

**COUNTY OF SAN LUIS OBISPO BOARD OF SUPERVISORS
AGENDA ITEM TRANSMITTAL**

(1) DEPARTMENT Public Works	(2) MEETING DATE 8/25/2015	(3) CONTACT/PHONE Courtney Howard, Senior Water Resources Engineer (805) 781-1016	
(4) SUBJECT Submittal of a Desalination Opportunities Summary Report and recommended direction to staff to proceed on emergency and long term desalination opportunities. All Districts.			
(5) RECOMMENDED ACTION It is recommended that the Board, acting as the Board of Supervisors for the San Luis Obispo County Flood Control and Water Conservation District: <ol style="list-style-type: none"> 1. Receive and file the Desalination Opportunities Summary Report (Attachment 2); and 2. Direct staff to engage the Integrated Regional Water Management Program Regional Water Management Group and any other potential project partners in discussions regarding regional desalination facility concepts, opportunities and projects; and 3. Direct staff to engage potential stakeholders in the Santa Maria and Los Osos Groundwater Basins regarding drought relief opportunities presented by the Diablo Canyon Nuclear Power Plant Desalination Facility near-term efforts illustrated in Attachment 1; and 4. Direct staff to move forward on a parallel track to develop, in concert with PG&E, an emergency project to make desalinated water available to south County communities in the event of continued drought conditions. 			
(6) FUNDING SOURCE(S) Flood Control and Water Conservation District, Fund 1300000000	(7) CURRENT YEAR FINANCIAL IMPACT N/A	(8) ANNUAL FINANCIAL IMPACT N/A	(9) BUDGETED? Yes
(10) AGENDA PLACEMENT <input type="checkbox"/> Consent <input type="checkbox"/> Presentation <input type="checkbox"/> Hearing (Time Est. ____) <input checked="" type="checkbox"/> Board Business (Time Est. <u>90 min.</u>)			
(11) EXECUTED DOCUMENTS <input type="checkbox"/> Resolutions <input type="checkbox"/> Contracts <input type="checkbox"/> Ordinances <input checked="" type="checkbox"/> N/A			
(12) OUTLINE AGREEMENT REQUISITION NUMBER (OAR) N/A		(13) BUDGET ADJUSTMENT REQUIRED? BAR ID Number: N/A <input type="checkbox"/> 4/5 Vote Required <input checked="" type="checkbox"/> N/A	
(14) LOCATION MAP N/A	(15) BUSINESS IMPACT STATEMENT? No	(16) AGENDA ITEM HISTORY <input checked="" type="checkbox"/> N/A Date: <u>April 7, 2015, May 19, 2015</u>	
(17) ADMINISTRATIVE OFFICE REVIEW David E. Grim			
(18) SUPERVISOR DISTRICT(S) All Districts			

Reference: 15AUG25-BB-1

County of San Luis Obispo



TO: Board of Supervisors

FROM: Public Works
Courtney Howard, Senior Water Resources Engineer

VIA: Mark Hutchinson, Deputy Director of Public Works

DATE: 8/25/2015

SUBJECT: Submittal of a Desalination Opportunities Summary Report and recommended direction to staff to proceed on emergency and long term desalination opportunities. All Districts.

RECOMMENDATION

It is recommended that the Board, acting as the Board of Supervisors for the San Luis Obispo County Flood Control and Water Conservation District:

1. Receive and file the Desalination Opportunities Summary Report (Attachment 2); and
2. Direct staff to engage the Integrated Regional Water Management Program Regional Water Management Group and any other potential project partners in discussions regarding regional desalination facility concepts, opportunities and projects; and
3. Direct staff to engage potential stakeholders in the Santa Maria and Los Osos Groundwater Basins regarding drought relief opportunities presented by the Diablo Canyon Nuclear Power Plant Desalination Facility near-term efforts illustrated in Attachment 1; and
4. Direct staff to move forward on a parallel track to develop, in concert with PG&E, an emergency project to make desalinated water available to South County communities in the event of continued drought conditions.

DISCUSSION

On April 7, 2015, the Board directed staff to prepare and present a discussion on desalination project opportunities. On May 19, 2015, the Board further directed staff to work with PG&E on a logistics report to identify what is needed to pipe surplus water from the PG&E desalination plant to the community and return to the Board within 120 days with the findings.

Staff has prepared the attached Desalination Opportunities Summary Report, including basic information regarding Diablo Canyon desalination facility near-term opportunities. This information can help water purveyors, Groundwater Sustainability Agencies, community leaders and other water resource management entities compare desalination project opportunities to other alternatives to address existing imbalances and drought reliability needs.

General Feasibility Considerations

As illustrated in the attached Desalination Opportunities Summary Report, there have been several studies of the desalination option for meeting current and future water supply needs. However, this option has not been selected in many communities due to expense and regulatory challenges. That is, desalination has not proven cost competitive with other options of equal quantity and quality. Addressing the relatively limited scale of ongoing water needs of coastal communities with desalination has not been shown to be as economically feasible as other options like recycled water and conservation. Previous studies also considered reliability and found other options to be adequate in this regard. However, two local communities have invested in desalination facilities (Morro Bay and Cambria), but have limited their size and use to emergency circumstances, again owing to regulatory and cost issues.

