIS, Detailed Comments at 7.

¹¹⁵ See *Alaska Energy Authority*, 144 FERC ¶ 61,040 (2013).

142. Finally, parties have claimed that in the NEPA process the Commission did not evaluate cumulative impacts associated with the many energy projects, most of them solar, proposed for the Chuckwalla Valley.¹¹⁶

143. The EIS analyzed cumulative effects in many respects, including those related to the proposed energy projects in the valley, based on the latest information available.¹¹⁷ We have reviewed the discussion of cumulative effects, taking into account the latest status of those projects, and find no need to revise the EIS.

Administrative Provisions

A. Annual Charges

144. The Commission collects annual charges from licensees for administration of the FPA. Article 201 provides for the collection of funds for administration of the FPA and use and occupancy of U.S. lands, and Article 207 requires Eagle Crest to notify the Commission of the commencement of project construction for purposes of administering Article 201.

B. Exhibit F and G Drawings

145. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Article 202 requires the filing of these drawings.

146. Except for the Exhibit F drawing Figure DLA 5-4 showing the design of the spillway from the lower reservoir and the artificial channel leading from the spillway, over the Colorado River Aqueduct, Exhibit F drawings filed on June 22, 2009, and October 27, 2009, and Exhibit G drawings filed on June 22, 2009 and amended on October 26, 2012 are approved and made part of the license by ordering paragraph (C). The current design of the lower reservoir spillway channel may not be adequate to safely convey anticipated flood flows across the Colorado River Aqueduct. Eagle Crest must file a revised Exhibit F drawing (Article 206). As required by Article 416, Eagle Crest must also file a revised Exhibit G to include the Desert Tortoise Mitigation Lands within the project boundary.

¹¹⁶ Interior comments on final EIS at 5, 12; EPA comments on draft EIS, Detailed Comments, at 2-4, and comments on final EIS, Detailed Comments, at 1-3.

¹¹⁷ See EIS at 110, A-105 to A-110.

C. Amortization Reserve

147. The Commission requires that for original licenses for major projects, non-municipal licensees must set up and maintain an amortization reserve account after the first 20 years of operation of the project under license. Article 203 requires the establishment of the account.

D. Project Land Rights Progress Report

148. The project will occupy 2,527 acres of land, of which 699.2 are federal lands managed by BLM and 1,827.9¹¹⁸ acres are private/patented lands. The exhibit G-7 filed as part of the application for license, as revised,¹¹⁹ identifies land ownership of all lands within the project boundary. Standard Article 5 set forth in Form L-2 requires Eagle Crest to acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project, prior to starting project construction. In order to monitor compliance with Article 5, Article 204 requires Eagle Crest to file, within six months of license issuance, a report detailing its progress on acquiring title in fee or the necessary rights to all lands within the project boundary. The report shall include specific documentation on the status of the rights that have been acquired as of the filing date of the progress report, and a plan and schedule to acquire all remaining land prior to starting construction.

E. Project Financing

149. To ensure that there are sufficient funds available for project construction, operation, and maintenance, Article 205 requires Eagle Crest to file for Commission approval documentation of project financing for the construction, operation, and maintenance of the project at least 30 days before starting any land-disturbing activities that are associated with the project.

F. Permanent or Temporary Modification

150. Article 310 requires that any permanent or temporary modification which may affect the project works or operations shall be coordinated with the Commission's Division of Dam Safety and Inspection San Francisco Regional Office (D2SI-SFRO) at

¹¹⁸ This acreage includes 448.6 acres within the project boundary associated with public/private land transfer currently in litigation.

¹¹⁹ Eagle Crest filing of August 12, 2013.

the beginning of the planning and design phase. This includes those modifications resulting from license environmental requirements.

G. Use and Occupancy of Project Lands and Waters

151. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project lands would be unduly burdensome. Therefore, Article 426 allows Eagle Crest to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic and environmental values of the project.

H. Start of Construction

152. Article 301 requires Eagle Crest to commence construction of the project works within two years from the issuance date of the license and to complete construction of the project within seven years of the issuance date of the license.

I. Review of Final Plans and Specifications

153. Article 302 requires Eagle Crest to provide the Commission's D2SI-SFO with final contract drawings and specifications. Eagle Crest may not begin construction until the D2SI-San Francisco Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

154. Article 303 requires Eagle Crest to provide the Commission's D2SI-SFRO with cofferdam construction drawings.

155. Article 304 provides for the establishment of a Board of Consultants that will review final designs and make recommendations to the Commission regarding possible design modifications. Eagle Crest has been unable to obtain site access and the development of near-final design plans has been delayed. Post-licensing site investigations will allow Eagle Crest to further investigate site geologic conditions and refine the proposed project designs. A Board of Consultants will assess the geology of the site and surroundings and the design of all project structures. In particular the Board of Consultants will investigate the potential impact of the project design and operations on the Colorado River Aqueduct. On-site investigations and the review by the Board of Consultants may result in changes to the project design and to final drawings and specifications.

156. Article 305 requires Eagle Crest to file the initial independent consultant's inspection report no later than five years from the date of first commercial operation or the date on which the project's reservoirs initial filling is completed, whichever comes first.

157. Where new construction or modifications to the project are involved, the Commission requires Eagle Crest to file revised drawings of project features as-built. Article 306 provides for the filing of these drawings.

158. Article 307 requires Eagle Crest to submit a Public Safety Plan for the project to the Commission's D2SI-San Francisco Regional Engineer.

159. To demonstrate awareness of the roles and responsibilities of project owners and staff for the safety of the project, Article 308 requires Eagle Crest to submit a Project Owner's Dam Safety Program to the Commission's D2SI-San Francisco Regional Engineer.

State and Federal Comprehensive Plans

160. Section 10(a)(2)(A) of the FPA¹²⁰ requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.¹²¹ Under section 10(a)(2)(A), federal and state agencies filed 74 comprehensive plans that address various resources in California. Of these, staff identified and reviewed 11 comprehensive plans¹²² that are relevant to this project. No conflicts were found.

Conservation Efforts

161. Sections 10(a)(2)(C) of the FPA¹²³ requires the Commission to consider the electricity consumption improvement programs of Eagle Crest, including its plans, performance, and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively, taking into account the published policies, restrictions, and requirements of state regulatory authorities. As an independent power producer, Eagle Crest will sell the project's power to a local power provider rather than end-users. Therefore, given the limits of its ability to influence users of the electricity generated by the project, Eagle Crest will comply with section 10(a)(2)(C) of the FPA.

¹²⁰ 16 U.S.C. § 803(a)(2)(A) (2012).

¹²¹ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2013).

¹²² The list of applicable plans can be found in section 5.4 of the EIS.

¹²³ 16 U.S.C. § 803(a)(2)(C) (2012).

Safe Management, Operation, and Maintenance of the Project

162. Staff reviewed Eagle Crest's preliminary plans to build the project as described in the license application. The project will be safe when constructed, operated, and maintained in accordance with the Commission's standards and provisions of the license.

Need for Power

163. To assess the need for power, staff looked at the needs in the operating region in which the project is located. Project power will be used to meet regional electrical demand. The project will be located in the California-South subregion of the Western Electricity Coordinating Council region of the North American Electric Reliability Council (NERC). According to NERC's most recent 2013 forecast, summer peak demands and annual energy requirements for the United States' portion of the California-South subregion are both projected to grow by 1.44 percent from 2014 through 2023.¹²⁴ NERC projects summer and winter resource capacity margins (generating capacity in excess of demand) will not drop below target reserve levels during the 2014–2023 period. California has enacted renewable resource goals to increase the percentage of renewable resource generation to 33 percent by 2020. The projected wind, solar, biomass, and small (under 30 MW) hydroelectric facilities will help to achieve these goals. However, the variable output of wind and solar facilities can create an imbalance in the stability of the electric grid if sufficient facilities are not available to balance the system. The two primary alternatives being considered in the region to address these imbalances are pumped storage facilities and gas-fired combustion turbines. The installation of pumped storage facilities for the purposes of system balancing will be supportive of California's renewable resource goals because the facilities do not require the burning of fossil fuels.

Project Economics

164. In determining whether to issue an original license for a hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,¹²⁵ the Commission uses current costs to compare the costs of the project and likely alternative power with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a

¹²⁴ North American Reliability Corporation. 2013. 2013 Long Term Reliability Assessment.

¹²⁵ 72 FERC ¶ 61,027 (1995).

general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

165. In applying this analysis to the Eagle Mountain Project, staff considered two options: Eagle Crest's proposal and the project as licensed herein. As proposed by Eagle Crest, the levelized annual cost of operating the project is \$381,408,691 or \$88.53/MWh. The proposed project will generate an estimated average of 4,308,000 MWh of energy annually. When staff multiplies its estimate of average annual generation by the alternative power cost of \$121.52/MWh,¹²⁶ staff gets a total value of the project's power of \$523,508,160 in 2014 dollars. To determine whether the project is currently economically beneficial, staff subtracted the project costs from the value of the project's power.¹²⁷ Therefore, in the first year of operation, the project will cost \$142,099,469 or \$32.99/MWh, less than the likely alternative cost of power.

166. As licensed herein with the mandatory conditions and staff measures, the levelized annual cost of operating the project will be about \$382,384,930, or \$88.76/MWh. Based on an estimated average generation of 4,308,000 MWh as licensed, the project will produce power valued at \$523,508,160 when multiplied by the \$121.52/MWh value of the project's power. Therefore, in the first year of operation, project power will cost \$141,123,230, or \$32.76/MWh, less than the likely cost of alternative power.

