

File No. 141054

Committee Item No. 1

Board Item No. \_\_\_\_\_

# COMMITTEE/BOARD OF SUPERVISORS

## AGENDA PACKET CONTENTS LIST

Committee: Budget & Finance Committee

Date November 5, 2014

Board of Supervisors Meeting

Date \_\_\_\_\_

### Cmte Board

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| <input type="checkbox"/>            | <input type="checkbox"/> | Youth Commission Report                      |
| <input type="checkbox"/>            | <input type="checkbox"/> | Introduction Form                            |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Department/Agency Cover Letter and/or Report |
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| <input type="checkbox"/>            | <input type="checkbox"/> | Grant Information Form                       |
| <input type="checkbox"/>            | <input type="checkbox"/> | Grant Budget                                 |
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| <input type="checkbox"/>            | <input type="checkbox"/> | Contract/Agreement                           |
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| <input type="checkbox"/>            | <input type="checkbox"/> | Award Letter                                 |
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Completed by: Linda Wong Date October 31, 2014

Completed by: \_\_\_\_\_ Date \_\_\_\_\_



**San Francisco**  
**Water Power Sewer**  
 Services of the San Francisco Public Utilities Commission

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October 7, 2014

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Angela Calvillo  
 Clerk of the Board of Supervisors  
 1 Dr. Carlton B. Goodlett Place  
 City Hall, Room 244  
 San Francisco, CA 94102

Subject: Power System Impact Mitigation Project Release of Reserve,  
 \$3,135,666

I would like to request your assistance to have calendared the release of reserve \$3,135,666 from Hetchy's Power System Impact Mitigation Project CUH661.

The release of the reserved funding is needed to cover the planning, design, environmental review and procurement of long-lead items for the Warnerville Substation Upgrades.

Sincerely,

Harlan L. Kelly, Jr.  
 General Manager

- Edwin M. Lee  
Mayor
- Vince Courtney  
President
- Ann Moller Caen  
Vice President
- Francesca Vietor  
Commissioner
- Anson Moran  
Commissioner
- Art Torres  
Commissioner
- Harlan L. Kelly, Jr.  
General Manager

141054



<p><b>Item 1</b> <b>File 14-1054</b></p>	<p><b>Department:</b> Public Utilities Commission</p>
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**EXECUTIVE SUMMARY**

**Legislative Objectives**

- The Public Utilities Commission (PUC) is requesting the release of \$3,135,666 previously reserved by the Budget and Finance Committee for the Hetch Hetchy Power System Impact Mitigation Project at Warnerville Substation.

**Key Points**

- The System Impact Mitigation Agreement between the San Francisco Public Utilities Commission (PUC) and North Star Solar, LLC (North Star) requires North Star to pay PUC the costs necessary to mitigate the impacts to PUC’s electric transmission facilities at the Warnerville Substation caused by the interconnection of North Star’s solar power project to the electric grid. The Board of Supervisors approved an ordinance (File 12-1007) in January 2013 that (1) authorized PUC to enter into the System Impact Mitigation Agreement with North Star; (2) authorized PUC to enter into future mitigation agreements with other projects without further Board of Supervisors approval; and (3) appropriated \$2,900,000 in North Star mitigation payments to PUC. The Board of Supervisors placed the \$2,900,000 on Budget and Finance Committee Reserve; and required that any future funds in excess of \$100,000 for a given mitigation agreement be placed on Budget and Finance Committee reserve.
- In addition to North Star, three other companies have entered into mitigation agreements with PUC for total mitigation revenues of \$3,135,666. Once PUC signs a mitigation agreement and collects mitigation funds, those funds are not returned to developers, even if they withdraw their project.
- Three additional companies have potential projects that could impact PUC’s electric transmission facilities at the Warnerville Substation, but only one project sponsored by Sunpower Corporation would result in potential future mitigation revenues in the estimated amount of \$4,556,643.

**Fiscal Impact**

- The budget for the upgrade of the Warnerville Substation is \$6,435,000, of which PUC has collected \$3,135,666 in mitigation revenues. PUC does not yet have funding of \$3,299,334 to pay the balance of the Warnerville Substation upgrade costs but has identified other possible revenue sources, including potential future mitigation revenues from Sunpower or other companies, or use of Hetch Hetchy Improvement Program funds.

**Recommendations**

- Approve the release of reserves totaling \$375,000 to cover assessment, design, environmental review, and construction management for the upgrade of one auto transformer at Warnerville Substation.
- Retain the balance of \$2,760,666 on Budget and Finance Committee Reserve, pending submission by PUC to the Budget and Finance Committee of revenue and expenditure details regarding construction.

## MANDATE STATEMENT

Section 9.118(a) of the City's Charter requires Board of Supervisors approval of a contract with anticipated revenue in excess of \$1 million.

Section 3.3 of the City's Administrative Code provides that the committee of the Board of Supervisors that has jurisdiction over the budget (i.e., Budget and Finance Committee) may place requested expenditures on reserve, which are then subject to release by the Budget and Finance Committee.

