



**Nacimiento Project Commission
 Meeting and Agenda
 Thursday, May 26, 2011 – 4:00 pm
 Templeton Community Services District Offices**

- I. Call to Order
 - a. Call to Order, Roll Call, and Flag Salute
- II. Public Comment
 This is the opportunity for members of the public to address the Commission on items that are not on the agenda, subject to a three minute time limit.
- III. Meeting Notes from April 21, 2011 (RECOMMEND APPROVAL)
- IV. COMMISSION INFORMATION ITEMS – written reports with brief verbal overview by staff or consultant. No action is required.
 - a. Project Management Report
 - b. Project Budget
- V. PRESENTATIONS – no action required.
 - a. Progress Report on Operational Impact of Mussel Infestation
- VI. COMMISSION ACTION ITEMS
 (No Subsequent Board of Supervisors Action Required)
 - a. None
- VII. COMMISSION ACTION ITEMS
 (Board of Supervisors Action is Subsequently Required)
 - a. None
- VIII. FUTURE AGENDA ITEMS DESIRED BY COMMISSION

Commissioners
Grigger Jones, Chair, Atascadero MWC

John Hamon, Vice Chair, City of El Paso de Robles

Judy Dietch, Templeton CSD

Andrew Carter, City of San Luis Obispo

Frank Mecham, SLO County Flood Control & Water Conservation District

**Next Commission meeting scheduled for
 Thursday, August 25, 2011, at 4:00 pm at
 Templeton Community Services District offices**



Nacimiento Project Commission
May 26, 2011
Agenda Item III – Meeting Notes from April 21, 2011

I. Call to Order, Roll Call and Flag Salute

Chairman Jones convened the meeting at 4:01 pm.

Commissioners Present: Chairman Grigger Jones, Atascadero MWC
Vice-Chairman John Hamon, City of Paso Robles
Judith Dietch, Templeton CSD
Andrew Carter, City of San Luis Obispo
Frank Mecham, SLOCFC&WC District

There was no public comment.

III. Meeting Notes from November 18, 2010 and February 24, 2011

Commissioner Hamon moved to approve the meeting notes for the November 10, 2010, Commission meeting; Commissioner Mecham seconded; passed unanimously.

Commissioner Dietch moved to approve the meeting notes for the February 24, 2011, Commission meeting; Commissioner Carter seconded; passed unanimously.

IV. Commission Information Items

Project Status Update: Nacimiento Project Manager John Hollenbeck described that three construction contracts remain open—Facilities, Pipeline North, and Pipeline South. A final change order was executed by the Facilities contractor and the District; however, final punchlist items remain to be completed, including: necessary improvements to the SCADA system and the Camp Robert Tank fix. The Pipeline North contractor filed a notice of claim on March 7, 2011, to which the District is reviewing request for additional funds and developing a response. The Pipeline South contractor has filed a lawsuit. The District seeks legal advice through special counsel and anticipates mediation in late spring/ early summer.

Mr. Hollenbeck noted that Jacobs Engineering Group Inc. continues to support the District as Construction Manager, and anticipates their local office closing this month.

Project Budget: Mr. Hollenbeck noted that trends through February 28, 2011, indicate that the Project may be \$2-million under budget. He hopes to redistribute the budget elements by the May 26, 2011, Commission meeting.

Operation Report: The District received the final Manual of Procedures from Black & Veatch on April 21, 2011. Mr. Hollenbeck noted that this document is meant to be utilized by administrative and operations staff as a daily resource, and expressed a high level of satisfaction with the final product.

Intake Pipe Repair Status: Mr. Hollenbeck provided a brief overview of the Intake facility and the Intake Pipe collapse that occurred during startup of the Project. Black & Veatch accepted responsibility to redesign and replace the Intake Pipe. He has reviewed and essentially approved the Design and Construction Work Plan, but noted that Black & Veatch and the District continue to negotiate the settlement agreement.



Commissioner Hamon asked what length of the re-designed Intake Pipe will be reinforced. Mr. Hollenbeck replied that the retrofitted pipe will be reinforced nearly the entire length, with more concentrated reinforcement at greater depths. Mr. Hollenbeck hopes that the repair can be completed by the end of the year.