167. In considering public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary service benefits). These benefits include the ability to help maintain the stability of a power system, such as quickly adjusting power output to respond to rapid changes in system load, and to respond rapidly to a major utility system or regional blackout by providing a source of power to help restart fossil-fuel based generating stations and put them back on line. The project will help stabilize the variable output of nearby existing and proposed wind and solar projects that can create an imbalance in the

¹²⁶ The alternative power cost is based on an energy value of \$40/MWh (Eagle Crest Energy estimate), a capacity value of \$154/kW-year (hydro-equivalent combined-cycle combustion turbine capacity according to the Annual Energy Outlook for 2010), and an ancillary services value of \$95/kW-year (staff estimate based on information provided by Eagle Crest Energy).

¹²⁷ Details of staff's economic analysis for the project as licensed herein and for various alternatives are included in the final EIS.

stability of the electric grid if sufficient facilities are not available to balance the system. The two primary alternatives being considered in the region to address these imbalances are pumped storage facilities and gas-fired combustion turbines.

Comprehensive Development

168. Sections 4(e) and 10(a)(1) of the FPA¹²⁸ require the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation; the protection, mitigation of damage to, and enhancement of wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

169. The EIS for the project contains background information, analysis of effects, and support for related license articles. The project will be safe if operated and maintained in accordance with the requirements of the license.

170. Based on staff's independent review and evaluation of the Eagle Mountain Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EIS, we have selected the proposed Eagle Mountain Project, with staff-recommended measures and mandatory conditions, and find that it is best adapted to a comprehensive plan for developing this water resource.

171. We selected this alternative because: (1) issuance of an original license will serve to provide a beneficial and dependable source of electric energy; (2) the 1,300 MW of electric capacity will be used to stabilize the variable output of nearby existing and proposed renewable generation sources; and (3) the required environmental measures will protect water quantity and quality, wildlife resources, aesthetic resources, and historic properties.

License Term

172. Section 6 of the FPA,¹²⁹ provides that original licenses for hydropower projects shall be issued for a period not to exceed 50 years. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, or environmental mitigation and enhancement measures; 40-year terms for projects with

¹²⁸ 16 U.S.C. §§ 797(e) and 803(a)(1) (2012).

¹²⁹ 16 U.S.C. § 799 (2012).

a moderate amount of such activities; and 50-year terms for projects with extensive measures.¹³⁰ The license requires an extensive amount of new construction and environmental measures, including a construction cost in excess of 1 billion dollars. Consequently, a 50-year license for the Eagle Mountain Project is appropriate.

The Commission orders:

(A) This license is issued to Eagle Crest Energy (licensee), for a period of 50 years, effective the first day of the month in which this order is issued, to construct, operate, and maintain the Eagle Mountain Project. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interest in those lands, enclosed by the project boundary shown by Exhibit G filed October 26, 2012:

Exhibit G: The following exhibit G drawings filed on October 26, 2012:

<u>Exhibit No.</u>	<u>FERC No. 12123-</u>	<u>Description</u>
G-1	24	Project Boundary Sheet 1
G-2	25	Project Boundary Sheet 2

(2) Project works consisting of: (a) an upper reservoir; (b) an upper water conveyance system; (c) generating/pumping facilities; (d) a lower reservoir; (e) a lower water conveyance system; (f) a transmission system; (g) a water supply system; (h) a water treatment system; and (i) appurtenant facilities.

The upper reservoir project works include:

(a) a 191-acre reservoir with a total storage capacity of 20,000 acre-feet and a useable storage of 17,700 acre-feet at an elevation of 2,485 foot above mean sea level (msl);

(b) one 1,300-foot-long, 120-foot-high saddle dam with a crest at elevation 2,490 feet msl on the south side of the reservoir and about 4,000 feet to the northwest, and

¹³⁰ See *City of Danville, Virginia*, 58 FERC ¶ 61,318 at 62,020 (1992).

another 1,100-foot-long, 60-foot-high saddle dam with a crest at elevation 2,490 feet msl on the west side of the reservoir;

(c) a 100-foot-long spillway on the 120-foot-high saddle dam with a spillway crest at elevation 2,485 feet msl and a 100-foot-wide by 30-foot-long spillway stilling basin;

(d) a spillway channel about 4,000 feet long;

(e) a 14,000-foot-long section of Eagle Creek that transports spillway flows to the lower reservoir; and

(f) an inlet/outlet structure.

The upper water conveyance system includes:

(a) a 29-foot-diameter by 3,963-foot-long upper pressure tunnel;

(b) a 33-foot-diameter by 1,348-foot-long vertical tunnel shaft;

(c) a 90-foot-diameter by 165-foot-high underground surge tank attached to the vertical tunnel shaft;

(d) a 29-foot-diameter by 1,560-foot-long lower tunnel; and

(e) a manifold to transition the lower tunnel to four 15-foot-diameter by 500-foot-long penstock tunnels.

The generating/pumping facilities include:

(a) a 28-foot-wide, 28-foot-high, by 6,625-foot-long access tunnel to the underground powerhouse;

(b) a 72-foot-wide, 130-foot-high, and 360-foot-long underground powerhouse;

(c) four reversible pump-turbine units rated at 325 MW each, for a total installed capacity of 1,300 MW; and

(d) a separate 46-foot-wide, 40-foot-high, and a 431-foot-long transformer gallery.

The lower reservoir project works include:

(a) a 163-acre reservoir with a total storage capacity of 21,900 acre-feet and a useable storage of 17,700-acre-feet at elevation 1,092 feet msl;

(b) an inlet/outlet structure;

(c) a spillway with a crest at elevation 1,094 feet msl; and

(d) a spillway discharge channel extending 6,665 feet from the spillway to a desert wash.

The lower water conveyance system includes:

- (a) four, 17-foot-diameter by 75-foot-long draft tube tunnels;
- (b) a manifold to transition the draft tube tunnels to the tailrace tunnel; and
- (c) a 33-foot-diameter by 6,835-foot-long tailrace tunnel.

The transmission system includes:

- (a) four 6,000-foot-long, 18-kilovolt (kV) underground transmission cables that extend through the powerhouse access tunnel and vertical transmission shaft to the ground surface and then 4,000 feet overhead to a switchyard;
- (b) a 500-foot-wide by 1,100-foot-long switchyard;
- (c) a 16.4-mile-long, double circuit 500-kV transmission line from the switchyard to the new Red Bluff substation located at the point of interconnection with Southern California Edison's 500-kV Devers-Palo Verde No. 2 transmission line at Desert Center, generally following existing roads for the Central Project Area to the Colorado River aqueduct and then paralleling an existing power line to a point 2 miles north of the Red Bluff substation.

The water supply system includes:

- (a) three water supply wells with pumps 13 miles southeast of the Central Project Area;¹³¹
- (b) an underground water supply pipeline ranging from 12- to 24-inches in diameter, totaling 15.3 miles, and extending from the wells along the 500-kV transmission line corridor to Kaiser Road and then along Kaiser Road to the Central Project Area and the lower reservoir.

¹³¹ The area, referred to as the Central Project Area, includes all of the project's facilities except its linear features (e.g., primary transmission line and the water supply pipeline) and is located at the Eagle Mountain mine.

The water treatment system includes:

- (a) a reverse osmosis facility;
- (b) pipelines between the upper and lower reservoirs and the reverse osmosis facility and;
- (c) desalination facilities with piping from the reverse osmosis facility.

The project works generally described above are more specifically shown and described by those portions of Exhibits A and F shown below:

Exhibit A: The following sections of Exhibit A filed on June 22, 2009:

Section 1 and table 1-1 on pages 1-1 through 1-12 specify the physical composition of the project including the size, capacities, and construction material of structures, and describe the mechanical, electrical, transmission equipment; the reservoirs and the spillways; the water conveyance structures, including the penstocks and pressure tunnels; the powerhouse; access tunnels; structures such as the switch yard; water supply and conveyance pipelines; and water treatment facilities.

Exhibit F: The following exhibit F drawings filed on June 22, 2009, and October 27, 2009:

<u>Exhibit No.</u>	<u>Drawing No.</u>	<u>FERC No.</u> <u>13123-</u>	<u>Description</u>
F-1	Figure 102	1	Plan – Project Features
F-2	Figure 201	2	Upper Reservoir Plan and Elevation-Area-Capacity Curves
F-3	Figure 202	3	Upper Reservoir Dams Plans & Sections
F-4	Figure 203	4	Lower Reservoir Plan and Elevation-Area-Capacity Curves
F-5	Figure 204	5	Upper Reservoir Inlet/Outlet Layout Plan
F-6	Figure 205	6	Upper Reservoir Inlet/Outlet Plan, Elevation and Section
F-7	Figure 206	7	Lower Reservoir Inlet/Outlet Layout Plan
F-8	Figure 207	8	Lower Reservoir Inlet/Outlet Plan, Elevation and Section
F-9	Figure 301	9	Profile Water Conduits

<u>Exhibit No.</u>	<u>Drawing No.</u>	<u>FERC No.</u> <u>13123-</u>	<u>Description</u>
F-10	Figure 302	10	Surge Tank Plan, Section and Construction Tunnel Portal
F-11	Figure 303	11	Rock-trap and Downstream Surge Tank
F-12	Figure 401	12	Powerhouse Layout Plan and Water Conduit Sections
F-13	Figure 402	13	Profiles and Sections Access Tunnels
F-14	Figure 403	14	Powerhouse Typical Cross-section
F-15	Figure 404	15	Plan View – Machine Hall and Transformer Hall El. +38
F-16	Figure 405	16	Longitudinal Section Along Centerline Units and Transformer Hall
F-17	Figure 406	17	Plan View – Turbine Floor El. +9
F-18	Figure 407	18	Plan View – Tailrace at El. - 31
F-19	Figure 501	19	Water Supply and Transmission Lines
F-20	Figure DLA5-1	20	Project Stormwater Drainage Plan
F-21	Figure DLA5-2	21	Upper Reservoir Spillway Plan, Profile, and Section
F-22	Figure DLA5-3	22	Upper Reservoir Spillway Channel
F-23	Figure DLA5-5	23	Landfill Compatibility with Project Storm Water Drainage Plan

(3) All of the structures, fixtures, equipment or facilities used to operate or maintain the project, all portable property that may be employed in connection with the project, and all other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The Exhibits A, F, and G described above are approved and made part of the license. Figure DLA 5.4 Lower Reservoir Spillway Channel of the Exhibit F filed October 27, 2009, is not approved as it is not in conformance with Commission regulations.

