

Memo

To: Seismic Safety Commission

From: Fred Turner, Staff Structural Engineer
California Seismic Safety Commission
1755 Creekside Oaks Drive, Suite 100
Sacramento, CA 95833
Phone: (916) 263-0582 Fax: (916)263-0594 Email: Turner@StateSeismic.com

Date: September 5, 2012

Subject: **Update on the Review of Changes to the San Francisco Public Utilities Commission's Water System Improvement Program**

Background

On July 20, 2012, the Seismic Safety Commission received a notice of changes to the San Francisco Public Utilities Commission's (SFPUC's) Water System Improvement Program (WSIP). Chairperson Michael Gardner then appointed Commissioner Emir Macari to work with staff to review the changes to the program and develop the attached draft letter report for the Commission's consideration and possible action at the September 13, 2012 hearing. According to the state's Water Code Section 73502, the Commission and the Department of Public Health (DPH) has 90 days or until October 18, 2012 to comment on the significance of the changes with respect to public health and safety.

This is the Commission's fifth review of project delays and other major changes to the Water System Improvement Program - a \$4.6 Billion effort that is primarily an enhancement to the seismic resilience of the Hetch Hetchy water transmission that conveys water from Yosemite to 2.5 million users in the San Francisco Bay Area.

Four files are attached:

1. SFPUC Notice of Changes from the SFPUC Dated July 12, 2012
2. WSIP Quarterly Report FY 2011-12 Q4 Quarterly Report_Cover Letter – Please draw your attention to pages 5 to 9 that summarize the major construction issues, challenges, trends and risks still confronting the Program, some of which are not necessarily quantifiable and accounted in SFPUC's program schedule for individual projects.
3. SSC Draft Comments on SFPUC WSIP Delays 9-5-2012 with Track Changes Displayed to indicate how this latest SSC review differs from last year's review.
4. SSC Draft Comments on SFPUC WSIP Delays 9-5-2012 with changes shown as if they were accepted so you can see what the final version of the comments might look like.

Staff Recommendation

The staff recommends that the Commission review the attached notice of changes, the quarterly WSIP report cover letter, and draft comments on the delays developed by staff. Please come prepared to the September 13th hearing to comment and ask Commissioner Macari and staff questions, and listen to Commissioner Macari's summary of this latest draft review. This item requires an action by the Commission to submit written comments to the Joint Legislative Audit Committee.



San Francisco
Water Power Sewer
 Operator of the Hetch Hetchy Regional Water System

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 San Francisco, CA 94103
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 TTY 415.554.3488



July 12, 2012

The Honorable Michael Gardner, Chairman
 California Seismic Safety Commission
 1755 Creekside Oaks Drive, Suite 100
 Sacramento, CA 95833-3637

Dr. Ron Chapman, MD, MPH, Director
 California Department of Public Health
 P.O. Box 997377, MS 0500
 Sacramento, CA 95899-7377

**Subject: Wholesale Regional Water System Security and Reliability Act
 Notice of Changes to Water System Improvement Program**

Dear Commissioner Gardner and Dr. Chapman:

Pursuant to the reporting requirements of the Wholesale Regional Water System Security and Reliability Act, the San Francisco Public Utilities Commission (SFPUC) respectfully submits this Change Notice, describing changes adopted by the SFPUC Commission (Commission) on June 12, 2012 to the schedule of three projects in the Water System Improvement Program (WSIP).

The SFPUC has continued to make great progress towards the implementation of the WSIP since the Commission last adopted revisions to the program in July 2011. In the 11-month period between July 1, 2011 and June 1, 2012, completion of the overall program increased from 42% to 62%. As of June 1, 2012, planning activities are essentially complete, whereas environmental, design and construction efforts are 91%, 95% and 57% complete, respectively. During the past year, reliability of the Hetch Hetchy Regional Water System increased following completion of construction activities on 7 regional and 2 local projects.

On May 11, 2012, the SFPUC notified the Bay Area Water Supply & Conservation Agency (BAWSCA) that the Commission would be considering changes to the WSIP at a public hearing on June 12, 2012. We also asked BAWSCA to forward the notification to the 26 wholesale agencies it represents and as requested, BAWSCA confirmed the notification was forwarded. This notification was made to comply with the change notice requirements of the Wholesale Regional Water System Security and Reliability Act. In addition, the Notice of Public Hearing and all supporting documents submitted to BAWSCA were posted on the SFPUC Website. A copy of the notice is attached to this letter.

On June 12, 2012, following a 30-day review period, the Commission adopted a revised project schedule and budget for the three following projects:

- Edwin M. Lee**
Mayor
- Francesca Viotor**
President
- Anson Moran**
Vice President
- Ann Moller Caen**
Commissioner
- Art Torres**
Commissioner
- Vince Courtney**
Commissioner
- Ed Harrington**
General Manager



- New Irvington Tunnel (NIT)
- Bay Division Pipeline (BDPL) Reliability Upgrade – Pipeline (or BDPL No. 5)
- Pulgas Balancing – Modification to the Existing Dechloramination Facility

The schedule and budget revisions are described in the attached SFPUC Agenda Item. Also included is a copy of a June 5, 2012 letter by BAWSCA which provides comments on these latest WSIP revisions.

The approved schedule and budget for all other projects remain the same. Also, no scope revisions were made to WSIP projects and no projects were deleted or added to the program as part of these latest revisions approved by the Commission.

The project controlling the schedule of the overall WSIP remains the Calaveras Dam Replacement project. Challenging and potentially differing geological conditions have been encountered on this project during the past month. These newly discovered site conditions are currently being assessed and any resulting schedule impacts will be discussed in the WSIP Annual Report to be submitted to State agencies by September 1, 2012.

Please do not hesitate to contact me at (415) 554-1600 if you have questions or need additional information.

Sincerely,



Ed Harrington
General Manager
San Francisco Public Utilities Commission

Attachment: Notice of Public Hearing issued on May 11, 2012
Agenda Item No. 9 of June 12, 2012 SFPUC public meeting
(including SFPUC Resolution No. 12-0099)
June 5, 2012 letter from BAWSCA (Comments on Proposed Revisions to WSIP)

cc: (w/ attachment)

The Honorable Anson B. Moran - President, SFPUC Commission

The Honorable Art Torres - Vice President, SFPUC Commission

The Honorable Vince Courtney - Commissioner, SFPUC Commission

The Honorable Ann Moller Caen – Commissioner, SFPUC Commission

The Honorable Francesca Vietor - Commissioner, SFPUC Commission

Arthur Jensen - Chief Executive Officer and General Manager, BAWSCA

Bruce Burton – Chief of Northern California Drinking Water Field Operations Branch, Center for Environmental Health, California Department of Public Health

Betty Graham - San Francisco District Engineer, Drinking Water Field Operations Branch, California Department of Public Health