Fiber Optics Reimbursement from County ITD: Mr. Hollenbeck received County ITD comments back on the Memorandum of Understanding (MOU), which he will incorporate. If both Departments agree on the MOU, he will return to the Commission in May for consideration, and to forward it to the County's and District's Board of Supervisors (same governing body).

Commissioner Mecham asked for more information regarding who can use the fiber optic system. Mr. Hollenbeck described the brief history of how County GSA-ITD became involved in the Project fiber optic system use. The Project initially considered various communication methods for Project alarms/monitoring (e.g. telephone, fiber optic). County GSA-ITD wanted to participate in the cost and use if fiber optics were installed. The Project only required 24- fiber optic strands for communication, and County GSA-ITD requested 72 additional fiber optic strands. Discussion ensued regarding whether the fiber optic system could be used for non-profit and for-profit ventures.

Mr. Ogren stated that General Services ITD used a funding component developed through Charter Communications with a Charter Franchise Agreement between Charter Communications and the County ITD. The agreement says that the County cannot use the fiber optic upgrade "for profit". Commissioner Mecham asked about the restrictions on spare conduit use "for profit". The spare was funded half by the Project and half by County ITD. Commissioner Mecham states that he sees chance to reinforce local business needs—the Project provides the infrastructure, County ITD/ Charter provide a revenue source. Mr. Ogren says staff/County Counsel will look at the Franchise Agreement to see if this is a policy decision or not.

Commissioner Hamon moved to agendize an initial discussion of fiber optic use for May 26, 2011, Commission meeting; Chairman Jones seconded; passed unanimously.

Nacimiento Reservoir Status: Mr. Hollenbeck noted that the lake is full, and referenced photos taken by a District operator and included in the packet.

Project Historical Documents: Mr. Hollenbeck recapped prior actions taken by the Commission to approve creation of the Project DVD, and Narrative Anthologies. The Project DVD includes interviews with the original six Commissioners, and has been finalized and reproduced—Participants will receive copies shortly. Mr. Hollenbeck asked that Commissioners who have not submitted their Narrative Anthology piece yet, please do submit those to District staff.

CSA 7A Oak Shores Wastewater System and Reporting Event, March 29, 2011: Mr. Benedix briefly summarized the event, which was noticed via an unusually high level of wastewater being processed at Oak Shores' plant, raising concern of a possible breach in the system. County staff notified the proper agencies, advised the Board of Supervisors, and ceased Project deliveries to the City of SLO. Water quality sampling through the week did not indicate any issues of concern. In August, County staff will go to the Board of Supervisors to report results of an audit conducted on the wastewater system management, which includes the interceptor pipeline under the lake. The Sanitary Sewer Management Plan will be reviewed for response, cost efficiency, repair, etc. to ensure that the County and other health agencies are better prepared to handle future events.



Commissioner Mecham added that on April 20, 2011, PWD staff met with County Health Department, Heritage Ranch CSD, Oak Shores, and Phil Humfrey, recognizing that there was a fatal flaw in the communication chain and recommending standard operating procedures for future events.

Invasive Species: Mr. Benedix indicated that strides have been made with Monterey County: mandatory screening/ inspections of all vessels will begin Memorial Day Weekend 2011, and Monterey staff is seeking funding for the current and upcoming fiscal years. In addition, County staff is working with 70+ volunteers at the private ramps to provide screening of boats prior to launch. District staff is working with TSG to review a technical report on the possible cost of a mussel infestation written by TJ Cross Engineers. A presentation will be provided to the Commission to review the report's findings.

Commissioner Mecham saw an outline of the program from Heritage Ranch via Carolyn Berg, and asked that staff return with an agenda item summarizing the program.

VII. Business Items

FY 2011/12 Nacimiento Water Operating Project Budget: Wendy Hall presented the proposed FY 2011/12 budget, which has been reviewed by TSG and the Financial Committee. Changes made since the February 24, 2011, Commission meeting are described in the staff report.

Staff will continue to review the water quality costs as more historical operational costs become available. Commissioner Jones asked if staff has considered consulting out for water quality sampling and reporting, rather than doing it in-house. Commissioner Hamon asked if sampling is conducted at the intake and downstream. Mr. Benedix stated that sampling is not conducted downstream unless an issue warrants it.