(D) This license is subject to the incidental take terms and conditions of the Biological Opinion submitted by the U.S. Fish and Wildlife Service under section 7 of the Endangered Species Act, as those conditions are set forth in Appendix A of this order.

(E) This license is also subject to the articles set forth in Form L-2 (October 1975), entitled "Terms and Conditions of License Order for Unconstructed Major Project Affecting Lands of the United States" (see 54 F.P.C. 1799 *et seq.*), as reproduced at the end of this order, and the following additional articles:

Article 201. *Administrative Annual Charges.* The licensee shall pay the United States the following annual charges, as determined in accordance with the provisions of the Commission's regulations in effect from time to time:

(a) effective as of the date of commencement of project construction, to reimburse the United States for the cost of administration of Part 1 of the Federal Power Act. The authorized installed capacity for that purpose is 1,300 megawatts;

(b) to recompense the United States for the use, occupancy and enjoyment of 155.2 acres of its lands (other than for transmission line rights-of-way); and

(c) to recompense the United States for the use, occupancy and enjoyment of 544.0 acres of its lands for transmission line right-of-way.

Article 202. *Exhibit Drawings.* Within 45 days of the date of issuance of the license, as directed below, the licensee shall file the approved exhibit drawings and GIS data in electronic file format on CD disks.

(a) Digital images of the approved exhibit drawings shall be prepared in electronic format. Prior to preparing each digital image, the FERC Project-Drawing Number (i.e., P-13123-#### through P-13123-####) shall be shown in the margin below the title block of the approved drawing. Exhibit F drawings must be segregated from other project exhibits and identified as (CEII) material under 18 CFR §388.113(c). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-13123-####, G-1, Project Boundary, MM-DD-YYYY.TIF].

Each Exhibit G drawing that includes the project boundary must contain a minimum of three known reference points (i.e., latitude and longitude coordinates, or state plane coordinates). The points must be arranged in a triangular format for GIS georeferencing the project boundary drawing to the polygon data, and must be based on a standard map coordinate system. The spatial reference for the drawing (i.e., map projection, map datum, and units of measurement) must be identified on the drawing and each reference point must be labeled. In addition, each project boundary drawing must be

stamped by a registered land surveyor. All digital images of the exhibit drawings shall meet the following format specification:

IMAGERY - black & white raster file

FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4

RESOLUTION – 300 dpi desired, (200 dpi min)

DRAWING SIZE FORMAT – 24” x 36” (min), 28” x 40” (max)

FILE SIZE – less than 1 MB desired

Two of the sets of electronic drawings along with form FERC-587 on CD disks shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. A third set (Exhibit G only) and a copy of Form FERC-587 shall be filed with the Bureau of Land Management office at the following address:

Bureau of Land Management
Branch of Adjudication and Records (CA-943.5)
2800 Cottage Way, Ste W1623
Sacramento, CA 95825-1886
ATTN: FERC Withdrawal Recordation

Form FERC-587 is available through the Commission’s website at the following URL: <http://www.ferc.gov/docs-filing/forms/form-587/form-587.pdf>. Although instruction no. 3 requires microfilm copies of the project boundary maps in aperture card format, electronic copies that meet the digital specifications in this ordering paragraph should be substituted. If the FERC-587 cannot be downloaded from the Internet, a hard copy may be obtained by mailing a request to the Secretary of the Commission.

(b) The licensee shall file two separate sets of the project boundary GIS data on CD disks with the Secretary of the Commission, ATTN: OEP/DHAC. The data shall be in a georeferenced electronic file format (such as ArcView shape files, GeoMedia files, MapInfo files, or a similar GIS format). The filing shall include both polygon data and all reference points shown on the individual project boundary drawings. An electronic boundary polygon data file(s) is required for each project development. Depending on the electronic file format, the polygon and point data can be included in single files with multiple layers. The georeferenced electronic boundary data file must be positionally accurate to ± 40 feet in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. The file name(s) shall include: FERC Project Number, data description, date of this license, and file extension in the following format [P-13123, boundary polygon/or point data, MM-DD-YYYY.SHP]. The filing must be accompanied by a separate text file describing the spatial reference for the georeferenced data: map

projection used (i.e., UTM, State Plane, Decimal Degrees, etc.), the map datum (i.e., North American 27, North American 83, etc.), and the units of measurement (i.e., feet, meters, miles, etc.). The text file name shall include: FERC Project Number, data description, date of this license, and file extension in the following format [P-13123, project boundary metadata, MM-DD-YYYY.TXT].

In addition, for those projects that occupy federal lands, a separate georeferenced polygon file(s) is required that identifies transmission line acreage and non-transmission line acreage affecting federal lands for the purpose of meeting the requirements of 18 CFR §11.2. The file(s) must also identify each federal owner (e.g., BLM, USFS, Corps of Engineers, etc.), land identification (e.g., forest name, Section 24 lands, national park name, etc.), and federal acreage affected by the project boundary. Depending on the georeferenced electronic file format, the polygon, point, and federal lands data can be included in a single file with multiple layers.

Article 203. Amortization Reserve. Pursuant to section 10(d) of the Act, after the first 20 years of operation of the project under license, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. One-half of the project surplus earnings, if any, accumulated after the first 20 years of operations under the license, in excess of the specified rate of return per annum on the net investment, shall be set aside in a project amortization reserve account at the end of each fiscal year. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year after the first 20 years of operation under the license, the amount of that deficiency shall be deducted from the amount of any surplus earnings subsequently accumulated, until absorbed. One-half of the remaining surplus earnings, if any, cumulatively computed, shall be set aside in the project amortization reserve account. The amounts established in the project amortization reserved account shall be maintained until further order of the Commission.

The annual specified reasonable rate of return shall be the sum of the annual weighted costs of long-term debt, preferred stock, and common equity, as defined below. The annual weighted cost for each component of the reasonable rate of return is the product of its capital ratio and cost rate. The annual capital ratio for each component of the rate of return shall be calculated based on an average of 13 monthly balances of amounts properly includable in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rates for long-term debt and preferred stock shall be their respective weighted average costs for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 204. *Project Land Rights Progress Report.* Within six months of license issuance and every six months thereafter for four years after license issuance, the licensee shall file a report with the Commission describing the status of acquiring title in fee or the rights for all the lands within the project boundary. The report must provide an overview map of each parcel and summary table identifying the licensee's rights over each parcel within the project boundary. The report shall also include specific supporting documentation showing the status of the land rights on all parcels of land within the project boundary that: (1) have been acquired up to the date of filing of the report, including pertinent deeds, lease agreements, and/or bill of sale information that specifically verify the licensee's rights; and (2) the licensee's plan and schedule for acquiring all remaining project lands prior to the start of construction deadline established by Article 301, including a history of actions taken, current owner information, the type of ownership to be acquired whether in fee or by easement, and the timeline for completing property acquisition.

Article 205. *Documentation of Project Financing.* At least 90 days before starting construction, the licensee shall file with the Commission, for approval, the licensee's documentation for project financing. The documentation must show that the licensee has acquired the funds, or commitment for funds, necessary to construct the project in accordance with this license. The documentation must include, at a minimum, financial statements, including a balance sheet, income statement, and a statement of actual or estimated cash flows over the license term which provide evidence that the licensee has sufficient assets, credit, and projected revenues to cover project construction, operation, and maintenance expenses, and any other estimated project liabilities and expenses.

The financial statements must be prepared in accordance with generally accepted accounting principles and signed by an independent certified public accountant. The licensee shall not commence any land-disturbing activities associated with the project before the filing is approved.

Article 206. *Exhibit F Drawing of Lower Reservoir Spillway Channel.* Within 18 months of license issuance, the licensee shall file, for Commission approval, a revised Exhibit F drawing of the Lower Reservoir Spillway Channel (Figure DLA 5-4 Lower Reservoir Spillway Channel). The Exhibit F Drawing must comply with sections 4.39 and 4.41 of the Commission's regulations.

Article 207. *Administrative Annual Charge Notification.* Within 30 days of the start of construction of the project, the licensee shall file with the Commission notification of the construction commencement date. The Commission will use the commencement of construction date to revise the project's annual charges under Article 201.

Article 301. Start of Construction. The licensee shall commence construction of the project works within two years from the issuance date of the license and shall complete construction of the project within seven years from the issuance date of the license. The licensee may not commence construction of the project works until it has acquired all the necessary rights to construct, operate, and maintain the project pursuant to Standard Article 5 of Form L-2 (October 1975).

Article 302. Contract Plans and Specifications. At least 60 days prior to start of construction, the licensee shall submit one copy of its final contract plans and specifications and supporting design report to the Commission's Division of Dam Safety and Inspections (D2SI)—San Francisco Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI). The submittal must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sedimentation Control Plan. The Soil Erosion and Sedimentation Control Plan shall include measures to:

- (1) preserve vegetation where feasible and to protect nearby existing vegetation that is not required to be disturbed or removed, by use of temporary fencing or other measures;
- (2) minimize the exposure of disturbed soil to wind and water erosion;
- (3) slope roadways and excavations away from washes, and clear loose soils and pre-existing sediments in areas where haul roads will cross surface washes;
- (4) install riprap at the washes;
- (5) build small earthen embankments within washes to slow or divert surface water;
- (6) install silt fences in work areas near a wash to prevent sediment from entering the wash during rain storms;
- (7) limit earth moving activity on windy days;
- (8) apply water to disturbed soil areas of the project site to ensure excessive runoff does not occur and to control wind erosion and dust;
- (9) implement complementary sediment controls to intercept and filter out soil particles mobilized by surface runoff;
- (10) limit the tracking of soils to paved surfaces by construction vehicles (track-out);

(11) stabilize graded surfaces; and

(12) limit surface area disturbance to 15 acres per day.