Richard (Dick) McCarthy – Executive Director, California Seismic Safety Commission

Fred Turner – Structural Engineer, California Seismic Safety Commission

(w/o attachment)

The Honorable Assembly Member Ricardo Lara, Chair
California State Assembly - Joint Legislative Audit Committee

The Honorable Senator Robert Dutton, Vice-Chair
California State Senate - Joint Legislative Audit Committee

Stefan Cajina, Chief of North Coastal Region, Drinking Water Field Operations Branch,
California Department of Public Health

Barbara Pierce - Chair, BAWSCA

Irene O'Connell - Vice Chair, BAWSCA

Member Agencies - BAWSCA



San Francisco Water Power Sewer

Services of the San Francisco Public Utilities Commission

1155 Market Street, 6th Floor
San Francisco, CA 94103
T 415.551.4514
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NOTICE OF PUBLIC HEARING (Issued on May 11, 2012)

NOTICE OF POSTING FOR CONSIDERATIONS OF REVISIONS TO THE SAN FRANCISCO PUBLIC UTILITIES COMMISSION (SFPUC) WATER SYSTEM IMPROVEMENT PROGRAM (WSIP)

**Tuesday - June 12, 2012
1:30 P.M.
City Hall, Room 400
1 Dr. Carlton B. Goodlett Place
San Francisco California**

SUBJECT OF PUBLIC MEETING

San Francisco Water Power Sewer is posting "Revisions to the Water System Improvement Program (WSIP)" referred to as the May 2012 Revised WSIP. The San Francisco Public Utilities Commission (SFPUC) will hold a public hearing as part of its regularly scheduled meeting on Tuesday - June 12, 2012 for the purpose of considering proposed revisions to the WSIP.

COMMENTS ON PROPOSED REVISIONS

All interested parties are invited to attend the public hearing and present their views. Individuals who are unable to attend the public hearing may submit to the SFPUC, by the time the proceedings begin on June 12, 2012, written comments regarding the subject of the hearing. These comments will be brought to the attention of the Commission and will become part of the official public record. Written comments should be sent to:

Donna Hood, Commission Secretary
San Francisco Public Utilities Commission
1155 Market Street (11th Floor)
San Francisco, CA 94103

BACKGROUND

The Wholesale Regional Water System Security and Reliability Act (Water Code § 73500 *et seq.*) requires that San Francisco Water Power Sewer provides notification of certain program changes. Specifically, San Francisco Water Power Sewer is required to provide an advance 30-day written notice if the SFPUC is to consider the adoption of program changes that would delay WSIP projects and/or result in the construction of different projects.

Edwin M. Lee
Mayor

Anson Moran
President

Art Torres
Vice President

Ann Moller Caen
Commissioner

Francesca Viotor
Commissioner

Vince Courtney
Commissioner

Ed Harrington
General Manager



The SFPUC last adopted revisions to the WSIP, including revised program scope, schedule and budget on July 12, 2011. This notice includes schedule changes recently approved for the New Irvington Tunnel (NIT) project and the Bay Division Pipeline Reliability Upgrade project – BDPL No. 5 Pipeline (BDPL5 Pipeline). Also, the SFPUC commission will be considering a time extension for the Pulgas Balancing – Modification of the Existing Dechloramination Facility Project. It should be noted that the overall program cost and completion date are unchanged and remain \$4.6 billion and July 29, 2016 respectively.

The 2011 approved Project Completion date for the NIT project is October 31, 2014 with a proposed Project Completion date of January 21, 2016, resulting in a 447-day extension. The 2011 approved Project Completion date for the BDPL5 Pipeline project is March 5, 2013 with a proposed Project Completion date of October 1, 2013, resulting in a 210-day extension. The 2011 approved Project Completion date for the Pulgas Balancing – Modification of the Existing Dechloramination Facility project is May 30, 2012 with a proposed Project Completion date of November 13, 2012, resulting in a 167-day extension.

CHANGE DESCRIPTION

New Irvington Tunnel

The NIT project is currently in construction. The construction Notice to Proceed (NTP) was issued on August 26, 2010. The original contract duration was 1390 consecutive calendar days. On December 13, 2011, the SFPUC Commission approved cumulative time extension of 400 calendar days, for a total revised contract duration of 1790 consecutive. The additional time was granted to the contractor due to following items:

- Differing site condition, including excessive hard rock material and excessive ground water inflow that was not fully listed in the contract documents,
- Gassy tunnel conditions, and
- Tunnel excavation delays due to probe hole drilling and grouting for ground water seepage control

In addition to extending construction phase duration by 400 days, the WSIP management team is proposing an allocation of the standard 6 months duration for the project closeout, resulting in a 447-day extension as reflected in the table below:

New Irvington Tunnel	2011 Approved		Proposed		Variance at Completion (Days)
	Start	Finish	Start	Finish	
Planning	19-Dec-01	7-Oct-05	19-Dec-01	7-Oct-05	0
Environmental	25-Aug-04	7-Mar-11	25-Aug-04	7-Mar-11	0
Design	11-Oct-05	12-Jan-10	11-Oct-05	12-Jan-10	0
Bid & Award	5-Jan-09	21-Jul-10	5-Jan-09	21-Jul-10	0
Construction	31-Mar-09	15-Jun-14	31-Mar-09	20-Jul-15	400
Closeout	16-Jun-14	31-Oct-14	21-Jul-15	21-Jan-16	447

Bay Division Pipeline Reliability Upgrade

The BDPL No. 5 Project originally consisted of two major construction contracts: BDPL No. 5 East Bay reaches and BDPL No. 5 Peninsula reaches. Due to a discovery of an archeological burial site after the contracts were advertised, the segment of BDPL No. 5 at Cordilleras Creek has to be deleted from the BDPL No. 5 Peninsula reaches construction contract and bid separately to construct a new tunnel instead of an open-cut pipeline under the environmentally sensitive portion of the alignment. The Notice to Proceed (NTP) for this third contract was issued on February 1, 2012 with construction duration of 365 days. This third contract has pushed the project's construction completion and closeout 177 days and 210 days, respectively, beyond the project's 2011 baseline schedule as reflected in the table below:

BDPL Reliability Upgrade - PIPELINE	2011 Approved		Proposed		Variance at Completion (Days)
	Start	Finish	Start	Finish	
Planning	19-Dec-01	31-May-06	19-Dec-01	31-May-06	0
Environmental	18-Nov-04	12-Feb-10	18-Nov-04	12-Feb-10	0
Design	3-Jan-06	17-Aug-09	3-Jan-06	17-Aug-09	0
Bid & Award	22-Apr-09	9-Mar-10	22-Apr-09	9-Mar-10	0
Construction	4-Jan-10	7-Sep-12	29-Oct-09	3-Mar-13	177
Closeout	8-Feb-12	5-Mar-13	4-Mar-13	1-Oct-13	210