Commissioner Carter asked what is included in "other revenue" (page 7, \$721,877). Ms. Hall pointed Commissioners to page 8, column R, which breaks down \$721,877 further.

Commissioner Mecham moved to approve the Proposed Nacimiento Water Operating Fund Budget for Fiscal Year 2011/12, and forward it to the District Board of Supervisors for adoption; Commissioner Dietch seconded; passed unanimously.

VIII. Future Agenda Items Desired by Commission

Commissioners requested an update on the 2011 Invasive Species Prevention Program at Lakes Nacimiento and San Antonio, and an initial study related to the use of the Project Fiber Optic system "for profit".

Chairman Jones adjourned the meeting at 4:43 pm.

Submitted by Carolyn Berg (via audio recording of meeting)



Nacimiento Project Commission
May 26, 2011
Agenda Item IV.a– Project Management Report
(Information Only – No Action Required)

PROJECT UPDATES

Project Status Update

Three of the five construction contracts are still open; they are Spec 2 (Facilities), Spec 3 (Pipeline North) and Spec 5 (Pipeline South).

The Spec 2 contractor continues to address punch list items, including the repairs of the inlet and outlet nozzles of the Camp Roberts Tank, and the remote accessibility of a limited amount of operation information that the Participant's can access via password protected internet web access. Other items include the power monitoring equipment anomalies that require the manufacturer (General Electric) to address, and the remote access to historically stored data on the computer at the Santa Margarita Booster Pump Station.

District staff and the Construction Manager have completed rebuttals to the Spec 3 contractor's change order requests and claims at the request of County Counsel.

The Spec 5 contractor still has outstanding punch list items including repair of the rutting in the Rocky Canyon Road and repair of the motor controls and the seals on the sleeve valve at the San Luis Obispo turnout. The District and County Counsel staffs continue to work to prepare for mediation associated with the contractor's claim.

Jacobs Engineer Group Inc (JEG) continues to support the Project from their various offices where their staff is located. Several deliverables are due to the District, including final construction reports, and environmental compliance reports.

Operations Report

Based on discussions from the May 12, 2011, Technical Support Group (TSG) meeting, it was determined that no specific form or content was presently needed for a Monthly Operations Report. The District will continue to summarize unusual or noteworthy operations issues that arise during each month on the TSG agenda, and will include monthly water delivery totals.

General. The District delivered 142.3 acre-feet to San Luis Obispo during April 2011. They are the only Participant who took deliveries in April.

District operators optimized the operation at Rocky Canyon Pump Station to allow flows to be delivered using only one pump. This option scenario saves on electrical demand (kW) costs.



District operators reduced the auxiliary electrical usage at the Santa Ysabel Pump Station since the station is currently being bypassed. This is estimated to save about 20 percent on the fixed electric costs.

Manual of Procedures. District staff has received the final Manual of Procedures (MOP) and intranet-based MOP (iMOP). Both were developed by Black & Veatch (B&V). This tool provides readily-available access to operational and administrative procedures, warnings, etc., as well as electronic documents associated with the Project. District staff anticipates that this thorough document will be a great asset.

Intake Pipe Repair Status

B&V's special counsel has been communicating with Risk Management's County Counsel regarding the terms and conditions of the settlement agreement. The execution of this agreement is needed for B&V to begin the repair work.

Outside Agency Issues

Monterey County Water Resources Agency: Paavo Ogren continues to represent the District at the monthly Reservoir Operations Committee meetings.

New Participants: Nothing noteworthy to report this period.

Fiber Optic Memorandum of Understanding Between District and County: Commissioners at the April 21, 2011, Commission Meeting directed staff to investigate whether limitations exist on the use of the Fiber Optic Communication Element (which includes the spare fiber optic conduit and the dark fiber optic strands), and report the findings back the Commission. County Counsel's review of the documents associated with the Project's easement obtained on private lands is underway. County Counsel also will be submitted other documents to review and offer opinion, including Wireline Agreements with the Union Pacific Railroad, highway crossings with Cal Trans, and the franchise agreement with Charter Communication. At the conclusion of this review, staff will prepare a report for your Commission's and recommendation regarding the terms and conditions specified within the Fiber Optic Memorandum of Understanding between the District and the County.