On a larger scale, for desalination to be a feasible option, partnerships are necessary. With a regional approach, costs that exist regardless of the facility's size, such as intake design, energy needs and brine disposal, can be spread across more beneficiaries. Addressing institutional barriers will require each potential partner, including regulatory agencies, to review its relevant guiding regulations and policies, identify what combination of supply enhancement and conservation strategies it wants to plan for and support, and determine how desalination fits in. A particular agency may find that their policies support a certain hierarchy of solution strategies. For example, the County's Conservation and Open Space Element prioritizes optimization of existing infrastructure first before developing new supply via desalination (Water Resources Policy 1.3). Another approach may be to prioritize investing in projects that provide the highest reliability and can be combined with optimization strategies for existing infrastructure and conservation programs to meet multiple needs in multiple areas through mutually beneficial partnerships.

As demonstrated by the recently-completed Carlsbad Desalination Plant and other pending projects referenced in the attached Report, successful regional desalination projects in California have been implemented only after long and extensive project vetting, development and implementation processes. Therefore, it is recommended that the Board direct staff to engage the Integrated Regional Water Management Program Regional Water Management Group and potential project partners in discussions about regional desalination facility concepts. The Integrated Regional Water Management Program is a public forum designed to facilitate the development of broadly supported recommendations regarding strategies to develop and potentially fund integrated, regional water resources projects in the county.

Diablo Canyon Desalination Facility Near-Term Opportunities

The desalination facility at Diablo Canyon has existing unused capacity and PG&E has already engaged with the County to consider a partnership on distribution infrastructure to deliver available water to areas of need. Attachment "1" summarizes this opportunity, including how much water could be made available at existing and at full plant capacity, where it might be delivered to meet groundwater needs, and the logistical steps associated with each. The areas of need closest to the facility are the Santa Maria and Los Osos Groundwater Basins, which are both identified as high priority basins under the Sustainable Groundwater Management Act.

Preliminary estimates indicate that there is potential to utilize the existing Flood Control and Water Conservation District Zone 3 distribution infrastructure as a point of connection with a pipeline from Diablo Canyon. Although Los Osos is also a possible partner, the routing of a new pipeline from the desalination facility toward Los Osos would be somewhat more complex.

Other key issues include:

- Under what circumstances would the water be available for emergency use?
- What agreements will be needed to ensure the benefits are achieved?
- What other effects would implementing the project have (i.e. unintended consequences)?
- What ownership, funding and operations agreements would need to be established?
- What regulatory approvals would be required to operate the project?

Recommendation #2 and #3 above (engaged stakeholders) will implement the County's existing Integrated Regional Water Management Program policies and approach regarding the need to engage potential partners throughout the project development process, from initial concept through the operation. Other agencies will want to weigh the cost and opportunities presented by desalination both in the long term and on an emergencies basis. Financial effects will likely be a key concern given the water supply investments (and ongoing debt responsibilities) already incurred by the majority of communities in the area.

Recommendation #4 will result in an aggressive effort to prepare for the potential on an ongoing drought by moving the emergency project through the preliminary engineering, permit strategy, and financial planning phase. This will position the project to qualify for grant funds, initiate the necessary regulatory approval processes, and move engineering to the design/construction phases. As we work with PG&E and potential project partners, and track the status of the drought and parallel drought mitigation efforts, staff would continue to update the Board on these efforts, seeking direction and necessary approvals to maintain progress.

OTHER AGENCY INVOLVEMENT/IMPACT

The implementation of desalination projects will require participation by potential project partners and beneficiaries, such as water purveyors and agriculture. Therefore, it is recommended that staff be directed to engage these entities in desalination opportunity discussions individually and via existing forums such as the Integrated Regional Water Management Program Regional Water Management Group, advisory groups and Groundwater Sustainability Agencies.

County Administration, Planning and Public Works Department staff have coordinated with PG&E to develop the information associated with the Diablo Canyon options.

Understanding the interests and guiding regulations for applicable resource and permitting agencies such as the Regional Water Quality Control Board and California Coastal Commission will be an essential step early in the process.

FINANCIAL CONSIDERATIONS

Discussions on regional desalination opportunities can be integrated into budgeted activities with the Regional Water Management Group, advisory groups and Groundwater Sustainability Agencies.

Staff will return to the Board with any necessary financial recommendations to move forward on project efforts. PG&E and its technical consultant are working to develop cost estimates for providing the desalination water to the point of connection.

A financing plan for the capital and operation and maintenance costs of desalination, including grant and loan procurement, will need to be negotiated between, and implemented, with the project partners.

RESULTS

The Board's consideration and direction regarding desalination options and opportunities will better inform water managers, decision makers and the general public on desalination thereby contributing to a safe, healthy, livable, prosperous and well-governed community.

File: CF 890.30.01

Reference: 15AUG25-BB-1

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ATTACHMENTS

1. Diablo Canyon Desalination Near-Term Opportunities Summary
2. Regional Desalination Opportunities Summary Report