Pulgas Balancing – Modification of the Existing Dechloramination Facility

The Pulgas Balancing – Modification of the Existing Dechloramination Facility Project is currently in construction. The construction Notice to Proceed (NTP) was issued on September 22, 2010. The original contract duration was 360 consecutive calendar days and had 176 days contingency in the construction phase. The SFPUC commission will be considering a cumulative time extension of 405 calendar days, for a total revised contract duration of 765 consecutive calendar days. The additional time is being requested due to the following items:

- Differing as-built conditions requiring realignment of some piping
- Design modifications to meet established performance criteria
- Equipment delivery delays due to excessive flooding in Thailand, location of some of the equipment suppliers
- Outstanding issues with contractor's compliance with Office labor Standard Enforcement requirements

In addition to extending construction phase duration by 229 days, the WSIP management team is proposing an allocation of 4 months duration for the project closeout, resulting in a net 167-day extension as reflected in the table below:

Pulgas Balancing - Mod of Exist Dechlor Facility	2011 Approved		Proposed		Variance at Completion (Days)
	Start	Finish	Start	Finish	
Planning	2-Apr-07	17-Mar-09	2-Apr-07	17-Mar-09	0
Environmental	19-Nov-07	4-Mar-10	19-Nov-07	4-Mar-10	0
Design	2-Jan-09	12-Mar-10	2-Jan-09	12-Mar-10	0
Bid & Award	29-Jan-10	22-Sep-10	29-Jan-10	22-Sep-10	0
Construction	22-Sep-10	30-Nov-11	22-Sep-10	16-Jul-12	229
Closeout	1-Dec-11	30-May-12	17-Jul-12	13-Nov-12	167



AGENDA ITEM
Public Utilities Commission
City and County of San Francisco



DEPARTMENT Infrastructure AGENDA NO. 9
MEETING DATE June 12, 2012

Construction Modification: Regular Calendar
Project Manager: Julie L. Labonte

WSIP Baseline Revision 2012

Summary of Proposed Commission Action:	<p>Approve revisions to the schedule and cost of three projects being delivered as part of the of the Water System Improvement Program (WSIP): New Irvington Tunnel (NIT) project, the Bay Division Pipeline Reliability Upgrade - Pipeline ("BDPL No. 5") project, and the Pulgas Balancing - Modification of the Existing Dechloramination Facility ("Pulgas Dechloramination") project; and direct staff to send a Notice of Change Report to the California Department of Public Health and the California Seismic Safety Commission in compliance with California Water Code Section 73502(d)(3) and California Assembly Bills 1823 and 2437. The proposed schedule and cost revisions are as follows:</p>																																	
	<table border="1"> <thead> <tr> <th>Project</th> <th>2011 Approved</th> <th>2012 Proposed</th> <th>Variance (Day)</th> </tr> </thead> <tbody> <tr> <td>NIT</td> <td>10/31/14</td> <td>01/21/16</td> <td>447</td> </tr> <tr> <td>BDPL No. 5</td> <td>03/05/13</td> <td>10/01/13</td> <td>210</td> </tr> <tr> <td>Pulgas Dechloramination</td> <td>05/30/12</td> <td>03/20/13</td> <td>294</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Project</th> <th>2011 Approved</th> <th>2012 Proposed</th> <th>Variance (\$)</th> </tr> </thead> <tbody> <tr> <td>NIT</td> <td>\$313,424,513</td> <td>\$319,924,513</td> <td>\$6,500,000</td> </tr> <tr> <td>BDPL No. 5</td> <td>\$221,290,899</td> <td>\$221,922,899</td> <td>\$632,000</td> </tr> <tr> <td>Pulgas Dechloramination</td> <td>\$5,790,114</td> <td>\$6,145,114</td> <td>\$355,000</td> </tr> </tbody> </table>			Project	2011 Approved	2012 Proposed	Variance (Day)	NIT	10/31/14	01/21/16	447	BDPL No. 5	03/05/13	10/01/13	210	Pulgas Dechloramination	05/30/12	03/20/13	294	Project	2011 Approved	2012 Proposed	Variance (\$)	NIT	\$313,424,513	\$319,924,513	\$6,500,000	BDPL No. 5	\$221,290,899	\$221,922,899	\$632,000	Pulgas Dechloramination	\$5,790,114	\$6,145,114
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Pulgas Dechloramination	\$5,790,114	\$6,145,114	\$355,000																															
<p>As of the end of April 2012, the construction of the NIT, BDPL No. 5 and Pulgas Chloramination projects is 51%, 90% and 94%, respectively.</p>																																		

APPROVAL:

DEPARTMENT / BUREAU _____
COMMISSION SECRETARY Donna Hood

FINANCE Todd L. Rydstrom
GENERAL MANAGER Ed Harrington

<p>Background & Description of Scope of Work:</p>	<p>Program Scope and Status</p> <p>The WSIP is a multi-billion dollar multi-year program to upgrade the San Francisco Public Utilities Commission's (SFPUC) drinking water system. The program will deliver capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water to its 26 wholesale customers and regional retail customers in Alameda, Santa Clara and San Mateo Counties, and to 800,000 retail customers in the City and County of San Francisco, in an environmentally sustainable manner. The WSIP is structured to cost-effectively meet water quality requirements, improve seismic and delivery reliability, and meet water supply reliability goals.</p> <p>The WSIP includes a total of 81 projects which are divided into two sub-programs – Local and Regional. The 35 WSIP local projects are located within the city limits of San Francisco and only benefit city residents. These projects, which are typically smaller in size, include improvements to existing in-city distribution pipelines, storage reservoirs/tanks, pump stations and miscellaneous facilities. The 46 WSIP regional projects are typically much larger and are located mostly outside San Francisco limits. These projects include a wide variety of improvements such as upgrades to and the addition of new storage (dams and reservoirs), transmission (pipelines, tunnels and pump stations) and treatment facilities spread over 7 different counties (Tuolumne, Stanislaus, San Joaquin, Alameda, Santa Clara, San Mateo and San Francisco).</p> <p>As of April 28,2012 the status of the 81 WSIP projects is as follows:</p> <ul style="list-style-type: none"> • Only 7 projects have yet to reach construction; • Of the 7 projects in pre-construction, 3 are in the bid and award phase and are therefore only a few months away from starting construction; • Construction is ongoing on 19 projects worth over \$2.5 billion; and • Construction has been completed on 55 projects, which represents two-thirds of WSIP's 81 projects. <p>Previous WSIP Approvals</p> <p>On May 28, 2002, per Resolution No. 02-0101, the Commission approved the <u>Long-Term Strategic Plan for Capital Improvements</u>, the <u>Long-Range Financial Plan</u> and the <u>Capital Improvement Program and Appendices</u>. These reports established the original framework of the WSIP, which at the time was referred to as the Capital Improvement Program (CIP).</p> <p>On February 8, 2005, after a number of Commission workshops in late-2004/early-2005, agreement was reached on specific Level of Service (LOS) goals for the WSIP and the program description to be considered as part of the WSIP Programmatic Environmental Impact Report (PEIR).</p>
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These LOS goals, which were formally adopted by the Commission with the PEIR on October 30, 2008, resulted in very significant changes to the scope of the program.