The System Impact Mitigation Agreement between the San Francisco Public Utilities Commission (PUC) and North Star Solar, LLC (North Star) requires North Star to pay PUC the costs necessary to mitigate the impacts to the City's electric system caused by the interconnection of North Star's solar power project to the electric grid. The Board of Supervisors approved an ordinance (File 12-1007) in January 2013 that (1) authorized PUC to enter into the System Impact Mitigation Agreement with North Star; (2) authorized PUC to enter into future mitigation agreements with other projects without further Board of Supervisors approval; and (3) appropriated \$2,900,000 in North Star mitigation payments to PUC. The Board of Supervisors placed the \$2,900,000 on Budget and Finance Committee Reserve; and required that any future funds in excess of \$100,000 for a given mitigation agreement to be placed on Budget and Finance Committee reserve.

## BACKGROUND

### The California Electric Grid

The California electric grid is a system designed to transport electricity among utilities, private power plants, and state and federal agencies. A large portion of the grid is managed by the California Independent System Operator, better known as CAISO, a nonprofit public benefit corporation that has operational control over electric generating projects and transmission in California.

At this time, there are hundreds of proposed electric generating projects that seek to interconnect with the electric grid controlled by CAISO. CAISO studies the proposed projects in groups, called "Clusters", in order to identify the projects' impact on the system. CAISO published a study of Clusters 1 and 2 in August 2011. Since then, several projects have withdrawn their requests to connect. PUC is currently studying projects in Clusters 3 and 4.

As of September 25, 2014, there are fifteen Cluster 1 and 2 projects seeking to connect to the grid in the Fresno/Kern region. The PUC has identified that nine of the fifteen projects will impact PUC's electric transmission facilities at the Warnerville Substation.<sup>1</sup> In particular, the new connections raise the risk of overloads at the Warnerville Substation, which would impair PUC's ability to deliver electricity to one of its customers, Modesto Irrigation District.

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<sup>1</sup> Margaret Hannaford, PUC Division Manager, says that of the 15 projects, 9 have an impact, 6 have no or minimal impact.

After CAISO identified potential impacts, the PUC then studied the cost of mitigating the impacts to its transmission system in each Cluster and allocated the costs among the nine projects being proposed by seven developers: Enco; SunEdison; North Star Solar, LLC; Recurrent; Getstamp Solar; Pacific Valley, LLC; and SunPower Corporation.<sup>2</sup>

### **Mitigation Agreements**

In January 2013, the Board of Supervisors approved an ordinance (1) authorizing the PUC to enter into a mitigation agreement with North Star Solar, LLC, in which North Star would pay PUC their share of the costs of the associated necessary mitigation required to eliminate the impact of North Star's interconnection to the electric grid, and (2) appropriating \$2,900,000 in mitigation revenues. The ordinance also authorized PUC to enter into future mitigation agreements without further Board of Supervisors approval and placed any future mitigation agreement revenues exceeding \$100,000 per mitigation agreement on Budget and Finance Committee reserve. Under the agreements, projects that have an adverse impact on PUC's electric transmission must completely fund any mitigation efforts. Per the ordinance, the funds from the mitigation agreements will only be used for mitigation efforts. The funds are not returned once the mitigation agreement is signed and the mitigation payment collected.

In addition to North Star, three other companies have entered into mitigation agreements with PUC, as shown in Table 1 below, for total mitigation revenues of \$3,135,666. The mitigation payments allocated to North Star, LLC have been reduced from \$2,900,000 in the original legislation to \$1,693,173.

Three other companies have potential projects that would impact PUC's electric transmission facilities at the Warnerville Substation, but only one project sponsored by Sunpower Corporation is expected to result in potential future mitigation revenues, as shown in Table 1 below.

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<sup>2</sup> Enco is a privately-held firm based in Anaheim, CA; SunEdison is a publically-held firm based in St. Peters, MS; North Star Solar, LLC, is a wholly-owned affiliate of First Solar based in Tempe, AZ; Recurrent Energy is a privately-held firm based in San Francisco, CA; Getstamp Solar is a subsidiary of Corporación Gestamp, a privately-held firm based in Madrid, Spain; Pacific Valley, LLC is a privately-held firm based in Santa Barbara, CA; SunPower Corporation is a publicly-traded firm based in Richmond, CA.

**Table 1: PUC Mitigation Agreements in Clusters 1 and 2**

Developer	Project Name	Mitigation Amount (\$)	Status	Expected Mitigation Payments
Enco	Corcoran West	\$557,548	Signed Mitigation, received full payment	\$557,548
SunEdison	FRV Regulus Solar	\$470,026	Signed Mitigation, received full payment	\$470,026
First Solar	North Star Solar I	\$1,693,173	Signed Mitigation, received full payment	\$1,693,173
Recurrent	Kent South	\$414,919	Signed Mitigation, received full payment	\$414,919
<b>Subtotal, Mitigation Payments Received</b>				<b>\$3,135,666</b>
Gestamp	San Joaquin 1A	\$804,393	No Power Purchasing Agreement, Payment Unlikely	\$0
	San Joaquin 2A	\$802,807	No Power Purchasing Agreement, Payment Unlikely	\$0
	Enrico Matson 4	\$1,039,206	No Power Purchasing Agreement, Payment Unlikely	\$0
Pacific Valley	Chowchilla	\$2,679,725	No Power Purchasing Agreement, Payment Unlikely	\$0
Sunpower	Henrietta	\$4,556,643	Power Purchasing Agreement, Payment likely	\$4,556,643
<b>Subtotal, Mitigation Payments Not Yet Received</b>				<b>\$4,556,643</b>
<b>Total Mitigation Amount</b>		<b>\$13,018,440</b>	<b>Total Expected Payments</b>	<b>\$7,692,309</b>