Invasive Species Prevention

2011 Prevention Program: The mussel prevention program has reached several milestones that will lead to a more robust program than last year's program. Notably, Monterey County is securing funds to cover the remainder of Fiscal Year 2010/2011 program activities, and will seek \$500,000 to augment its Fiscal Year 2011/2012 budget. The 2011 prevention program centers around mandatory screening inspections of all vessels prior to launching at Nacimiento and San Antonio, effective Memorial Day Weekend.

The 2011 prevention program includes the following requirements:

- All vessels must be clean, drained, and dry
- All vessels that have boated on "infested" waterbodies within 30 days, or are not "clean, drain, dry" must undergo a more thorough inspection



- Vessels will be rejected if it has boated on an “infested” waterbody within 10 days
- All vessels must carry Vessel Screening Permit, with a certified screener’s stamp/signature while boating on either lake (requires recertification after 14-days)

The District will issue certified screener stamps to each community (for certified screeners’ use only) in accordance with that particular community’s prevention and screening program. Each community will determine the best logistics to manage its boating community, with assistance as-needed from District and Monterey staff.

Beyond screening and inspections of all vessels boating on the lakes, the 2011 prevention program will include educational outreach similar to last year, including: highway billboard, roadway and ramp signage, media outreach, presentations to communities and boards, and certified screener trainings.

The following list conveys recently held and upcoming public information meetings and certified screener training sessions:

Public Information Meetings—Mussel Prevention Program:

- April 28th, noon at Heritage Ranch HOA Rec Barn – Special public meeting with Heritage Ranch residents
- June 12th, 11:00 am at Cal Shasta Clubhouse – South Nacimiento Roads Association Community Information Day

Staff extended offers to make presentations to other private communities.

Certified Screener Training Sessions—Mussel Prevention Program:

- May 9th, 10:00 am and 1:00 pm at San Antonio South Shore Conference Room
- May 15th, 10:00 am and 1:00 pm at the San Antonio South Shore Conference Room
- May 21st, 10:00 am and 1:00 pm at Heritage Ranch HOA Rec Barn
- May 23rd, 3:00 pm and 6:00 pm at Oak Shores

Sessions certifies attendees as “certified screeners”, as well as cover educational information on invasive mussels and the devastation they cause.

Cost of Invasive Species Infestation Study: Please refer to Agenda Item V.a. “Progress Report on Operational Impact of Mussel Infestation”.

Nacimiento Reservoir Status

Reservoir status as reported by MCWRA is 98-percent full, or 371,345 acre-feet, as of May 18, 2011. MCWRA releases are reported as 175 cfs.

Project’s Nomination for Local Engineering Award

The Nacimiento Project Manager has submitted to the San Luis Obispo Branch of the American Society of Civil Engineers (ASCE) an application nominating the Project for consideration as the

Outstanding Private Sector Civil Engineering Project Award. “Private Sector” in this category refers to the engineering organization which performed the design, and for this Project the design was performed by a private engineering firm, Black & Veatch Corporation. B&V is assisting the District in the development of the application submittal. Each Participating agency will receive a copy of the application for their library. Your Commission is copied on the nomination’s cover letter, and the copy of this letter is provided at the end of Agenda Item IV. The ASCE meeting to announce the candidate projects and the winning project will be held in June. Staff will alert your TSG members of the exact date and time.

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Nacimiento Project Commission
May 26, 2011
Agenda Item IV.b– Project Budget
(Information Only – No Action Required)

During the April 21, 2011, Commission meeting, the Nacimiento Project Manager indicated that the Project may be \$2-million under budget, and that analysis and redistribution of budget elements will be conducted at a future Commission meeting. The Budget Report presented herein continues to support the assessment of the Project’s variance as being about \$2-million under budget.