As the scope of individual projects was refined as part of the planning and design process, and as projects transitioned into construction, the Commission approved revisions to the scope, schedule and budget of the WSIP on November 29, 2005, February 26, 2008, July 28, 2009 and July 12, 2011.

The revisions last adopted by the Commission on July 12, 2011 involved the following:

- No projects were deleted or added to program. Only a few changes were made to the scope of 4 regional projects.
- The most significant change was the extension of the overall program completion date from December 4, 2015 to July 29, 2016.
- The proposed WSIP budget remained unchanged at \$4,585,556,260. The net savings of project-level budget changes resulted in the ability to establish a Program Management Reserve of \$161,431,097.

Requirements of California Water Code

The Wholesale Regional Water System Security and Reliability Act (California Water Code § 73500 *et seq.*) requires the SFPUC to annually report progress on the WSIP, including identifying any project that is behind schedule and a plan and timeline to make up the delay or revise the schedule. It also requires that the SFPUC provides written notification to the Bay Area Wholesale Customers of certain program changes. The notice must be issued no less than 30 days prior to the date of the meeting when the Commission is to consider adopting program changes that would delay WSIP projects and/or result in the construction of different projects.

On May 11, 2012, the SFPUC notified the Bay Area Wholesale Customers through the Bay Area Water Supply & Conservation Agency (BAWSCA) in writing that this Commission would be considering schedule revisions to the NIT, BDPL No. 5 and Pulgas Chloramination projects.

If the Commission does approve changes that would delay WSIP projects and/or result in the construction of different projects, the California Water Code also requires that the SFPUC send a Notice of Change Report to the California Department of Public Health and the California Seismic Safety Commission.

Proposed WSIP Changes

WSIP procedures require that all project teams revise their schedule and

cost forecasts on a monthly basis. The WSIP Management Team review and track these forecasts closely. When it is apparent that large forecasted variances cannot be mitigated, revisions to the projects' approved schedule and/or cost need to be considered. These revisions, which capture the latest project information available, allow the WSIP Management Team to establish more realistic project baselines against which to measure performance.

All project revisions presented herein are consistent with each project's latest available cost and schedule forecasts. These forecasts include all construction change orders (approved, pending and proposed), as well as construction trends.

The program revisions requested herein do not involve any scope changes and do not include any project addition or deletion. Also, it should be noted that the project-specific revisions proposed herein will not change the WISP's overall cost and completion date. The overall program budget and completion date will remain the same at \$4,585,556,260 and July 29, 2016, respectively. The project-level cost increase will be covered by the funds available in the WISP Program Management Reserve, which as of April 28, 2012 has a remaining balance of \$144,459,649.

Through this item, SFPUC staff is seeking Commission approval for the following revisions to the schedule and cost of the NIT, BDPL No. 5 and Pulgas Dechloramination projects.

(1) NEW IRVINGTON TUNNEL (NIT) PROJECT

As of the end of April 2012, construction of the 18,300 feet NIT is 51 percent complete.

Schedule

A Notice to Proceed (NTP) for construction of the project was issued on August 26, 2010. The original contract duration was 1,390 consecutive calendar days. On December 13, 2011, per Resolution No. 1-0192, the Commission authorized the General Manager to consider, and if appropriate to approve modification to the NIT construction contract, with cumulative time extensions not to exceed 400 total additional consecutive calendar days. As of the end of April 2012, the contractor has been granted 236 of the 400 days as part of approved change orders. Contract extensions were approved for the following reasons:

- Delays associated with differing site conditions such as harder rock encountered in the excavation than documented in the contract, and a soil nail wall failure and repairs due to unanticipated poor material for soil nail anchorages;
- Delays associated with the reclassification of the tunnel from Potentially Gassy to Fully Gassy by the California Occupations Safety and Health Administration (Cal-OSHA), and the need to revise the tunnel ventilation system to four tunnel headings and institute full-time monitoring for gas; and

- Delays associated with required probe hole drilling and grouting for groundwater seepage control in the tunnel excavation headings.

Considering that more than half the allowable 400 days have been granted already, and given the likelihood of more differing site conditions and schedule impacts due to continued operations under gassy tunnel conditions, it is anticipated that all cumulative extensions at the end of the construction contract may approach 400 days.

The construction phase of the revised project schedule proposed herein includes all 400 additional days pre-approved by the Commission. The revised schedule also provides 6 months for the closeout phase, whereas the currently approved schedule only allows 4.5 months. The following table shows the proposed schedule changes to the project's major phases:

Project Phase	2011 Approved		2012 Proposed		Variance at Completion (Days)
	Start	Finish	Start	Finish	
Planning	12/19/01	10/07/05	12/19/01	10/07/05	0
Environmental	08/25/04	03/07/11	08/25/04	03/07/11	0
Design	10/11/05	01/12/10	10/11/05	01/12/10	0
Bid & Award	12/05/09	07/21/10	12/05/09	07/21/10	0
Construction	07/21/10	06/15/14	08/25/10	07/20/15	400
Closeout	06/16/14	10/31/14	07/21/15	01/21/16	447

Budget

The schedule extension mentioned above will result in additional costs for the project. Namely, project management and construction management resources must be extended to support the project through its completion, resulting in increased delivery costs. The construction adjustments that had to be made to address the very challenging and unforeseen site conditions and Cal-OSHA's reclassification of the tunnel, have significantly increased the projects construction costs. The proposed budget revisions takes into account the costs negotiated to date with the contractor as part of approved change orders associated with performing work under Fully Gassy conditions.

The following table shows the proposed budget changes to the project's major cost categories:

Cost Category	2011 Approved	2012 Proposed	Variance (\$)
Delivery	\$59,039,353	\$60,839,353	1,800,000
Construction	\$251,920,810	\$256,620,810	\$4,700,000
Other	\$2,464,350	\$2,464,350	\$0
Total	\$313,424,513	\$319,924,513	\$6,500,000

(2) **BDPL RELIABILITY UPGRADE – PIPELINE (“BDPL NO. 5”) PROJECT**

The BDPL Reliability Upgrade – Pipeline project originally consisted of two major construction contracts: BDPL No. 5 East Bay Reaches and BDPL No. 5 Peninsula Reaches. As of the end of April 2012, construction on the BDPL No. 5 East Bay Reaches has been completed, while construction on the BDPL No. 5 Peninsula Reaches is 88 percent complete.