The licensee may not begin construction until the D2SI–San Francisco Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized the start of construction.

Article 303. Cofferdam and Deep Excavation Construction Drawings. Should construction require cofferdams or deep excavations, the licensee shall: (1) review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction; and (2) shall ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of any cofferdams or deep excavations, the licensee shall submit one copy to the Commission’s Division of Dam Safety and Inspections (D2SI) – San Francisco Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI), of the approved cofferdam and deep excavation construction drawings and specifications, and the letters of approval.

Article 304. Board of Consultants. The licensee shall retain a Board composed of at least three qualified independent engineering consultants with experience that covers engineering geology, geotechnical, structural, hydrology, hydraulics, seismic, electrical, and mechanical engineering with extensive experience in dam design and construction to review the final design, specifications, and construction of the project for safety and adequacy. The names and qualifications of the Board members shall be submitted to the Director, Division of Dam Safety and Inspections (D2SI), for approval, with a copy to the Commission’s D2SI-San Francisco Regional Engineer.

Among other things, the Board shall assess: (1) the geology of the project site and surroundings; (2) the design, plans and specifications, and construction of the dams, intakes/outlets, tunnels, penstocks, powerhouse, electrical and mechanical equipment; (3) over-pumping protection of the upper reservoir; (4) potential impacts of the project design and operations to the Colorado River Aqueduct, including methods for long-term monitoring of land subsidence; (5) instrumentation; (6) the construction quality control inspection program; (7) construction procedures and progress; and (8) project operations.

Before each Board meeting, allowing sufficient time for review, the licensee shall furnish the following items to the Board: (1) a statement showing the specific level of review to be performed by the Board; (2) an agenda; (3) a list of items for discussion; (4) significant events in the design and construction that have occurred since the last Board meeting; (5) drawings; and (6) documentation showing details and analyses of the design

and construction features to be discussed. At the same time, the licensee shall submit one copy of these items to the Division of Dam Safety and Inspections –San Francisco Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Director, D2SI).

Within 30 days after each Board meeting, the licensee shall file with the Commission copies of the Board's report and a statement of intent to comply with the Board's recommendations, or a statement identifying a plan to resolve the issue(s). The Board's review comments shall be submitted prior to or simultaneously with the submission of the final contract drawings, specifications, and supporting design report.

The licensee shall also file with the Commission copies of the Board's final report within one year of completing construction. The final report shall contain a statement indicating the Board's satisfaction with the construction, safety, and adequacy of the project structures and that all Potential Failure Modes have been identified and fully developed.

Article 305. *Inspection by Independent Consultant.* In accordance with Part 12, *Safety of Water Power Projects and Project Works*, of the Commission's Regulations, the initial independent consultant's inspection must be completed and the report on it filed no later than five years from the date of first commercial operation or the date on which the project's reservoirs initial filling is completed, whichever comes first.

Article 306. *As-built Exhibits.* Within 90 days of completion of construction of the facilities authorized by the license, the licensee shall file for Commission approval, revised Exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy shall be filed with the Commission's Division of Dam Safety and Inspections (D2SI) - San Francisco Regional Engineer; the Director, D2SI; and the Director, Division of Hydropower Administration and Compliance.

Article 307. *Public Safety Plan.* At least 60 days prior to start of construction, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI)-San Francisco Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI) of a Public Safety Plan. The plan shall include an evaluation of public safety concerns at the project site, and assess the need for the installation of safety devices or other safety measures. The submitted plan should include a description of all public safety devices and signage, as well as a map showing the location of all public safety measures. For guidance on preparing public safety plans the licensee can review the Guidelines for Public Safety at Hydropower Projects on the FERC website.

Article 308. *Owner's Dam Safety Program.* Within 90 days from the issuance date of the license, the licensee shall submit to the Commission's Division of Dam Safety and Inspections (D2SI) – San Francisco Regional Engineer, an Owner's Dam Safety Program which at a minimum shall demonstrate a clear acknowledgement of the dam owner's responsibility for the safety of the project, an outline of the roles and responsibilities of the dam safety staff, and access of the dam safety official to the Chief Executive Officer. For guidance on preparing an Owner's Dam Safety Program the licensee should reference the information posted on the FERC website.

Article 309. *Inflow Design Flood and Hazard Classification Study.* Within one year of the issuance date of the license, the licensee shall submit one copy to the Commission's D2SI—San Francisco Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI) of an Inflow Design Flood and Hazard Classification study. The study should be performed according to Chapter 2 of the Commission's Engineering Guidelines. The study should include: (1) an incremental hazard evaluation to determine the effects on downstream structures in the event of a dam failure; (2) a recommendation for the project's hazard potential classification; and (3) an assessment of the adequacy of the project's spillway capacity.

Article 310. *Project Modification Resulting from Environmental Requirements.* Any permanent or temporary modification which may affect the project works or operations shall be coordinated with the Commission's Division Dam Safety and Inspections (D2SI) – San Francisco Regional Engineer at the beginning of the planning and design phase. This includes those modifications resulting from license environmental requirements. This schedule is to allow sufficient review time for the Commission to insure that the proposed work does not adversely affect the project works, dam safety or project operation.

Article 401. *Site Investigation Plan.* Within six months of license issuance, the licensee shall file with the Commission for approval, a plan to conduct site investigations to confirm that the proposed project feature locations are appropriate, provide design parameters for the final layout of the project's features, and confirm that previously submitted Central Project Area¹³² studies are accurate.

¹³² The area referred to as the Central Project Area includes all of the project's facilities except its linear features (e.g., primary transmission line and the water supply pipeline) and is located at the Eagle Mountain mine site.

The plan shall include, at a minimum, provisions for: (1) detailed reconnaissance of the upper and lower reservoir site conditions; (2) detailed evaluation and description of reservoir, brine pond, and tunnel seepage potentials; (3) evaluation of potential water quality impacts to the reservoirs and groundwater associated with ore-body contact; (4) confirmation that project operations will not have a permanent impact on the Chuckwalla Valley Groundwater's storativity; (5) a determination through a literature search on whether the Chuckwalla Valley Groundwater Basin aquifers are confined; (6) filing a final report of the site investigations; and (7) an implementation schedule.

The plan shall be developed after consultation with the Bureau of Land Management, the U.S. Fish and Wildlife Service, the National Park Service, the State Water Resources Control Board, the California Department of Fish and Wildlife, the Metropolitan Water District of Southern California, the County Sanitation Districts of Los Angeles County, and Kaiser Ventures, LLC. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific reasons.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

If the results in the site investigations report or other applicable information indicate that changes in project structures or operations are necessary to protect environmental resources, the Commission may direct the licensee to modify project structures or operations.

Article 402. Excavated Materials Plan. At least 90 days prior to the start of construction, the licensee shall file with the Commission for approval, a plan to ensure the safe disposal of excavated material from the project site. The plan shall include at a minimum, procedures and methods for testing material for acid-forming and metal-leaching potential, consultation protocols on the results of the testing, and an implementation schedule.

The licensee shall prepare the plan after consultation with the California State Water Resources Control Board (Water Board). The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the Water Board, and specific descriptions of how the Water Board's comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the Water Board to comment and to make recommendations

before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific reasons.

The Commission reserves the right to require changes to the plan. Project construction shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 403. *Groundwater Level Monitoring Plan.* Within 18 months of license issuance, the licensee shall file with the Commission for approval, a site-specific groundwater level monitoring plan to confirm that the project's water supply pumping rate would be maintained at levels that are in the range of historic pumping in the Chuckwalla Aquifer. The plan's monitoring network shall include the proposed existing and new monitoring wells shown in the table below.

The plan shall include, at a minimum: (1) a provision for a sampling frequency of the monitoring wells of at least monthly during the initial fill period, quarterly for the first seven years of project operations, and semi-annually thereafter for the term of the license; (2) provisions for at least 24 months of groundwater level monitoring to establish baseline groundwater levels prior to initial reservoir filling; (3) adaptive management provisions for reducing pumping should drawdowns exceed the maximum allowable change thresholds in the table below;

Type of Well	Well ID	General Location	Maximum Allowable Change Threshold (feet)
Existing	3S/15E-4J1	Mouth of Pinto Valley	10 ^a
Existing	C-9	Upper Chuckwalla Valley near the Colorado River Aqueduct	11
Existing	5S/16E-25F1	East of Desert Center near Palen Dry Lake	13
New monitoring well	MW-109	Southeast of Central Project Area ^b near the Colorado River Aqueduct	14
New monitoring	MW-110	Upper Chuckwalla Valley near the Colorado River Aqueduct	12
New monitoring	MW-111	Palen Valley near the Colorado River Aqueduct	To be determined as specified below
New monitoring	MW-112	Lower Orocopia Valley near the Colorado River Aqueduct	9
New water supply well	WS-1	Desert Center	51
New water supply well	WS-2	Desert Center	51
New water supply well	WS-3	Desert Center	51

^a Equates to a minimum elevation of 909 feet, NGVD29.

^b The area, referred to as the Central Project Area, includes all of the project's facilities except its linear features (e.g., primary transmission line and the water supply pipeline) and is located at the Eagle Mountain mine site.

(4) specification of: (a) the exact location of the proposed monitoring well MW-111 ; (b) in the event that the proposed site for MW-111 is unsuitable due to encountering bedrock above the level of the groundwater table, the exact location of an alternative monitoring well site in Palen Valley near the Colorado River Aqueduct; (c) the ground surface elevation at the proposed well location; (d) the well depth; (e) the depth to groundwater from the ground surface; and (f) the maximum allowable change to the groundwater level; (5) a provision for filing annual monitoring reports; and (6) an implementation schedule.