**Nacimiento Water Project
Project Budget Reporting
Report Ending Period: 4/30/2011**

	Revised Budget: MARCH 2010	Cost to Date thru 4/30/11	Remaining Budget	Projected Total Cost as of 4/30/2011	Projected Variance (Budget Vs. Projected Cost)	Comments
Design Phase Costs						
Project Management	\$2,450,000	\$2,298,745	\$151,255	\$2,419,494	\$30,506	Includes County Project Manager, VE, support staff, TJCross support, finance team, legal fees, and County overhead allocation during Design Phase. Revised 2/2010- Adjusted to better align with actual costs to date.
AD-15 Process (Preparation for Bidding)	\$113,057	\$ 113,057.01	\$0	\$113,057	\$0	Reproduction and mailing of Contract Docs, addenda, and other bid phase correspondence, utilizing ASAP Reprographics.
Environmental	\$2,346,867	\$ 2,339,517.98	\$7,349	\$2,346,867	\$0	ESA-Includes design assistance, permit applications, agency coordination. Amendments authorized for EIR Addendum and extended cultural resource efforts.
PG&E Service Extension	\$300,000	\$ 211,660.45	\$88,340	\$300,000	\$0	Estimate to extend power to proposed facilities at \$100,000. Add \$200,000 for low energy usage in first year (2/10)
Right of Way Consulting Services	\$1,562,000	\$1,485,828	\$76,172	\$1,562,000	\$0	Hamner-Jewell contract plus allowance for appraisal, title reports by others, and Special Counsel. Includes court hearings for orders of possession.
Property Acquisition	\$1,700,000	\$ 1,623,986.48	\$76,014	\$1,700,000	\$0	2/10-Revised acquisition budget.
Construction Mgt/Constructability Review	\$669,173	\$ 669,109.19	\$64	\$669,173	\$0	Amendment revised Design Phase Value to \$669,173.
Engineering Design (Includes geotechnical, survey & Design CM)	\$9,088,800	\$ 9,419,153.76	(\$330,354)	\$9,088,800	\$0	Black and Veatch Corporation 11/06-Revised projected total. 8/07-revised back up to original budget pending Design Amendment
Finance	\$0	\$ -	\$0	\$0	\$0	PFM, UBS, and Fulbright & Jaworski support services coded to Project Management line item above.
New Participant Contribution	(\$50,000)	(\$49,040)	(\$961)	(\$50,000)	\$0	11/06-CSA 10A buy-in fee per Article 29 of the WDEC.
Design Phase Budget Reserve (NOTE 1)	\$720,103		\$720,103	\$0	\$720,103	
SUMMARY - DESIGN PHASE	\$18,900,000	\$18,112,018	\$787,982	\$18,149,391	\$750,609	

**Nacimiento Water Project
Project Budget Reporting
Report Ending Period: 4/30/2011**

	Revised Budget: MARCH 2010	Cost to Date thru 4/30/11	Remaining Budget	Projected Total Cost as of 4/30/2011	Projected Variance (Budget Vs. Projected Cost)	Comments
Construction Phase Costs						
Project Management	\$4,858,563	\$ 5,285,030.30	(\$426,467)	\$6,425,838	(\$1,567,275)	Includes District staff, County Counsel, intern support, TJCross support, and operator support during construction. Also includes premium for District-provided Builder's Risk Insurance and County overhead allocation. Updated 2/2010: Added \$170,000 from Prof Serv Contingency
Environmental Mitigation	\$1,862,757	\$ 66,878.58	\$1,795,878	\$ 227,813	\$1,634,944	For pipeline realignments, special const tech and other costs incurred due to unforeseen enviro issues. Also used for mitigation of habitat (oak trees, SJ Kit Fox, etc). Revised 2/2010 (\$364,779 to Const Cont, \$955,000 to Prof Services Cont., and \$1,317,464 reduction to correct overall budget to Aug 2007 level)
Construction Management, includes Environmental Monitoring, Materials Testing & Surveying	\$10,190,827	\$ 9,620,658.04	\$570,169	\$10,190,827	\$0	Based on Jacobs construction management services fees and ESA's Environmental Monitoring Fees through Amendment No. 8
Post-Design Services by Designer	\$3,200,000	\$ 3,329,641.87	(\$129,642)	\$3,920,000	(\$720,000)	Black & Veatch's construction phase services. Added \$720,000 for Amendment #23 (longer period + MOP)
Construction Contracts	\$130,265,722	\$ 129,995,758.80	\$269,963	\$ 131,967,411.70	(\$1,701,690)	BASED ON CONSTRUCTION BIDDING + CHANGE ORDERS
District Controlled Contingency Construction Phase Contingency and Reserve (NOTE 1)	\$5,235,826		\$5,235,826	\$1,580,995	\$3,654,831	Recommended contingency for construction change orders, prof service changes, and other Project reserve. Excludes the carryover of unused Design Phase reserves.
SUMMARY - CONST. PHASE	\$155,613,695	\$148,297,968	\$7,315,727	\$154,312,885	\$1,300,810	
Prior Expenses						
Advance Expenditures	\$513,000	\$513,000	\$0	\$513,000	\$0	
Cuesta Tunnel	\$1,031,000	\$1,031,000	\$0	\$1,031,000	\$0	Includes construction of Nacimiento Water Project pipeline section through Cuesta Tunnel and cost for 2003 EIR.
TOTAL PROJECT	\$176,057,695	\$167,953,985	\$8,103,709	\$174,006,276	\$2,051,419	