Following the discovery of an extensive archeological burial site in the vicinity of Cordilleras Creek in the Peninsula during construction, a 1,400-foot segment of BDPL No. 5 was deleted from the BDPL No. 5 Peninsula Reaches construction contract. It was determined to be more efficient, expeditious and cost effective to build a micro-tunnel under this environmentally sensitive segment of the BDPL No. 5 and to perform the work under a separate contract.

Schedule

The NTP for the BDPL No. 5 Cordilleras Micro-Tunnel contract was issued on February 1, 2012 and the contract has a construction duration of 365 days.

Although construction on both original contracts will complete within the currently approved schedule, the addition of a third contract to address the area impacted by the archeological discovery near Cordilleras Creek has delayed completion of the project’s construction and closeout phases 177 days and 210 days respectively, as reflected in the table below:

Project Phase	2011 Approved		2012 Proposed		Variance at Completion (Days)
	Start	Finish	Start	Finish	
Planning	12/19/01	05/31/06	12/19/01	05/31/06	0
Environmental	12/18/04	02/12/10	12/18/04	02/12/10	0
Design	01/03/06	08/17/09	01/03/06	08/17/09	0
Bid & Award	04/22/09	03/09/10	04/22/09	03/09/10	0
Construction	01/04/10	09/07/12	10/29/09	03/03/13	177
Closeout	02/08/12	03/05/13	03/04/13	10/01/13	210

Budget

On October 11, 2011, per Resolution 11-0172, the Commission approved a \$13,918,197 increase in the construction contingency budget for the for BDPL No. 5 East Bay Reaches contract, and by doing so also approved a \$13,918,197 increase in the approved 2011 project budget. The additional budget contingency was needed as a result of unforeseen site conditions associated with existing infrastructure, additional restoration of impacted properties required along the pipeline alignment, treatment and disposal of contaminated groundwater found within the right-of-way, and various environmental mitigation requirements.

The revised budget proposed herein is \$632,000 greater than the latest approved project budget approved, which includes the \$13,918,197 increase in construction contingency. The additional increase consists primarily of the costs associated with the extension of project management and construction management resources needed to support the BDPL No. 5 Cordilleras Micro-Tunnel contract.

The following table shows the proposed budget changes to the project's major cost categories. Keep in mind that the "2011 Approved" budget figures shown below include the increase in construction contingency approved by the Commission on October 11, 2011.

Cost Category	2011 Approved	2012 Proposed	Variance (\$)
Delivery	\$59,662,246	\$62,865,246	\$3,203,000
Construction	\$157,063,297	\$154,492,297	-2,571,000
Other	\$4,565,356	\$4,565,356	0
Total	\$221,290,899	\$221,922,899	\$632,000

(3) PULGAS BALANCING – MODIFICATION OF THE EXISTING DECHLORAMINATION FACILITY ("PULGAS DECHLORAMINATION") PROJECT

As of the end of April 2012, construction of the dechloramination improvements at the Pulgas Balancing Reservoir is 94 percent completed.

Schedule

A NTP for construction of the project was issued on September 22, 2010. The original contract duration was 360 consecutive calendar days. Non-recoverable delays beyond the project's currently approved completion date are forecasted for the following reasons:

- Differing as-built conditions requiring realignment of some piping;
- Required design modifications to meet established facility performance criteria;
- Equipment delivery delays due to flooding events in Thailand, which is the location of some of the equipment suppliers; and
- Outstanding issues with contractor's compliance with Office Labor Standard Enforcement requirements. It should be noted that the original construction contractor on this project defaulted on its contractual obligations after the start of construction activities and had to be replaced. The transition of construction activities to a new contractor was completed successfully.

In addition to extending construction phase duration by 355 days, an allocation of 4 months for the closeout phase is being proposed, resulting in a net 294-day extension to the project completion date as reflected in the table below:

Project Phase	2011 Approved		2012 Proposed		Variance at Completion (Days)
	Start	Finish	Start	Finish	
Planning	04/02/07	03/17/09	04/02/07	03/17/09	0
Environmental	11/19/07	03/04/10	11/19/07	03/04/10	0
Design	01/02/09	03/12/10	01/02/09	03/12/10	0
Bid & Award	01/29/109	09/22/10	01/29/109	09/22/10	0
Construction	09/22/10	11/30/11	09/22/10	11/19/12	355
Closeout	12/01/11	05/30/12	11/20/12	03/20/13	294

Budget

The schedule extension mentioned above results in additional costs for the project. Namely, project management and construction management resources must be extended to support the project through its completion, resulting in increased delivery costs. The construction adjustments that had to be made to address the differing site conditions and design modifications also increased the projects construction costs.

The following table shows the proposed budget changes to the project's major cost categories:

Cost Category	2011 Approved	2012 Proposed	Variance (\$)
Delivery	\$2,051,016	\$2,126,016	\$75,000
Construction	\$3,534,098	\$3,814,098	\$280,000
Other	\$205,000	\$205,000	\$0
Total	\$5,790,114	\$6,145,114	\$355,000

Result of Inaction:

A delay in approving this modification will impact the SFPUC's obligation to comply with the Wholesale Regional Water System Security and Reliability Act (California Water Code § 73500 *et seq.*).

Budget & Costs:

The overall WSIP budget will remain the same at \$4,585,556,260 and funding is available in the WSIP Program Management Reserve to cover the following proposed project budget increases:

NIT

2011 Approved Cost: \$313,424,513
2012 Proposed Cost: \$319,924,513
Proposed Budget Increase: \$6,500,000

BDPL No. 5

2011 Approved Cost: \$221,290,899
2012 Proposed Cost: \$221,922,899
Proposed Budget Increase: \$632,000

Pulgas Dechloramination

2011 Approved Cost: \$5,790,114
2012 Proposed Cost: \$6,145,114
Proposed Budget Increase: \$355,000

Schedule:	<p>The overall WSIP schedule will remain the same with a final completion date of July 29, 2016.</p> <p><u>NIT</u></p> <p>2011 Approved Project Completion Date: October 31, 2014 2012 Proposed Project Completion Date: January 21, 2016 Proposed Time Extension: 447 consecutive calendar days</p> <p><u>BDPL No. 5</u></p> <p>2011 Approved Project Completion Date: March 5, 2013 2012 Proposed Project Completion Date: October 1, 2013 Proposed Time Extension: 210 consecutive calendar days</p> <p><u>Pulgas Dechloramination</u></p> <p>2011 Approved Project Completion Date: May 30, 2012 2012 Proposed Project Completion Date: March 20, 2013 Proposed Time Extension: 294 consecutive calendar days</p>
Compliance With Chapter 14b: Local Business Enterprise And Non-Discrimination In Contracting Ordinance:	Not applicable.
Recommendation:	SFPUC staff recommends that the Commission adopt the attached resolution.
Attachment:	1. SFPUC Resolution