The licensee shall prepare the plan after consultation with the California State Water Resources Control Board, the Bureau of Land Management, the U.S. Geological Survey, the National Park Service, and the Metropolitan Water District of Southern California. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 404. Groundwater Quality Monitoring Plan. Within 18 months of license issuance, the licensee shall file with the Commission for approval, a groundwater quality monitoring plan to monitor for any adverse effects of seepage from the project's reservoirs and evaporation ponds on groundwater quality.

The plan shall include, at a minimum:

(1) provisions to establish two years of pre-project operation baseline groundwater quality monitoring data in the vicinity of the project's reservoirs, desalination ponds, seepage recovery wells, and water supply wells;

(2) provisions to monitor groundwater quality in the vicinity of the project's reservoirs, desalination ponds, seepage recovery wells, and water supply wells over the term of the license;

(3) specific sampling locations, methods, and frequency;

(4) constituents to be analyzed (e.g., salinity, odor, and trace metals);

- (5) a provision for filing annual monitoring reports; and
- (6) an implementation schedule.

The licensee shall prepare the plan after consultation with the California State Water Resources Control Board, the Bureau of Land Management, the U.S. Geological Survey, the National Park Service, and the Metropolitan Water District of Southern California. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific reasons.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

The Commission reserves the right to direct the licensee to modify project structures or operations, or conduct other appropriate actions if the monitoring results or other applicable information indicate that such actions are necessary to protect groundwater quality.

Article 405. *Aquifer Testing and Seepage Management.* Within 6 months of license issuance, the licensee shall file with the Commission for approval, an aquifer testing plan to test and confirm aquifer characteristics (e.g., storativity and hydraulic conductivity) used to model groundwater levels between the upper reservoir and the landfill proposed by Kaiser Ventures, LLC (proposed landfill) and between the lower reservoir and the Colorado River Aqueduct.

The plan shall include, at a minimum: (1) number and locations of pumping and monitoring wells; (2) duration of pumping; (3) number of aquifer tests; (4) sufficient information to model water table elevations below and annual seepage rates from the upper and lower reservoirs; (5) a provision for filing a final report on the aquifer testing; and (6) an implementation schedule.

Based on the results of aquifer testing described above, at least 6 months prior to initial reservoir fill, the licensee shall file with the Commission for approval, a seepage management and monitoring plan to control seepage from the project's reservoirs and limit seepage impacts to the Colorado River Aqueduct and the proposed landfill. The plan shall include, at a minimum: (1) the number, location, depth, and pumping capacity

of seepage recovery wells; (2) any and all in-reservoir seepage control measures including the thickness, location, type, and hydraulic conductivity of liners, and the locations and extent of any grouting, roller-compacted concrete and soil cement treatments; (3) a projection of annual seepage and water table elevations with the proposed seepage control measures; (4) provisions for a site-specific groundwater level monitoring network of wells to ensure that the seepage recovery well system is effective at managing groundwater levels beneath the Colorado River Aqueduct and maintaining the groundwater level at least 5 feet below the bottom of the proposed landfill liners in Eagle Creek Canyon; and (5) an implementation schedule. The plan shall also include provisions for quarterly monitoring of groundwater levels and water quality; the tracking of the total volume of water pumped from project seepage recovery wells; and the filing of annual reports.

The licensee shall prepare the plans after consultation with the California State Water Resources Control Board, the Bureau of Land Management, National Park Service, Metropolitan Water District of Southern California, and Kaiser Ventures, LLC. The licensee shall include with the plans documentation of consultation, copies of recommendations on the completed plans after they have been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plans. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plans with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific reasons.

The Commission reserves the right to require changes to the plans. Implementation of the plans shall not begin until the licensee is notified by the Commission that the plans are approved. Upon Commission approval the licensee shall implement the plans, including any changes required by the Commission.

Initial reservoir filling shall not begin until the licensee notifies the Commission that it has implemented the Seepage Management and Monitoring Plan and it receives authorization from the Commission to commence reservoir filling.

The Commission reserves the right to direct the licensee to modify project structures or operations, or conduct other appropriate actions if the monitoring results or other applicable information indicate that such actions are necessary to protect groundwater quality and land uses within the project area.

Article 406. Reverse Osmosis and Desalination Facilities. At least 6 months prior to the start of project construction, the licensee shall file for Commission approval, a reverse osmosis and desalination facilities construction and operation plan.

The plan shall include, at a minimum:

(1) a provision to construct and operate reverse osmosis and desalination facilities to treat the water in the upper and lower reservoirs to maintain, at a minimum, dissolved solids concentrations at the same concentrations as the source water from the project's water supply wells;

(2) a provision to monitor the water quality of the project's upper and lower reservoirs;

(3) a description of the steps to be taken in the event that reservoir water quality degrades to levels below that of the project's water supply wells monitored under Article 404;

(4) a description of the steps to be taken in the event that monitoring under Article 404 demonstrates that the water quality of the seepage recovery wells degrades below pre-project operation groundwater baseline levels;

(5) provisions for monitoring well placement and a monitoring program to ensure limited leakage through the desalination pond linings;

(6) the specifications on the design of the desalination ponds, including a description of the liners;

(7) a description of the steps to be taken in the event that monitoring indicates that the water from the desalination ponds has leaked into the groundwater;

(8) a provision for filing annual monitoring reports; and

(9) an implementation schedule.

The plan shall be developed after consultation with the California State Water Resources Control Board, the Bureau of Land Management, and the National Park Service. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

The Commission reserves the right to direct the licensee to modify project structures or operations, or conduct other appropriate actions if the monitoring results or other applicable information indicate that such actions are necessary to protect groundwater quality and land uses within the project area.

Article 407. *Coordination Plan for Access to the Colorado River Aqueduct.* At least 90 days prior to the start of construction, the licensee shall file with the Commission for approval, a coordination plan with the Metropolitan Water District of Southern California (Water District) to protect and ensure access to the Water District's Colorado River Aqueduct and its other infrastructure during construction and operation of the project.

The plan shall include, at a minimum: (1) a description of the construction methods and phasing that could conflict with the Water District's access to it infrastructure at the project location; (2) a description of how the licensee will ensure the Water District's access to its infrastructure during construction and operation of the project; and (3) an implementation schedule.

The licensee shall prepare the plan after consultation with the Water District. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the Water District, and specific descriptions of how the Water District's comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the Water District to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Construction shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 408. *Salt Management Storage and Disposal Plan.* At least 90 days prior to the start of project operation, the licensee shall file with the Commission for approval a wastewater treatment, waste, and salt management storage and disposal plan.

The plan shall include but not necessarily be limited to the following:

- (1) full characterization of the anticipated waste stream(s) resulting from treatment;
- (2) a provision for the disposal of brine salts;
- (3) provisions to address heavy truck traffic associated with salt removal and include appropriate traffic controls;
- (4) identification of the waste management methodology to be used (e.g., on-site long-term storage of liquid waste);
- (5) proposed method of waste storage (e.g., brine ponds);
- (6) anticipated duration of on-site waste storage;
- (7) proposed method of waste disposal; and
- (8) an implementation schedule.

The licensee shall prepare the plan after consultation with the California State Water Resources Control Board, the California Department of Transportation, the Bureau of Land Management, the National Park Service, Riverside County, and the Colorado River Regional Water Board. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Project operation shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 409. Revised Revegetation Plan. At least 90 days prior to the start of construction, the licensee shall revise its Revegetation Plan filed on October 27, 2009, and file the revised plan with the Commission for approval. The revised plan shall include the following additional items: (1) identification of the total acres of proposed disturbance as identified in the final construction plans filed pursuant to Article 302; (2) stipulation that any hay, straw, or topsoil brought to the site be certified weed-free; (3) criteria for measuring success of revegetation efforts; (4) provisions for monthly

irrigation of transplants for a 2-year period; (5) a schedule for implementing the plan; and (6) a schedule for filing reports on the progress of revegetation.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, Bureau of Land Management, National Park Service, California State Water Resources Control Board, and California Department of Fish and Wildlife. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Land-disturbing activities, including use of construction staging areas, shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

Article 410. *Invasive Species Monitoring and Control Plan.* Within 6 months of license issuance, the licensee shall revise its Invasive Species Monitoring and Control Plan filed on October 27, 2009, and file the revised plan with the Commission for approval.

The revised plan shall include the following additional items: (1) measures to mitigate for disturbance to soils that occur during project construction, operation, and maintenance; (2) provisions for monitoring and control for invasive species around any project-related seepage areas; (3) provisions for monitoring and control for invasive species on any project-affected lands; (4) criteria to measure successful implementation of the plan and development of environmental measures to be implemented if initial efforts do not prove successful; (5) a provision to extend monitoring and control activities to 5 years for areas where disturbance or water additions are temporary, and annually in areas where disturbance or water additions occur during normal project operations; (6) a provision to remove woody species from around reservoirs prior to construction and annually for the term of the license; (7) a schedule for implementing the plan; and (8) a schedule for filing reports of monitoring and control activities for invasive species.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, Bureau of Land Management, National Park Service, California State Water Resources Control Board, and California Department of Fish and Wildlife. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated

by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Land-disturbing activities shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

Article 411. Couch's Spadefoot Toad Protection Plan. The licensee shall conduct pre-construction surveys on project lands not previously surveyed for Couch's spadefoot toads, after the licensee obtains site access. Surveys shall be consistent with the Northern and Eastern Colorado Desert Coordinated Management Plan¹³³ and conducted using methodologies filed by the Bureau of Land Management (BLM) on May 10, 2013.

