Santa Clara Valley Water District

File No.: 20-0461

Agenda Date: 5/26/2020
Item No.: *2.7.

BOARD AGENDA MEMORANDUM

SUBJECT:
Approve the Preliminary Project Description for the Anderson Dam Federal Energy Regulatory Commission Order Compliance Project, (Anderson Dam Seismic Retrofit Project, Project No. 91864005); and Find that Requirements of the Federal Energy Regulatory Commission Order Compliance Project is Consistent with Santa Clara Valley Water District Resolution No. 605 (Morgan Hill, District 1).

RECOMMENDATION:
A. Approve the Preliminary Project Description for the Anderson Dam Federal Energy Regulatory Commission (FERC) Order Compliance Project; and
B. Find that the requirements of FERC's Order are consistent with Santa Clara Valley Water District Resolution No. 605 (Adopted June 12, 1962).

SUMMARY:

I. Background

Anderson Dam Seismic Retrofit Project and FERC's February 20, 2020 Order

The Anderson Dam Seismic Retrofit Project (ADSRP) will correct dam seismic deficiencies and otherwise meet all current Federal Energy Regulatory Commission (FERC) and California Department of Water Resources, Division of Safety of Dams (DSOD), dam safety design standards. The ADSRP will also address significant adverse environmental impacts of the construction and operation of Anderson Reservoir, including significant adverse effects on sensitive fisheries, wildlife, habitat, water quality, groundwater recharge, flood conveyance and control, and water supply. Throughout 2019 and into early 2020, project staff and consultants had been preparing the 90% design plans, specifications, and supporting environmental and permitting documents. Construction of the ADSRP was scheduled to start in the fall of 2022.

FERC has jurisdiction over Anderson Dam safety measures and operations due to licensing a small hydroelectric facility on this reservoir. Pursuant to FERC's authority, for public health and safety reasons, on February 20, 2020, the Santa Clara Valley Water District (Valley Water) received an

Order from FERC to immediately implement the following interim risk reduction measures: (a) immediately lower and maintain the reservoir operating level no higher than elevation 565 feet; (b) lower the reservoir to elevation 488 feet (deadpool) beginning no later than October 1, 2020, as safely and quickly as possible and maintain deadpool to the extent feasible; (c) immediately design and construct the low-level outlet tunnel to more reliably and quickly drawdown the reservoir after an earthquake and/or to better maintain deadpool during significant precipitation; and (d) develop measures necessary to safely drain and maintain the reservoir at deadpool and minimize environmental effects, including groundwater recharge, water supply, flood protection, and other environmental impacts (Attachment 1).

As a FERC licensee, Valley Water is required to timely comply with FERC's Federal Power Act part 12 safety Order, and this Order establishes that FERC - the nation's principal dam safety regulatory agency - views *immediate* implementation of these interim risk reduction measures as necessary emergency measures to protect public health and safety.[1] Pursuant to FERC's Order, Valley Water immediately restricted the reservoir operating level to elevation 565 feet, began defining the interim risk reduction measures now referred to as the FERC Order Compliance Project or FOCP, and initiated emergency consultation processes regarding adverse environmental impacts of these interim risk reduction measures with the regulatory agencies, as appropriate. The FOCP is a set of proposed interim risk reduction measures as set forth in the FERC Order during the interim time period prior to construction and operation of the ADSRP. The ADSRP design consultant has been preparing plans and specifications for the FOCP and expects them to be completed in time for implementation of drawdown activities as ordered.

II. Preliminary Project Description for the FERC Order Compliance Project

In response to FERC's Order, Valley Water staff seeks to propose interim risk reduction measures, both physical improvements and operational measures, to comply with FERC's Order while avoiding or minimizing adverse impacts that would otherwise result from compliance. These improvements and operational measures, in combination, will be referred to as the FOCP. FERC expects construction of certain physical improvements of the FOCP to commence no later than early 2021, and, if approved by the Board, construction of the FOCP physical improvements is expected to last approximately three years. California Environmental Quality Act (CEQA) and regulatory approval processes for the ADSRP will continue concurrently with, but independently of the approval, construction and operation of the FOCP, which has independent utility from the ADRSP for purposes of implementation of interim risk reduction measures.

The preliminary project description for the FOCP consists of four broad categories of actions as identified below. Within these broad categories are ten main project components which are further included within these broad categories and will be described at length in the forthcoming FOCP Preliminary Project Description (to be provided in a Supplemental Agenda Item).

A. Reservoir Drawdown to Deadpool

As the FERC Order concludes, until full remediation through the ADSRP is completed, the dam safety risk at Anderson is unacceptably high. A full drawdown of the reservoir to deadpool beginning

on October 1, 2020, and maintenance of deadpool to the extent feasible, reduces the risk of an uncontrolled downstream releases as much as possible given the current condition of the dam. Because drawing down the reservoir to deadpool may result in reservoir rim and bank instability, Valley Water will implement monitoring and implementation of geotechnical stabilization measures to address those potential adverse impacts. In addition, drawdown to, and maintenance of deadpool may adversely affect water supplies, land surface elevations, and groundwater recharge, which must also be addressed by avoidance, minimization and mitigation measures. (See subsection D. below.)