Positive Projected Variance indicates costs are under the revised line item budget.

Recent Update: May 23, 2011



San Luis Obispo County FC&WCD

John R. Hollenbeck, P.E.
Nacimiento Project Manager

Commissioners

Frank Mecham, SLO County FC&WCD
John Hamon, City of Paso Robles
Judy Dietch, Templeton CSD
Grigger Jones, Atascadero MWC
Andrew Carter, City of San Luis Obispo

May 23, 2011

Mr. Rob Down, Branch President
ASCE San Luis Obispo Branch
c/o Earth Systems Services, Inc.
4378 Old Santa Fe Road
San Luis Obispo, CA 93401

SUBJECT: Nomination for the 2011 ASCE San Luis Obispo Branch's Outstanding Private Sector Civil Engineering Project Award

Dear Mr. Down:

The San Luis Obispo County Flood Control and Water Conservation District (District), and the District's design engineer Black & Veatch Corporation (B&V), proudly submit the enclosed Nomination Form for the Nacimiento Water Project (Project) to be considered for the 2011 ASCE San Luis Obispo Branch's Outstanding Private Sector Civil Engineering Project Award. This \$176.1-million Project is the single largest public works project ever managed, funded, and constructed by the San Luis Obispo County government (by a factor of six!) and serves as an icon of the collaborative strength that was built between local water agencies during the Project's planning, design, financing, construction, and initial operation.

B&V developed and constantly applied the following mission statement during the Project's design phase:

"To seek opportunities for efficiently designed facilities that focus on capital cost savings and appeal to the construction industry."

The District applauds B&V's, and its major subconsultant Boyle Engineering Corporation's (now AECOM), endeavor to fulfill this mission. This nomination submittal will describe paths taken to overcome challenges and to achieve the intent of this mission statement.

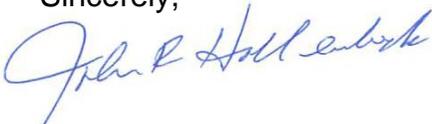
The District's rights to water from Lake Nacimiento were secured in October 1959, and through good management of the local groundwater and existing surface water resources, the need to utilize Lake Nacimiento was delayed for five decades. The District's Board of Supervisors adopted the Project's Final Environmental Impact Report

on January 6, 2004, and directed staff to manage, design, fund, and construct the Project. The Project's construction concluded on January 7, 2011, with the successful completion of the startup and testing activities. The seven-year Project was completed on-time and is projected to be \$2-million under budget.

We have organized our nomination submittal to conform to the ASCE San Luis Obispo Branch's 2011 Award Program instructions including: the completed nomination form, brief Project description, summary description on how the Project satisfies the judging criteria, and chapters that further describe the Project relative to the award's judging criteria. Several appendices provide additional information including photographs, newspaper articles, letters of support, and several technical papers and presentations for 14 industry conferences that highlighted Project achievements and approaches.

We trust that our nomination submittal complies with the information you requested; however, if you have questions please call either the undersigned or Ms. Carolyn Berg with the District at (805) 781-5252, or Mr. Steve Foellmi with B&V at (949) 753-0500. Thank you for consideration of the Nacimiento Water Project as the 2011 ASCE San Luis Obispo Branch Outstanding Private Sector Civil Engineering Project recipient.