Within 90 days prior to the start of construction, the licensee shall file with the Commission for approval, a Couch's Spadefoot toad protection plan. The plan shall include, at a minimum: (1) results of surveys for Couch's spadefoot toads as required above in this article; (2) a map showing locations of any pools that could support Couch's spadefoot toad; (3) proposed limits of disturbance such that surface disturbance is restricted to the smallest area necessary to complete project construction; (4) layouts for new spur roads and improvements to existing roads with design measures to preserve existing desert-wash topography and flow patterns; (5) design and location for any new pools required to mitigate for unavoidable disturbance to existing pools; (6) provisions to move all larvae from disturbed pools to the new pools; (7) a provision for filing annual reports of the surveys; and (8) an implementation schedule.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, BLM, National Park Service, California State Water Resources Control Board, and California Department of Fish and Wildlife. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

¹³³ Available at: <http://www.blm.gov/ca/st/en/fo/cdd/neco.html> (Retrieved: June 2, 2014)

The Commission reserves the right to require changes to the plan. Project construction, including the use of construction staging areas, shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

Article 412. Special-Status Plants Protection Plan. Within 6 months of license issuance, the licensee shall file with the Commission for approval, a special-status plant protection plan. The plan shall include provisions for pre-construction baseline surveys on project lands not previously surveyed for special-status and federally listed plant species (Abrams's spurge; Arizona spurge; ayenia; California ditaxis; Coachella Valley milkvetch; Coue's cassia; crucifixion thorn; Darlington's blazing star; desert sand-parsley; desert unicorn plant; dwarf germander; flat-seeded spurge; foxtail cactus; glandular ditaxis; Harwood's eriastrum; harwood's milkvetch; jackass clover; las animas colubrine; mesquite neststraw; orocopia sage; Parish's club cholla; sand evening primrose; slender woolly-heads; spearleaf; and spiny abrojo; wiggins' cholla).

The plan shall also include, at a minimum: (1) provisions to designate avoidance areas in construction zones, based on the pre-construction baseline survey results; (2) methodologies for salvaging and transplanting plants occurring in construction areas where avoidance is infeasible; (3) maps showing survey areas, avoidance areas, and transplant locations; and (4) a schedule for implementing the plan.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, Bureau of Land Management, National Park Service, California State Water Resources Control Board, and California Department of Fish and Wildlife. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Land-disturbing activities shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

The licensee shall include the locations of special-status plants, construction avoidance areas, and transplant locations on the final construction plans filed with the Commission pursuant to Article 302.

Article 413. Avian Protection. To ensure protection of birds from project transmission lines, and nesting migratory birds, raptors, and burrowing owls from project construction activities, the licensee shall develop a transmission line avian protection plan, a nesting migratory bird protection plan, a nesting raptor protection plan, a burrowing owl protection plan, and a desalination pond avian deterrence plan as specified below.

Transmission Line

To reduce hazardous interactions between birds and the project's overhead transmission lines, the licensee shall file with the Commission for approval, a transmission line avian protection plan within 6 months of license issuance. The plan shall include, at a minimum: (1) a transmission line design that considers: (a) adequate separation of energized conductors, ground wires, and other metal hardware; (b) adequate insulation of conductors; and (c) compliance with industry standard guidelines set forth in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006*, by Avian Power Line Interaction Committee, Edison Electric Institute, and Raptor Research Foundation; (2) methods for surveying and reporting project-related avian mortality; (3) provisions for a worker education plan pertaining to avian-power line interactions; (4) procedures for managing nesting on power line structures; (5) a schedule for implementing the plan; and (6) a provision for filing reports of any accidental avian collisions with power lines.

Nesting Migratory Birds

To protect nesting migratory birds from project construction activities, the licensee shall file with the Commission for approval, a nesting migratory bird protection plan within 6 months of license issuance. This plan shall include, at a minimum: (1) identification of any land-disturbing activities in vegetated habitat on project lands that would occur between January 15 and July 30; (2) identification of appropriate protection buffer distances for nesting birds on project lands; (3) methodologies for conducting pre-construction surveys to identify active bird nests on project lands; (4) methods for flagging nest locations and providing protective buffers around active nests; (5) a schedule for implementing the plan; and (6) a schedule for filing reports on the surveys.

Nesting Raptors

To protect nesting raptors from project construction activities, the licensee shall file with the Commission for approval, a nesting raptor protection plan within 6 months of license issuance. The plan shall include, at a minimum: (1) methodologies to conduct pre-construction surveys to identify any prairie falcon or golden eagle nests within 1 mile of proposed construction activities; (2) a schedule for implementing the plan; and (3) a

schedule for filing reports, prior to the start of project construction, on the locations of nests along with any necessary protection buffers and/or timing restrictions on construction activities to minimize disturbance to nesting raptors.

Burrowing Owls

To minimize effects of construction and operation on burrowing owls in the project area, the licensee shall file with the Commission approval, a burrowing owl protection plan within 6 months of license issuance. The plan shall include provisions for pre-construction surveys to determine the presence of burrowing owls and identify active burrows in the project area.

The plan shall also include, at a minimum: (1) a provision to only conduct construction activities within 250 feet of active nests from September 1 through February 1; (2) measures for burrowing owl relocation, including construction of replacement burrows for any active burrows requiring collapse; (3) a schedule for implementing the plan; and (4) a schedule for filing a report prior to the start of project construction with a written description and a map showing the locations of active owl burrows.

Desalination Pond Deterrence

To minimize and manage effects of the desalination ponds on migratory birds, the licensee shall file with the Commission for approval, a desalination pond avian deterrence plan within 5 years of license issuance. The plan shall include, but not necessarily be limited to, measures to: (1) minimize the attractiveness of the desalination ponds to migratory birds; (2) minimize migratory bird access to the desalination ponds; (3) establish a monitoring program to identify bird usage of the desalination ponds and effectiveness of bird deterrents; (4) develop hazing and habitat modification techniques; (5) measure success and set thresholds for implementing exclusionary pond covering, if needed; (6) develop emergency measures to protect migratory birds in the event of a potential breach of the desalination pond berms; (7) establish a schedule for implementing the plan; and (8) establish a schedule for filing reports on the monitoring program.

Requirements for All Plans

The licensee shall prepare the plans after consultation with the U.S. Fish and Wildlife Service, Bureau of Land Management, National Park Service, California State Water Resources Control Board, and California Department of Fish and Wildlife. The licensee shall include with the plans documentation of consultation, copies of comments and recommendations on the completed plans after they are prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plans. The licensee shall allow a minimum of 30 days for the agencies to comment

and to make recommendations before filing the plans with the Commission. If the licensee does not adopt a recommendation, the filings shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plans. Implementation of the plans shall not begin until the plans are approved. Upon Commission approval, the licensee shall implement the plans, including any changes required by the Commission.

Article 414. Wildlife Protection. To protect wildlife from project construction activities and project operations, the licensee shall develop protection plans for badgers, kit foxes, and bats as specified below.

Fencing of Project Facilities

Within 6 months of license issuance, the licensee shall file with the Commission for approval, a project facility fencing plan to prevent wildlife from being trapped in pipeline trenches or other open excavation areas on project lands during construction and operation. The plan shall include provisions to: (1) close, temporarily fence, or cover pipeline trenches and other open excavation pit areas; (2) construct and monitor security or exclusion fencing around the project reservoirs, collection substation, and desalination ponds; (3) a provision to conduct inspections of any open trenches and pits at first light, midday, and at the end of each day during project construction to ensure animal safety; and (4) an implementation schedule.

All fencing shall follow the specifications of the U.S. Fish and Wildlife Service's Conditions 1 and 2 of Reasonable and Prudent Measure 3 (Appendix A of this license).

Badger and Kit Fox

Within 6 months of license issuance, the licensee shall file with the Commission for approval, a badger and kit fox protection plan to minimize the effects of project construction and operation on these species. The plan shall include, at a minimum: (1) methodologies for pre-construction surveys to identify all burrows within areas of proposed disturbance that might host badger or kit fox; (2) provisions for avoidance of construction activities near active burrows where possible, and where avoidance is infeasible, encouraging occupants to leave their burrows; (3) provisions for marking the perimeters of all avoidance areas with 3-foot-high wooden stakes spaced no more than 10 feet apart; (4) a schedule for implementing the plan; and (5) a schedule for filing reports on the surveys.

Bats

Within 6 months of license issuance, the licensee shall file with the Commission for approval, a bat protection plan to minimize effects of construction and operation on bats in the project area. The plan shall include provisions for conducting summer and winter baseline surveys to determine the existence, location, and condition of bat roosts, and to identify foraging habitat in the project area.

The plan shall also include, at a minimum: (1) methodologies for the summer and winter baseline surveys prior to the start of project construction; (2) measures to protect onsite bat roosting habitat; (3) measures for onsite replacement of roosting habitat removed by project development; (4) success criteria for the replacement roosting habitat; (5) provisions for conducting annual summer and winter bat surveys in the project area in years 1–5, 7, and 10, following initiation of reservoir filling; and (6) a schedule for implementing the plan and filing reports with the Commission on the results of the surveys.

Requirements for All Plans

The licensee shall prepare the plans after consultation with the U.S. Fish and Wildlife Service, Bureau of Land Management, National Park Service, California State Water Resources Control Board, and California Department of Fish and Wildlife. The licensee shall include with the plans documentation of consultation, copies of comments and recommendations on the completed plans after they have been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plans. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plans with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plans. Land-disturbing activities shall not begin until the licensee is notified by the Commission that the plans are approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

If the results of the surveys or other applicable information indicate that changes in project structures or operations are necessary to protect badgers, kit foxes, or bats, the Commission reserves the right to modify project structures or operations.

Article 415. Desert Tortoise Clearance and Relocation/Translocation Plan. The Desert Tortoise Clearance and Relocation/Translocation Plan, filed on October 27, 2009, is approved and shall be implemented with the following additional requirements: (1) include a provision to conduct construction activities in areas without wildlife exclusion fencing or those that have not been cleared of desert tortoises only during daylight hours; (2) include the provisions of the U.S. Fish and Wildlife's Conditions 1 through 3 of

Reasonable and Prudent Measure 1 and Conditions 1 through 3 of Reasonable and Prudent Measure 2 (Appendix A of this license); and (3) a provision to include the Commission as a recipient of the results of the tortoise surveys under Condition 3 of Reasonable and Prudent Measure 1.