B. Anderson Dam Tunnel Construction

The Anderson Dam tunnel is necessary to better and more consistently stay within the FERC-directed reservoir elevation of 488 feet, as the current outlet, with only a 500 cubic feet per second (cfs) capacity, is undersized for the amount of inflows Anderson Reservoir receives. Additionally, in the event of an earthquake, the existing outlet could cease to function, causing the reservoir to rise to unsafe levels and potentially resulting in an uncontrolled release and/or a catastrophic dam failure. The proposed Anderson Dam tunnel would be capable of efficiently and safely passing larger inflows (up to 2000 cfs capacity), would be seismically robust, and would be expected to continue to function after an earthquake.

C. Anderson Dam Tunnel Operation and Maintenance

Operating the Anderson Dam tunnel once it is constructed to maintain elevation 488 feet to the extent feasible requires release of maximum flows of 1500-2000 cfs, together with operation of the existing outlet to release flows of up to 500 cfs, resulting in a combined maximum outflow of 2000 to 2,500 cfs. Releases of flow using full capacity of the tunnel and existing outlet is necessary to keep the reservoir as close as possible to deadpool during storm events, while taking into account potential downstream flood risks and deploying other flood management improvements and operational measures to address downstream flood risk. (See subsection D.)

D. Avoidance and Minimization Measures

Reservoir Bank and Rim Stability Improvements. These structural improvements would protect the existing Anderson Reservoir rim from potential landslides due to drawdown.

Existing Intake Structure Modifications. These structural improvements would reinforce the existing Anderson Dam intake structure to prevent damage from slope failure due to drawdown.

Creek Channel and Bank Erosion Control Modifications. These erosion control modifications are required to prevent erosion downstream of Anderson Dam from drawdown to, and maintenance of the reservoir at elevation 488 feet.

Cross Valley Pipeline Extension. The pipeline extension is necessary to minimize adverse impacts to aquatic resources and groundwater recharge from the effects of drawdown to, and maintenance of deadpool.

Coyote Percolation Dam Replacement. The percolation dam replacement is necessary to accommodate drawdown to, and maintenance of deadpool by avoiding and minimizing adverse impacts of increased outflow velocity on aquatic resources and groundwater recharge.

Coyote Creek Flood Management Measures. These physical improvements and operational measures are necessary to reduce flood risks to life and property caused by higher Coyote Creek flows during storm events, as caused by maximum Anderson Dam tunnel flows combined with outflows from the existing outlet and high local tributary inflows to the creek during higher frequency precipitation events.

Implementation of Additional Project-specific Avoidance and Minimization Measures. In general, additional measures are necessary to protect multiple environmental resources during FOCP construction and operation. These measures include storm water pollution prevention Best Management Practices, biological measures necessary to avoid and minimize impacts on sensitive native fish populations, other aquatic sensitive species, and sensitive native habitat types, in particular O. mykiss populations and habit, during FOCP construction and operation.

III. Approval of the FOCP Preliminary Project Description

Staff recommends the Board approve the Preliminary Project Description for the FOCP (forthcoming in a Supplemental Agenda Item). Implementation of the FOCP will require future actions related to its various components, such as property acquisition, preparation of plans and specifications, and entering into public works construction contracts. Some of these future actions will require subsequent Board approvals. It is also recognized that FERC will review and may request modifications to some of the FOCP components. In addition, other state and federal regulatory agencies with jurisdiction may request additional avoidance, minimization and mitigation related to the FOCP.

Section 12 of the District Act requires the Board to conduct a public hearing before approving the FOCP to hear testimony because the project includes new construction, which staff proposes to fund from its zone(s) of benefit. If the project description of the FOCP is approved by the Board, staff will prepare an Engineer's Report for the purpose of public disclosure and compliance with District Act requirements. The Engineer's Report and a resolution setting the time and place of the public hearing will be presented to the Board. If the Board adopts the Engineer's Report and resolution, staff will schedule notice of a public hearing pursuant to the District Act.

IV. Santa Clara Valley Water District Resolution No. 605

Santa Clara Valley Water District Resolution No. 605 (adopted June 12, 1962; Attachment 3) provides that, "*subject to applicable requirements of health and safety*," Valley Water shall maintain a "summer pool" of 20,000 acre-feet (AF) of water in Anderson Reservoir between April 1st and October 15th of each year. Because FERC has ordered Valley Water to drawdown and maintain the reservoir at deadpool for health and safety reasons, staff recommends the Board find that the FERC Order is consistent with Resolution No. 605, as current health and safety requirements except, or exempt, maintenance of a summer pool of 20,000 AF.

See also FERC letter of March 16 to the National Marine Fisheries Service and U.S. Fish and Wildlife Service requesting "emergency consultation" under the Endangered Species Act (Attachment 2).

FINANCIAL IMPACT:
There is no financial impact associated with this item.

CEQA:
The recommended action - approval of the Preliminary Project Description - does not constitute a project under CEQA because it does not have a potential for resulting in direct or reasonably foreseeable indirect physical change in the environment.

ATTACHMENTS:
Attachment 1: 022020 FERC Order
Attachment 2: 031620 FERC Letter
Attachment 3: SCVWD Resolution No. 605
*Supplemental Agenda Memo
*Supplemental Attachment 1: Preliminary Project Description

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