PUBLIC UTILITIES COMMISSION

City and County of San Francisco

RESOLUTION NO. 12-0099

WHEREAS, On May 28, 2002, per Resolution No. 02-0101, this Commission approved a Long-Term Strategic Plan for Capital Improvements, a Long-Range Financial Plan and a Capital Improvement Program (CIP); and

WHEREAS, On November 5, 2002, San Francisco residents voted to approve Proposition A (Water System Improvement Revenue Bonds and Imposition of Surcharge on Retail Water Customers), a revenue bond measure to fund the CIP approved by the Commission on May 28, 2002; and

WHEREAS, On February 26, 2003, pursuant to the requirements of California Assembly Bill (AB) 1823, the San Francisco Public Utilities Commission (SFPUC) submitted to the California Department of Health Services (now the California Department of Public Health) a report outlining the projects, schedule and implementation plan for the CIP; and

WHEREAS, On November 29, 2005 this Commission approved project-level changes to the CIP and by doing so endorsed the revised scope, schedule and budget of individual projects and renamed the program the Water System Improvement Program ("December 2005 WSIP"); and

WHEREAS, On February 26, 2008 this Commission approved project-level changes to the WSIP and by doing so endorsed the revised scope, schedule and budget of individual projects ("December 2007 Revised WSIP"); and

WHEREAS, A Final Programmatic Environmental Impact Report was prepared for the WSIP ("PEIR") and certified by the Planning Commission on October 30, 2008 by Motion No. 17734, and thereafter, this Commission approved the WSIP and adopted findings and a Mitigation Monitoring and Reporting Program (MMRP), as required by the California Environmental Quality Act (CEQA) on October 30, 2008 per Resolution No. 08-0200; and

WHEREAS, On July 28, 2009, this Commission approved project-level changes to the WSIP and by doing so endorsed the revised scope, schedule and budget of individual projects ("June 2009 Revised WSIP"); and

WHEREAS, On July 12, 2011, this Commission approved project-level changes to the WSIP and by doing so endorsed the revised scope, schedule and budget of individual projects ("June 2011 Revised WSIP"); and

WHEREAS, The Project files, including the PEIR and SFPUC Resolution No. 08-0200, have been made available for review by the SFPUC and the public, and those files are part of the record before this Commission; and

WHEREAS, The Commission has reviewed and considered the information contained in the PEIR and the findings contained in SFPUC Resolution No. 08-0200 and all written and oral information provided by the Planning Department, the public, relevant public agencies, SFPUC and other experts and the administrative files for the Project; and

WHEREAS, The SFPUC has completed environmental review of the majority of the individual WSIP projects, and is proceeding to complete the environmental review process for the remainder of the projects, as authorized by and in accordance with CEQA; and

BAWSCA

Bay Area Water Supply & Conservation Agency

June 5, 2012

The Hon. Anson Moran, President
San Francisco Public Utilities Commission
1155 Market Street, 11th Floor
San Francisco, CA 94103

SUBJECT: Comments on Proposed Revisions to Water System Improvement Program

Dear President Moran:

On May 11, 2012, the San Francisco Public Utilities Commission (SFPUC) notified the Bay Area Water Supply and Conservation Agency (BAWSCA) that it would be considering proposed changes to the Water System Improvement Program (WSIP). The documents supporting the proposed revisions to the WSIP have been reviewed by BAWSCA.

The proposed revisions would extend the schedule for three WSIP projects: New Irvington Tunnel, Bay Division Pipeline Reliability Upgrade – Pipeline, and Pulgas Balancing – Modification of the Existing Dechloramination Facility. Since no scope changes are proposed, BAWSCA's review focused on the schedule and budget questions below:

Schedule: Has the completion date for the WSIP been extended and if so, why? With the schedule extensions being proposed, are the project completions being further compressed into the final years of the WSIP?

BAWSCA's Findings: The proposed schedule revisions affect the three individual projects only and will not extend the overall completion date of the WSIP. In each of these cases, the schedule extensions reflect changes that have become necessary to accommodate difficult site conditions and/or challenges that have occurred during construction. While the 15 month proposed delay for New Irvington Tunnel will compress that project's overall completion into the final years of WSIP construction, based on information provided by the SFPUC, these delays are necessary and have been minimized where possible. For the Bay Division Pipeline project, additional actions have been taken in the construction that has occurred to date to remove any impact on the critical shutdown schedule. The delay on the Pulgas Balancing project will not significantly impact the other remaining WSIP projects or schedule.

BAWSCA Recommendation: **BAWSCA recommends that the Commission adopt the proposed schedule revisions.**

Budget: What is the impact of the proposed schedule revisions on the individual project budgets and overall WSIP budget as last adopted?

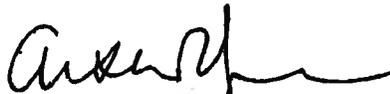
BAWSCA's Findings: The most recent WSIP Quarterly Report (WSIP Regional Projects Q3 FY 2011-12 Report) showed a forecast cost at completion of \$4,583M, or \$2M under the approved budget for the overall WSIP. The Q3 forecast did include the anticipated 15 month delay for New Irvington Tunnel and a forecasted cost increase of \$0.44M, or 1.4% over the approved project budget. The Q3 Report did forecast costs in excess of the adopted budgets for both the Peninsula Pipeline and the Puglas Balancing projects of \$2.7M and \$0.2M respectively; however it is not possible to determine if these cost forecasts reflect the potential budget impacts of the proposed schedule delays. It is BAWSCA's understanding that the budget impacts of the proposed revisions will be provided to the Commission as part of the public hearing meeting materials.

BAWSCA's Recommendation: While the law does not require SFPUC to report the budgetary impacts of proposed schedule and scope changes, this information is critically important to the customers of the SFPUC who are required to pay two-thirds of the cost of the WSIP. This information should be available to the public and the Commission as part of the evaluation process of any proposed change to the WSIP. **BAWSCA recommends that the Commission direct staff to include the budgetary impacts as part of any future AB 1823 Notice of Change process for the WSIP.**

This Notice of Change process has differed from previous efforts as it is more streamlined and focused on just those changes necessary rather than a full-blown "re-baselining" of the entire WSIP, as has been done in the past. BAWSCA supports this new direction as it will bring forward recommended changes in an expedited manner as soon as the SFPUC staff believes they are necessary for the continued progress in implementing the WSIP.

BAWSCA continues to support the SFPUC's efforts to implement the WSIP on time and on budget for the protection of the 2.5 million residents and associated businesses that rely on the San Francisco Regional Water System for a reliable supply of high quality water. If we can provide any support at the State level regarding this new approach for the Notice of Change process, please contact Nicole Sandkulla at the BAWSCA office.