Article 416. Desert Tortoise Habitat Mitigation Plan. At least 60 days prior to start of construction, but not later than submittal of the final contract plans and specifications and supporting design report required by Article 302, the licensee shall file with the Commission for approval, a desert tortoise habitat mitigation plan for project-related effects on Category I and Category III desert tortoise habitat. For purposes of this article, Category I desert tortoise habitat includes lands within a Desert Wildlife Management Area (DWMA), and Category III desert tortoise habitat includes lands outside the DWMA.

The plan shall include, at a minimum: (1) map(s) identifying the acres of disturbance, the acreage and location of mitigation lands, and plans for acquiring the lands; (2) a provision to file revised Exhibit G drawings according to sections 4.41(h) and 4.39 of the Commission's regulations incorporating the lands into the project boundary; and (3) an implementation schedule.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, Bureau of Land Management, National Park Service, California State Water Resources Control Board, and California Department of Fish and Wildlife. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Project construction shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 417. Revised Predator Monitoring and Control Plan. Within six months of license issuance, the licensee shall revise and file for Commission approval, its Predator Monitoring and Control Plan filed on March 11, 2011, to monitor and control the effects of increased predator activity on desert tortoise caused by the presence of the project. The plan shall include the follow additional items: (1) a provision for surveys for canine activity in the project area; (2) a provision for surveys for canine predation on desert tortoise; (3) a survey schedule that includes two annual pre-construction baseline surveys, two annual surveys during construction; and surveys in years 1-5, 7, and 10

following the initiation of reservoir filling; (4) agency consultation following the completion of the surveys; (5) development of mitigation measures to be implemented if surveys indicate increases in desert tortoise predator activity and increases in desert tortoise predation as a result of project-related effects such as introducing a water source and increased human activity; (6) development of a survey schedule for the remainder of the license term if surveys indicate a need for mitigation measures; (7) an implementation plan; and (8) a schedule for filing reports on the results of surveys.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, Bureau of Land Management, National Park Service, California State Water Resources Control Board, and California Department of Fish and Wildlife. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Land-disturbing activities shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

Article 418. *Worker Environmental Awareness Program.* The Worker Environmental Awareness Program, filed on October 27, 2009, is approved and shall be implemented with the following additional requirement: include information about Coachella Valley milkvetch, including identification characteristics, in the training program.

Article 419. *Coordination of Construction Schedules and Public Notice Plan.* At least 6 months prior to the start of project construction, including use of construction staging areas, the licensee shall file with the Commission for approval, a plan to coordinate construction schedules with the Bureau of Land Management (BLM), National Park Service, the Metropolitan Water District (Water District), and Riverside County. The plan shall include provisions for notifying the public of any construction activity which could affect access to public lands or affect local traffic patterns and an implementation schedule.

The licensee shall prepare the plan after consultation with BLM, National Park Service, the Water District, and Riverside County. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' and the Water District's comments are accommodated

by the plan. The licensee shall allow a minimum of 30 days for the agencies and the Water District to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Project construction shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 420. Facility Lighting Design and Night Sky Monitoring Plan. Within one year of license issuance, the licensee shall file with the Commission for approval, a facility lighting design and night sky monitoring plan. The plan shall include, at a minimum: (1) provisions for establishing the baseline night sky condition prior to project construction; (2) a provision for limiting light pollution by focusing light on project facilities; (3) provisions for reducing the casting of light into adjacent native habitats; (4) a provision for evaluating facility lighting effects on the night sky; (5) modifying facility lighting based on monitoring results; and (6) an implementation schedule.

The licensee shall develop the plan after consultation with the California Department of Fish and Wildlife, Bureau of Land Management, U.S. Fish and Wildlife Service, and the National Park Service. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Project construction shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 421. Visual Effects Protection Plan. Within 18 months of license issuance, the licensee shall file with the Commission for approval a Visual Effects Protection Plan. The plan shall include, at a minimum: (1) a provision to utilize existing roads and construction laydown and staging areas for project construction where possible; (2) a provision to combine and organize staging areas and areas needed for equipment operation, material storage, and assembly for construction to minimize the total footprint needed; (3) a provision to reduce the amount of side-cast soils for construction of the water supply pipeline to decrease the color contrast with the

surrounding landscape; (4) a provision to employ visual mitigation in the design of the transmission line to minimize visual effects, such as specifying materials with a dull finish and landscape appropriate colors; and (5) an implementation schedule.

The licensee shall develop the plan after consultation with Riverside County, the Bureau of Land Management, and National Park Service. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agency's comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Project construction shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 422. Water and Soil Pollution Prevention Plan. Within 1 year of license issuance, the licensee shall file with the Commission for approval, a plan to ensure the safe delivery, storage, and use of various construction materials, oils, fuels, and chemicals consistent with all relevant federal, state, and local laws, regulations and ordinances. The plan shall include, at a minimum:

- (1) a provision for implementing spill prevention control measures to contain and clean up spills and prevent material discharges outside of the construction area;
- (2) a provision for implementing solid waste management and hazardous waste management measures to minimize stormwater contact with waste materials and prevent waste discharges;
- (3) measures describing the handling and storage of non-hazardous wastes;
- (4) measures describing the handling, marking, storage and disposal of hazardous waste;
- (5) Sanitary and septic waste management measures consistent with state and local regulations and ordinances; and
- (6) an implementation schedule.

The licensee shall develop the plan after consultation with Riverside County, the Colorado River Regional Board Executive Officer, and the State Water Resources Control Board. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided

to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific reasons.

The Commission reserves the right to require changes to the plan. Construction shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

Article 423. *Air Quality Monitoring and Protection Plan.* Within 18 months of license issuance, the licensee shall file with the Commission for approval, an air quality monitoring and protection plan.

The plan shall include, at a minimum: (1) provisions for establishing a record of baseline (pre-construction) air quality in the project area and monitoring of air quality during project construction; (2) a provision to identify acceptable thresholds or air quality standards to be met during project construction; (3) a provision to adjust construction activities in the event monitoring results indicate the project exceeds established air quality standards are occurring; and (4) an implementation schedule.

The licensee shall develop the plan after consultation with the South Coast Air Quality Management District and the National Park Service. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 424. *FERC Form 80 Exemption.* There is little or no potential for recreation facilities within the project boundary. Therefore, the licensee is exempt from 18 C.F.R. § 8.11 (2013), the filing of the FERC Form 80 recreation report, for Eagle Mountain Pumped Storage Hydroelectric Project.

Article 425. *Programmatic Agreement and Historic Properties Management Plan.* The licensee shall implement the "Programmatic Agreement Between the Federal Energy Regulatory Commission and the State of California Historic Preservation Officer

for Managing Historic Properties that May be Affected by Issuing of a License to Eagle Crest Energy, for the Eagle Mountain Pumped Storage Hydroelectric Project in Riverside County, California (FERC No. 13123-002),” executed on September 27, 2011, and including but not limited to, the *Eagle Mountain Pumped Storage Hydroelectric Project FERC No. 13123 Historic Properties Management Plan* (HPMP), filed on March 4, 2011. In the event that the Programmatic Agreement is terminated, the licensee shall continue to implement the provisions of its approved HPMP. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license.

Article 426. Use and Occupancy. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee also shall have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for any interests that it has conveyed under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project’s scenic, recreational, or other environmental values, or if a covenant or a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project’s scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure to the satisfaction of the Commission’s authorized representative that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine if the proposed construction is needed and would not change the basic contour of the impoundment shoreline. To implement this

paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69 kilovolt or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project impoundment. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed. If no conveyance was made during the prior calendar year, the licensee shall so inform the Commission in writing no later than January 31 of each year.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 foot, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must file a letter with the Commission, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use.

Unless the Commission's authorized representative, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the Washington State Historic Preservation Officer;

(2) before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved report on recreational resources of an Exhibit E or if the project does not have an approved report on recreational resources, that the lands to be conveyed do not have recreational value;

(3) the instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.; and

(4) the Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(F) The licensee shall serve copies of any Commission filing required by this order on any entity specified in the order to be consulted on matters relating to that filing. Proof of service on these entities must accompany the filing with the Commission.

(G) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the Federal Power Act, 16 U.S.C. § 8251 (2012), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2013). The filing of a request for rehearing does not operate as a stay of the effective date of the license or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Form L-2
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

**TERMS AND CONDITIONS OF LICENSE FOR
UNCONSTRUCTED MAJOR PROJECT AFFECTING
LANDS OF THE UNITED STATES**

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project works shall be constructed in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when

compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any features or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection

with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a nonpower licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the state and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character and locations of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic foot per second, or such volume in acre-foot per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal Agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement

between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under the license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps,

beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of the license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of the license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Timber on lands of the United State cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or

disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

Article 22. The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

Article 23. The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

Article 24. The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

Article 25. The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license. The license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

Article 26. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

Article 27. The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

Article 28. The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

Article 29. The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice and opportunity for hearing.

Article 30. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and

power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 31. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of the license.

