



Santa Clara Valley Water District

File No.: 21-1238

Agenda Date: 11/9/2021

Item No.: *5.4.

BOARD AGENDA MEMORANDUM

SUBJECT:

Update on the Condition of the Almaden Valley Pipeline and Determination that the Condition of the Almaden Valley Pipeline Continues to Constitute an Emergency (San Jose) (District 3).

RECOMMENDATION:

- A. Receive an update on the Almaden Valley Pipeline; and
- B. Determine by a four-fifths vote of the Board that there is a need to continue the emergency action declared by the Chief Executive Officer (CEO) on November 2, 2021 pursuant to California Public Contract Code §22050, to repair the Almaden Valley Pipeline.

SUMMARY:

According to Public Contract Code §22050, in order for the emergency action to remain in place, the Board must determine, by four-fifths vote at every regularly scheduled Board meeting until the emergency action is terminated, that there is a need to continue the emergency action; this agenda item recommends the Board make such a finding.

On November 2, 2021, the CEO declared that the condition of the Almaden Valley Pipeline (AVP) constituted an emergency condition pursuant to California Public Contract Code §22050. The emergency declaration further determined that Santa Clara Valley Water District (Valley Water) staff may repair such pipeline, take any directly related and immediate action required by that emergency, and procure the necessary equipment, services, and supplies for those purposes, without giving notice for bids to let contracts. The emergency condition continues to exist as the repairs to the AVP are not yet underway.

The AVP consists of approximately 12 miles of 72-inch to 78-inch diameter pre-stressed concrete cylinder pipe (PCCP) and welded steel pipe, operating under pressure. The pipeline was constructed in two major segments: AVP Unit 1 was constructed in the 1960's, and AVP Unit 2 was constructed in the 1980's. The AVP is used to supply raw water to Valley Water's treatment plants, groundwater recharge facilities, and service connections. When this pipeline is out of service, Valley Water does not have access to the San Luis Reservoir (Central Valley Project) and Calero Reservoir supplies. The South Bay Aqueduct must be relied upon as the sole source and supply of raw water to Valley Water treatment facilities.

AVP planned inspection and rehabilitation work was performed in 2007, 2008, 2011, and 2017. On

December 5, 2017, Valley Water's CEO declared an emergency and a contractor repaired numerous damaged sections of PCCP identified during inspection as at risk of imminent failure. Based on the information gathered before and after the 2017/2018 repairs, the nature of damage to the pipe was correlated to embrittlement of the PCCP reinforcement wires.

On March 18, 2018, an acoustic fiber optic (AFO) system was brought on-line to continuously monitor the AVP for events that correlate to additional distress of PCCP sections. The AFO system has detected hundreds of events since its installation and indicates that PCCP sections in the Unit II Phase II portion of AVP continue to degrade due to the embrittlement of the PCCP reinforcement wires.

On December 23, 2019, Valley Water's CEO declared an emergency, based on AFO data that indicated that pipe sections under Alamitos Creek were significantly distressed and at risk of imminent failure. Subsequent electromagnetic inspection of the subject sections of PCCP confirmed the AFO data. The subject sections of PCCP were repaired and the AVP was returned to safe and reliable service on February 27, 2020.

Staff continued to monitor and assess the AFO data in combination with other pipeline records, including operation and maintenance data, to analyze changes in failure risk and remaining service life of the PCCP in AVP. On July 13, 2021, staff provided an update to the Board on the condition of the AVP and its efforts to help ensure safe and reliable operation of this facility. Results of this continuous analysis indicate that some PCCP sections of the AVP, between the Santa Teresa Force Main and Calero Valve Yard, are significantly distressed and at risk of imminent structural failure. The distressed sections of PCCP are generally located adjacent to Alamitos Creek, near the bridge crossing at the southern end of Almaden Expressway.

Based on the current condition of the significantly distressed pipe sections and the associated risks, as indicated by the AFO data, Valley Water cannot continue to operate the AVP in a safe and reliable manner unless the significantly distressed pipe sections are repaired. Shutdown of the AVP between the Coleman Line Valve to the Calero Valve Yard, from November 29, 2021 to December 17, 2021, is being coordinated to facilitate these repairs. Failure to repair the subject sections and return the pipeline to service by the prescribed date will pose a significant risk to Valley Water's ability to provide sufficient water to meet minimum water supply demands, as Valley Water's contractual obligations for water delivery increase in the spring and summer.

In response to this emergency condition of the AVP, Valley Water staff activated the Water Utility Department Operations Center on November 2, 2021. Staff from various Valley Water business units participated and strategized on the necessary steps to move forward with the pipeline repairs.

The three water treatment plants in North County will be disconnected from San Luis and Calero reservoirs due to the shutdown of the AVP. The Santa Teresa Water Treatment Plant will be offline for the duration of the AVP outage, and the Penitencia and Rinconada Water Treatment Plants will be relying on raw water delivered through the South Bay Aqueduct (SBA).

After a contract is awarded to a construction contractor, work is expected to begin on or about

November 29, 2021. Valley Water staff and contractor personnel will have access to the interior of the AVP to perform the repairs. The repairs consist of constructing a carbon fiber structural liner inside the distressed segments of AVP.

It is anticipated that the Penitencia and Rinconada Water Treatment Plants will remain online through the completion of the repairs. If Valley Water should lose the ability to receive imported water from the State Water Project (via the SBA), there would be an immediate and substantial curtailment of water services in the County. Staff has informed the retailers of the AVP emergency and will provide periodic updates to keep them abreast of the situation. The Office of Communications has also reached out to the neighbors that may be impacted by the mobilization of the crews and the construction activities. Water remaining in the pipeline, after the shutdown, will be drained to Alamitos Creek to benefit in-stream groundwater recharge.

Staff is recommending that the Board determine, by a four-fifths vote, that there is a need to continue the emergency action declared by the CEO, to enable timely procurement of necessary construction contract services, and other services, supplies and essential equipment, without competitively bidding the contracts to complete the repairs. Staff will return to the Board with an update at every regularly scheduled Board meeting until the emergency declaration is concluded.

FINANCIAL IMPACT:

Staff estimates repairing the distressed sections of the AVP could cost in the range of \$1.2M to \$1.7M depending on the scale of the necessary repairs. The repair costs will exceed the available funds in the Raw Water T&D Engineering Other Project (92761083). Staff will recommend a budget adjustment for this Project at a future Board meeting based on the actual cost of the repair.

CEQA:

Impacts associated with the repair and maintenance activities of the AVP were evaluated by the Pipeline Maintenance Program and the Programmatic Environmental Impact Report, certified and approved by the Board on November 13, 2007. The California Department of Fish and Wildlife and the Regional Water Quality Control Board will be properly notified to address the issued permits for the repairs and the permits will be modified to address emergency actions. All work will be performed deploying the Valley Habitat Plan conditions and avoidance and minimization measures to prevent impacts to sensitive habitat in the project vicinity.

ATTACHMENTS:

Attachment 1: Declaration of Emergency

UNCLASSIFIED MANAGER:

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