Sincerely,



Arthur R. Jensen
Chief Executive Officer/General Manager

cc: E. Harrington, SFPUC General Manager
Julie Labonte, SFPUC, Director, Water System Improvement Program
Nicole Sandkulla, BAWSCA Water Resources Planning Manager
BAWSCA Board of Directors
BAWSCA Water Management Representatives



State Of California
SEISMIC SAFETY COMMISSION
GOVERNOR EDMUND G. BROWN, JR.

**Comments on the Significance of Changes in the
San Francisco Public Utilities Commission's
Water System Improvement Program (WSIP)
With Respect to Public Health and Safety**

Draft September 5, 2012 Final is Due 90 Days After July 20, 2012 By October 18, 2012

Introduction

In 2002 the state enacted the Wholesale Regional Water System Security and Reliability Act (AB 1823, Chapter 841, 2002, Section 73502 of the State Water Code). The Act:

- Required the City and County of San Francisco to adopt a “program of capital improvement projects designed to restore and improve the Bay Area regional water system that are described in the capital improvement program report prepared by the San Francisco Public Utilities Commission (SFPUC) dated February 25, 2002”; and
- Lists nine key improvement projects for the regional water system commonly known as the “Hetch Hetchy” system; and
- States: “If the city adopts a change in the program that deletes one or more projects from the program, or postpones the scheduled completion dates, the city shall promptly furnish a copy of that change and the reasons for that change to the State Department of Health Services and the Seismic Safety Commission;” and
- Requires the Seismic Safety Commission (SSC) to “submit written comments with regard to the significance of that change with respect to public health and safety” within 90 days of receiving a notice of changes to the scope or schedule of the previously proposed 2002 SFPUC Capital Improvement Program (CIP) and subsequent changes.
- Required the SFPUC to produce a Program schedule by 2003 requiring that “projects representing 50 percent of the total program cost be completed on or before 2010 and that projects representing 100 percent of the total program cost be completed on or before 2015.”

On July 20, 2012, the SSC received a notice of changes made by the SFPUC on June 12, 2012. This is the SSC's fifth review of changes to the Water System Improvement Program. Prior SSC reviews occurred in 2006, 2008, 2010, and 2011 in response to changes in the Program in late 2005, 2007, 2009, and 2011.

Scope and Limitations of these Comments

The SSC considered changes to the WSIP that the SFPUC made between July 2011 and June 2012 when generating the comments below. Appendix A lists the planned seismic safety projects and their schedule changes from the 2002 CIP to the 2012 WSIP including the nine key projects identified in the Act. In addition, the SSC considered construction progress to date.

The SSC's chairperson directed Commissioner Emir Macari to work with staff to prepare this report and make a presentation to the SSC at its September 13, 2012 meeting. Appendices B and C list sources of information used during this review.

As required by the Act, the SSC has prepared comments that address deletions of projects and schedule delays in the regional WSIP. The Act's comment period only allows for limited review and comments by SSC staff and commissioners. In addition, although some Commissioners and staff are licensed professionals who are familiar with certain technical aspects of the seismic design of water systems, in their roles of serving the public as Commissioners and staff, they do not perform engineering or other licensed work. Rather, the SSC's primary mandate is to provide policy advice to the Governor, the Legislature, and the public. Consequently, this effort does not constitute work by licensed professionals on the Commission or its staff. In generating the comments below, the SSC does not assume responsibility for the integrity or reliability of any aspect of the WSIP. The Commission also does not regulate, certify, approve or disapprove of the WSIP or any of its changes.

Notwithstanding the foregoing, in the interest of assisting the SFPUC and serving the public, the SSC has included additional comments and recommendations that it believes are relevant to public health and safety.

The Original Capital Improvement Program in 2002 and Major Changes in 2005

The SFPUC's water transmission system serves 26 wholesale customers in addition to delivering water to the San Francisco City Distribution Department's retail system. Together these 27 retail distribution systems (including San Francisco) serve approximately 2.5 million users. In 2002, the seismic upgrade component of the CIP was composed of a collection of projects intended to limit the loss of service to the SFPUC's wholesale customers following major earthquakes. The 2002 CIP was prepared and evaluated in an intuitive manner without the benefit of specific seismic performance objectives, quantitative analysis of alternatives, or a schedule that allowed for a programmatic environmental impact review (PEIR). The CIP was renamed the Water System Improvement Program and the SFPUC adopted more specific Levels of Service Goals and significant changes to the scope of the program in 2005.

Progress in the Water System Improvement Program as of June 2012

By June 2012, 95 percent of the project designs and 57 percent of construction had been completed for the 46 regional projects currently in the Program. The SFPUC reports that seismic reliability of the water system is improving now that the following assets have been upgraded or built:

- San Antonio Pump Station
- Alameda Siphon #4
- First of three Bay Division Pipeline (BDPL) 3 and 4 Cross Facilities at Guadalupe
- Standby Power Facilities
- New Crystal Spring Bypass Tunnel
- San Andreas Pipeline No. 3 Installation
- Pulgas Balancing Reservoir
- Baden and San Pedro Valve Lots
- University Mound Reservoir

The WSIP's seismic reliability goals and objectives for Levels of Service have remained the same since they were first adopted as part of the 2005 revisions to the Program, with the exception of one refinement: The 215 million gallons per day (MGD) basic service flow (average winter-month usage) originally

associated with the goal was updated to 229 MGD based on the availability of updated winter-month usage records.

The most significant changes from the July 2011 to the June 2012 schedule were delays to three projects including two key seismic safety projects:; 1) New Irvington Tunnel by 15 additional months, and 2) Bay Division Pipeline Reliability Upgrade Tunnel by 7 additional months;

Of the nine key seismic safety projects listed in State Water Code, all have been delayed significantly with respect to the 2002 schedule:

<u>Seismic Safety Project Referenced in the State Water Code</u>	<u>Scheduled Delay (Months) Relative to 2002 Schedule</u>	<u>Constr. Status*</u>
New Irvington Tunnel	77	In Progress
Crystal Springs to San Andreas Reservoir Transmission Upgrade	33	In Progress
Bay Division Pipelines 1 and 2 Repairs	See BDPL Reliability Upgrade	
Bay Division Pipeline (BDPL) Reliability Upgrade Tunnel	33	In Progress
BDPL Reliability Upgrade Pipeline	8	In Progress
Seismic Upgrade Bay Division Pipelines 3 and 4	56	In Progress
Alameda Siphon #4 Upgrade	34	Completed
New Crystal Springs Bypass Tunnel	34	Completed
Bay Division Pipelines 3 and 4 Crossover/Isolation Valves	10	Completed
Calaveras Dam Projects	86	In Progress

The State Water Code provides that the SFPUC may change projects and schedules in the Water System Improvement Program without outside permission, but that if San Francisco deletes or delays projects, the SSC must be informed. Appendix A presents the adopted changes to the Water System Improvement Program schedule since its original adoption by San Francisco in 2002. However, the overall program will experience no additional delay beyond the 2011 schedule. The Water System Improvement Program’s overall completion will occur four months later than the date estimated in 2002 due to efforts to compress the construction schedule in the final years.