Sincerely,



JOHN R. HOLLENBECK, P.E., M. ASCE
Nacimiento Project Manager

ENCLOSURE

Nomination Form for the 2011 ASCE Awards Program, ASCE San Luis Obispo Branch

File: NWP File A.11, NWP Library

cc: Carolyn K. Berg, District w/ Enclosure
Thomas Trott, District
Steven N. Foellmi, B&V (3)
Andy E. Romer, AECOM (3)
NWP Technical Support Group Participants (7)

Paavo Ogren, Director of Public Works w/o Enclosure
Dave Flynn, Deputy Director of Public Works
Dean Benedix, Utilities Division Manager of Public Works
Nacimiento Water Commissioners

Nacimiento Project Commission
May 26, 2011

Agenda Item V.a – Progress Report on Operational Impact of Mussel Infestation
(Presentation – No Action Required)

TO: Nacimiento Project Commission
FROM: Dean Benedix, Utilities Division Manager
DATE: May 26, 2011

Purpose

To provide the Nacimiento Project Commission with an update on the progress related to the engineering study to forecast the impact of a quagga/zebra mussel infestation at Lake Nacimiento.

Discussion

In January 2011, the District commissioned an engineering study to forecast the impact of a quagga/zebra mussel infestation at Lake Nacimiento. The study focuses on impacts to the Nacimiento Water Project and estimates increased costs associated with those impacts.

Background and Purpose of the Study

Understanding the potential cost impact of mussel infestation is important for a variety of reasons:

1. One is to balance the public investment in prevention with what is at risk;
2. Another is for financial forecasting over the life of the project, and;
3. A third reason is to maintain the system over time keeping in mind the potential impacts of invasive mussels.

The FY 2011/12 Nacimiento Water Operating Fund Budget includes \$278,419 for Invasive Species/Quagga Mussel activities. Those Project funds are used to carry out a prevention program at Lake Nacimiento with a goal of keeping high-risk boats off of the lake. Approximately 150 volunteers have been trained and organized with the goal of screening every vessel prior to launch from the numerous private launch ramps around the lake. Vessels that have been on an infested lake within the past 10 days are rejected altogether and those that pose a risk must pass an inspection prior to launch. This prevention program involves public outreach, lakeside community organization, as well as coordination with Monterey County and Monterey County Water Resources Agency.

Specifically, the study of operational impacts answers the pointed question “Just how much might it cost the public if mussels were to get into the Nacimiento Water Project and how does that cost compare to the cost of prevention?”



Initial Findings

Christine Halley of TJCross Engineers published draft findings on March 28, 2011. The key finding of that research is that once infested, mussels would likely spread through the entire 45-mile Project unless filtration and/or disinfection were put in place to remove/kill them at some point along the line. Other highlights are:

- The baseline operation and maintenance costs for the Project in a mussel-free condition is in the range of \$700,000 to \$900,000 per year. This is direct costs and labor only, excluding overhead and administrative costs.
- Baseline energy costs for the Intake Pump Station in a mussel-free condition is \$438,000 per year; \$590,000 Project-wide.
- If the lake were infested, the effect of invasive mussels on the Project would likely be clogging of essential systems, decreased flow, increased corrosion, and a general cleaning nuisance. The intake structure itself would experience the most dramatic impact from mussel growth along with the upper reaches of the system through Camp Roberts Tank.
- Possible water quality effects would be higher counts of filamentous and gelatinous blue-green algae, translating to taste and odor. Ammonia levels could increase and dissolved oxygen levels could decrease.
- Operators of infested utility systems commonly use chlorine to control the rate of mussel growth. Other approaches are being researched, but chlorination is by far the control method of choice.
- Adding chlorine to raw lake water is problematic. There is a high potential for the formation of carcinogenic disinfection by-products. The use of chlorine for mussel growth control would have to be carefully balanced and supplemented with periodic swabbing or “pigging” of the line. If feasible from a water quality perspective, controlling mussel growth with chlorination and periodic pigging may cost an additional \$10 million over a 16 year period.
- Another approach in review is to filter out veligers thereby keeping them out of the pipeline altogether. This approach avoids the concerning by-product formation issue and has the added benefit of offering some “pretreatment” that benefits all Participants. The downside is initial capital needed to install the filters and the additional power needed to re-pump downstream of the filters. The financial impact of the filtration approach is under review.

The TSG has reviewed the draft report and preparation of the final is report underway. Once complete, a copy will be made available to the Participants through their TSG members.

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