Article 32. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

APPENDIX A**U.S. Fish and Wildlife Service (Service) Biological Opinion****(Filed April 13, 2012)****REASONABLE AND PRUDENT MEASURES**

FERC and the Applicant will implement numerous conservation measures as part of the proposed action to minimize the incidental take of desert tortoise. Our evaluation of the proposed action is based on the assumption that the actions as set forth in the conservation measures section of this Biological Opinion will be implemented. Any changes to the conservation measures proposed by FERC or the Applicant or in the conditions under which project activities were evaluated may constitute a modification of the proposed action. If this modification causes an effect to desert tortoise that was not considered in the Biological Opinion, reinitiation of formal consultation pursuant to the implementing regulations of section 7(a)(2) of the Act (50 CFR § 402.16) may be warranted. The following reasonable and prudent measures supplement and clarify select conservation measures included as part of the proposed action. We believe the following reasonable and prudent measures are necessary and appropriate to minimize the impact of take on desert tortoise:

1. Once the Applicant obtains access to the Central Project Area and prior to any ground-disturbing activities, the Applicant shall conduct protocol-level surveys for desert tortoise in the entire Central Project Area.
2. Only biologists approved by the Service and California Department of Fish and Game (CDFG) shall be employed to capture, handle, or relocate tortoises and ensure compliance with this Biological Opinion.
3. Project fencing will be designed and constructed so as to minimize the risk of death or injury to tortoises and other wildlife.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the Applicant and all agents and/or contractors, must comply with the following terms and conditions, which implement the reasonable and prudent measures described above, and are intended to minimize the impact of incidental take on the desert tortoise. These terms and conditions are non-discretionary.

The following terms and conditions implement reasonable and prudent measure 1:

1. Protocol-level surveys shall be conducted by a qualified biologist with experience surveying for desert tortoise and its sign.
2. Surveys shall be conducted in accordance with the Service's most recent guidance for pre-project protocol-level surveys.
3. Results of tortoise surveys shall be submitted to the Service and CDFG within 2 months of their completion and at least 6 months prior to initiation of any activities that would result in ground disturbance.

The following terms and conditions implement reasonable and prudent measure 2:

1. Any designated staff members that will be capturing, handling, relocating, or monitoring tortoises will be approved by the Service and CDFG. The Applicant shall assign at least one Authorized Biologist to the project. The Applicant shall submit the résumé of the proposed Authorized Biologist(s), with at least three references and contact information, to the Service. The Authorized Biologist must meet the following minimum qualifications:
 - a. Bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field;
 - b. Three (3) years of experience in field biology or current certification of a nationally recognized biological society, like the Ecological Society of America or The Wildlife Society;
 - c. At least a year of field experience with biological resources in the desert;
 - d. Meet or exceed the current Authorized Biologist qualifications set forth by the Service at http://www.fws.gov/ventura/species_information/protocols_guidelines/, and demonstrate familiarity with protocols and guidelines for the desert tortoise, and be approved by the Service;
 - e. Possess a California ESA Memorandum of Understanding pursuant to Section 2081(a) for desert tortoise; or
 - f. In lieu of any of the above requirements, the résumé shall demonstrate to the satisfaction of the Service and CDFG that the proposed Authorized Biologist has the appropriate training and background to effectively implement the conservation measures.

2. No fewer than 45 days prior to the start of site mobilization or construction-related ground disturbance, the Applicant shall submit the name(s) of the Authorized Biologist(s), along with a completed Desert Tortoise Authorized Biologist Request Form to the Service and CDFG for review and final approval. In addition, the Applicant shall submit the name(s) of all Biological Monitors, their resumes, and at least three references to CDFG for approval. If an Authorized Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the Service and CDFG at least 10 working days prior to the termination or release of the preceding Authorized Biologist. In an emergency, the Applicant shall immediately notify the Service to discuss the qualifications and approval of a short-term replacement while a permanent Authorized Biologist is proposed to and approved by the Service and CDFG.

3. The Authorized Biologist shall have all of the duties outlined in Conservation Measure 3.¹³⁴ In addition, the Authorized Biologist's duties shall include the following, as needed:

- a. Clearly mark sensitive biological resource areas and verify personally or use Biological Monitors to check for compliance with all impact avoidance and minimization measures, including checking all exclusion zones to ensure that signs, stakes, and fencing are intact and ensuring project activities are limited to authorized areas of disturbance.
- b. Remain on site daily in areas located outside of desert tortoise exclusion fencing while vegetation salvage, grubbing, grading, or any other ground-disturbing activity is taking place to ensure conservation measures are properly implemented.
- c. Notify the Applicant and Service of any non-compliance with any of the conservation measures or terms and conditions of this Biological Opinion.

The following terms and conditions implement reasonable and prudent measure 3:

1. Temporary and permanent exclusion fencing around the desalination ponds and reservoirs will completely enclose the facilities. No setbacks for wildlife will be included.

¹³⁴ Conservation Measure 3 can be found in the Biological Opinion, filed on April 13, 2012, at 9-10.

2. Fencing will be installed in accordance with Conservation Measure 9,¹³⁵ and will adhere to the Service's specifications for desert tortoise fencing, available at http://www.fws.gov/ventura/species_information/protocols_guidelines/

Disposition of Sick, Injured, or Dead Specimens

The Palm Springs Fish and Wildlife Office (PSFWO) at 760-322-2070 and Ontario CDFG Office at 909-987-8397 are to be notified immediately if any desert tortoises are found sick, injured, or dead in the action area. Immediate notification means verbal (if possible) and written notice within 1 workday, and must include the date, time, and location of the carcass, and any other pertinent information. Care must be taken in handling sick or injured individuals to ensure effective treatment and care can be administered, and in handling dead specimens to preserve biological material in the best possible state.

The PSFWO should also be notified immediately if any endangered or threatened species not addressed in this Biological Opinion is located in the project areas during the permit period. The same reporting requirements also shall pertain to any healthy individual(s) of any threatened or endangered species located in the action area that requires handling to move the individual(s) out of harm's way

Reporting Requirements

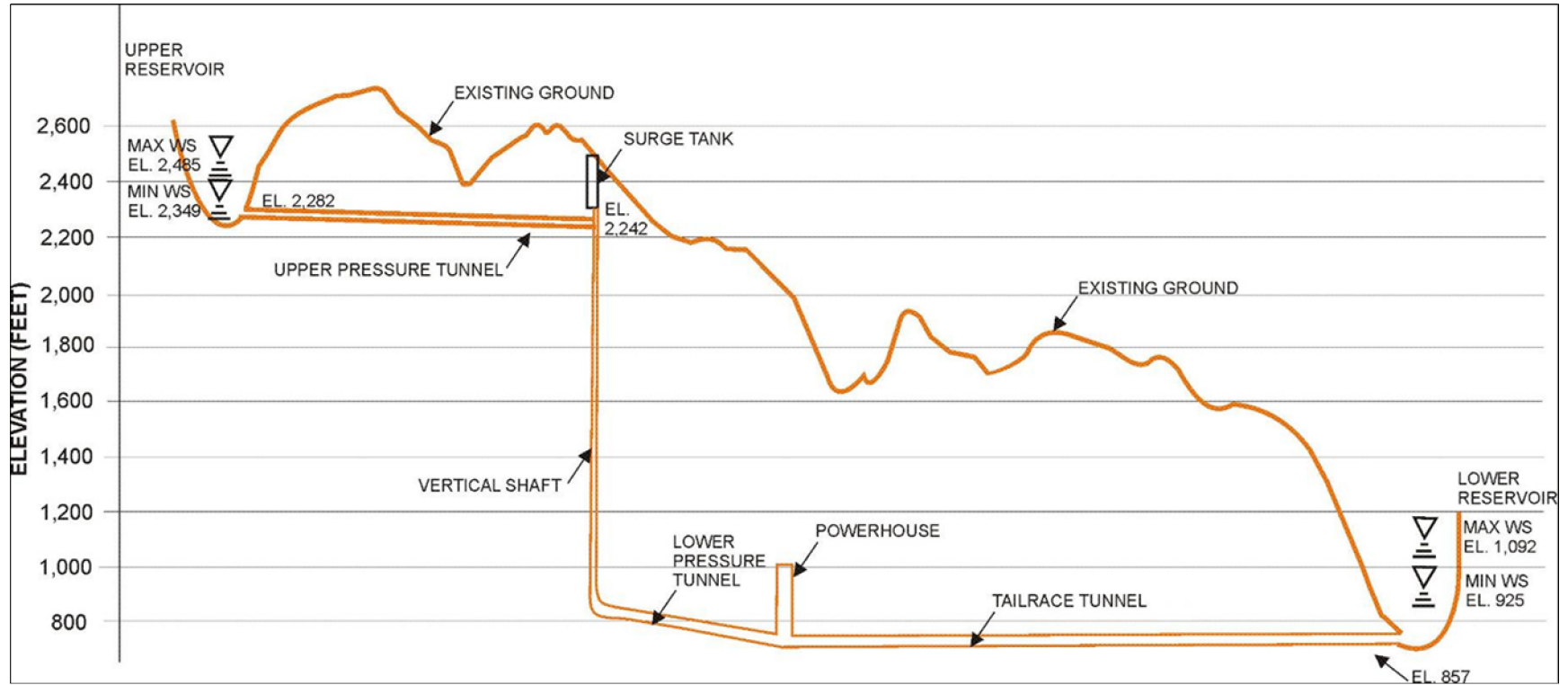
The Applicant must adhere to the reporting requirements detailed in their Conservation Measure 21.¹³⁶ The quarterly reports described in that measure shall be submitted for the duration of construction and post-construction relocation/translocation monitoring. Specifically, these reports must include information on any instances when desert tortoises were killed, injured, or handled; the circumstances of such incidents; and any actions undertaken to prevent similar incidents from reoccurring. In addition, these reports should provide detailed information on the results of relocation/translocation monitoring, including the location, health status, and body condition of any transmittered desert tortoise. During the O&M phase of the project, the Applicant shall provide an annual report to the Service and CDFG on any O&M activities that required tortoise relocation or translocation.

¹³⁵ Conservation Measure 9 can be found in the Biological Opinion, filed on April 13, 2012, at 13.

¹³⁶ Conservation Measure 21 can be found in the Biological Opinion, filed April 13, 2012, at 15-18.

Appendix B

Schematic of Project Features¹³⁷



¹³⁷ Source: Figure 4 of Commission staff's final environmental impact statement for the project issued on January 30, 2012.

Document Content(s)

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