Comments within the Scope of the Act

1. **Schedule Changes.** Revised estimates of completion dates for the projects originally identified as key for seismic safety are expecting cumulative delays from 10 to 86 months, averaging over three years in delays compared to the 2002 schedule. The effect of delays is a forestalling of seismic safety reliability for the regional water system. It is helpful to note that the U.S. Geological Survey estimates the probability of a major earthquake striking the region during any given 15-month period—the time that the New Irvington Tunnel is additionally delayed—is approximately 1.25 to 2.5 percent. The additional delays will increase the chance that major earthquakes will occur before critical seismic safety portions of the upgrade are completed.

The SSC notes that the SFPUC has incrementally reported delays 2005, 2007, 2009, and 2011 in addition to this latest set of delays.

2. **Project Scope Changes.** In comparing the June 2012 WSIP with the 2011 WSIP there were no projects deleted.

Conclusions and Recommendations

The SFPUC continues to make progress and refinements to its Water System Improvement Program. However, it is significantly behind the goal of 50 percent completion by 2010 and 100 percent by 2015 established in state law in 2002. The SSC recognizes that projects have been added and the scope of the Program has evolved since then. Major schedule delays since 2002 including the most recent delays since 2011 continue to adversely impact the Program with respect to public health and safety should major earthquakes occur before completion of the Program. Although the SFPUC staff has not followed some of the SSC's previous recommendations, the SSC is pleased to note that the SFPUC staff has taken action on some past suggestions and has been willing to discuss issues identified by the SSC that are critical in lowering the seismic risk to the Water Delivery System.

The SSC recommends that the SFPUC include a summary of major financing, design, environmental, and construction issues and challenges as well as major program trends and risks when issuing future notices of changes to the Program in order to maintain SSC's situational awareness.

Appendix A

Water System Improvement Program

Seismic Reliability Projects and Schedule Comparisons

The San Francisco Public Utilities Commission is undertaking a \$4.6 billion Water System Improvement Program to enhance the Hetch Hetchy water transmission system with an anticipated 2016 completion of seismic projects. The table below summarizes the major seismic reliability projects and compares schedules between the 2002 Program and subsequent changes in 2005, 2009, 2011, and 2012.

Water System Improvement Program Seismic Projects	Project Closeout Dates Estimated					2002 to 2012 Variance (Months)
	2002	2005	2009	2011	2012	
Standby Power Facilities	Nov 2013	Dec 2010	Dec 2010	Dec 2010	Dec 2010	-35
New Irvington Tunnel	Aug 2009	Sep 2013	Dec 2013	Oct 2014	Jan 2016	+77
Alameda Siphon #4 Upgrade**	**	Apr 2011	Jun 2012	Jun 2012	June 2012	+34
Pipeline Repair & Readiness	Sep 2004	Mar 2007	Dec 2008	Apr 2009	Apr 2009	+55
Calaveras Dam Projects	May 2009	June 2012	Dec 2015	Jul 2016	July 2016	+86
Bay Division Pipelines 3&4 Crossover/ Isolation Valves	N/A	Sep 2008	Sep 2008	Jul 2009	July 2009	+10
Seismic Upgrade Bay Div. Pipelines 3&4	Aug 2010	Oct 2012	Dec 2014	Apr 2015	Apr 2015	+56
Bay Division Pipeline (BDPL) Reliability Upgrade Tunnel	Feb 2013	Jan 2014	Aug 2015	Nov 2015	Nov 2015	+33
BDPL Reliability Upgrade Pipeline	Feb 2013	Jan 2014	Mar 2013	Mar 2013	Oct 2013	+8
Bay Division Pipelines 3 & 4 Crossovers***	Jan 2013	N/A	Sep 2013	May 2013	May 2013	+4
New Crystal Springs Bypass Tunnel	May 2009	Oct 2010	Mar 2012	Mar 2012	Mar 2012	+34
Harry Tracy Water Treatment Plant Short Term Improvements	Nov 2012	Sep 2010	Sep 2010	Jul 2010	July 2010	-27
Harry Tracy Water Treatment Plant Long Term Improvements	Mar 2016	Apr 2014	Jun 2014	Dec 2015	Dec 2015	-3
Capuchino Valve Lot Improvements	Mar 2016	Jul 2009	Aug 2008	Aug 2008	Aug 2008	-91
Crystal Springs to San Andreas Reservoir Transmiss. Upgrade	Jul 2011	Apr 2014	Apr 2014	Apr 2014	Apr 2014	+33
Crystal Springs Pipeline No.2 Replacement	Nov 2015	Apr 2012	Jul 2013	Sep 2013	Sep 2013	-26
San Andreas No.3 Pipeline Installation	Nov 2014	June 2011	May 2012	Nov 2011	Nov 2011	-36
Baden & San Pedro Valve Lot	^	Oct 2011	Aug 2011	Aug 2012	Aug 2012	+10
Sunset Reservoir North Basin	Oct 2014	May 2009	May 2009	Sep 2010	Sep 2010	-49
Peninsula Pipelines Seismic Upgrade	^^		Dec 2014	Jul 2016	July 2016	-
Bay Div Pipelines 1 & 2 Repairs***	Jan 2013	N/A	-		-	-
Overall WSIP Completion	Mar 2016	Jun 2014	Dec 2015	July 2016	July 2016	+4

Notes: For delays in 2007 please refer to the Seismic Safety Commission's prior reviews in either 2008, 2010, or 2011 Projects in bold are listed in CA Water Code Section 73502(b) added by AB 1823 (Chapter 841, Statutes of 2002)

** The Alameda Siphon Upgrade is now a separate project that was previously combined with the New Irvington Tunnel.

*** The SFPUC removed these projects from the WSIP since they are not required to achieve the new Levels of Service Goals. Refer to the Bay Division Pipeline Reliability Upgrade Project for BDPL 1 and 2.

^ Completion date established in 2005; ^^ in 2009.

Appendix B

List of Documents Received/Reviewed

Notice of Changes to Water System Improvement Program, *San Francisco Public Utilities Commission (SFPUC)*, July 12, 2012.

WSIP Regional Projects Quarterly Report Cover Letter to SFPUC from SFPUC Staff, August 8, 2012

Appendix C

Meeting with California Seismic Safety Commission (SSC), its Ad Hoc Committee and SSC Staff

September 13, 2012: SSC Hearing, minutes available at www.seismic.ca.gov