Source: PUC

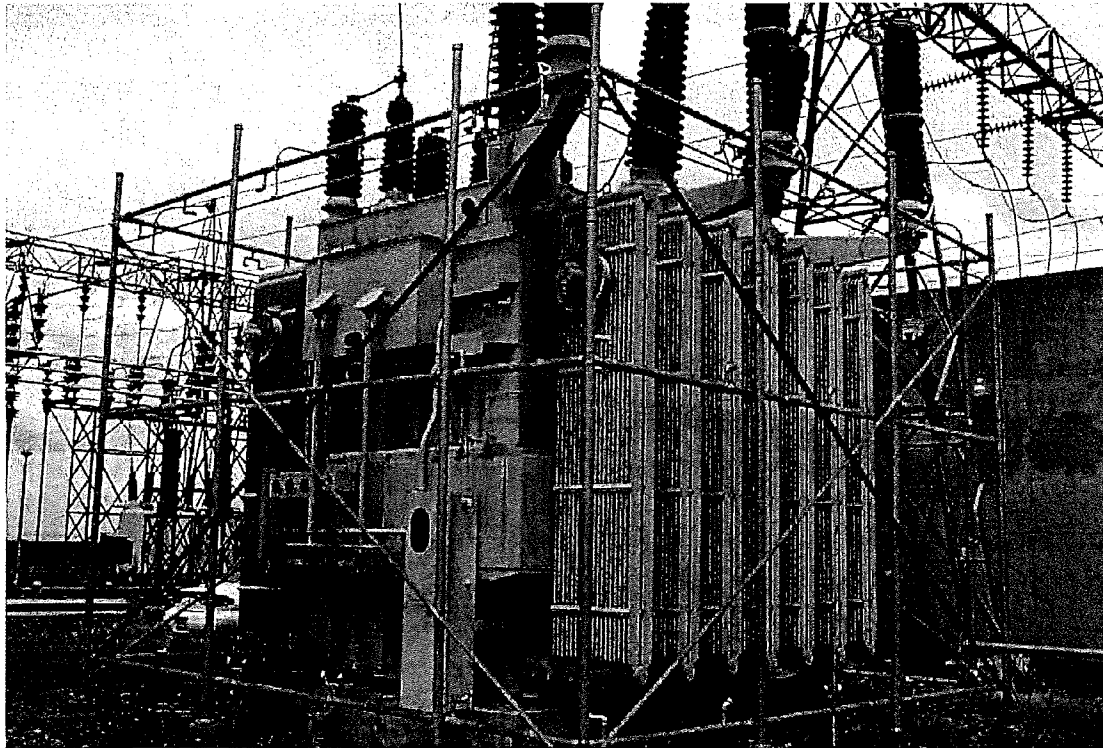
As shown in Table 1 above, PUC has entered into four mitigation agreements with four developers (four projects) within Clusters 1 and 2. The remaining five projects, proposed by three developers, have yet to sign mitigation agreements. The PUC anticipates that not all projects will be built. However, the PUC assumes that at least one more mitigation agreement with Sunpower in the estimated amount of \$4,556,643 will be signed.

### The Warnerville Substation Upgrade

PUC's original recommendation was to replace Warnerville Substation Banks 1, 2 and 3. However, given that all nine projects will not be built, PUC has recommended a mitigation project to replace Warnerville Substation Bank 2 and Bank 3, two 230-115 kilovolt (kV) 75

megavolt ampere (MVA)<sup>3</sup> auto transformers, with one new 230-115kV 300 MVA auto transformer. A picture of one of the auto transformers to be upgraded is shown below in Exhibit 1. The new transformer will reduce the risk of overloads resulting from the new projects in Clusters 1 and 2. Total project costs are estimated at \$6,435,000, as shown in Table 2 below. This project may require reprioritization of a separate Hetch Hetchy System Improvement Program (HSIP) construction project at Warnerville Substation<sup>4</sup> that is funded separately and will be performed simultaneously with the Warnerville Substation Upgrade to minimize construction outage time.

#### Exhibit 1: One Autotransformer at Warnerville Substation



Source: PUC

### DETAILS OF PROPOSED LEGISLATION

PUC is now requesting the release of \$3,135,666 in mitigation revenues received by PUC from four project developers, as shown in Table 1 above.

The released funds will be used to upgrade one auto transformer at the Warnerville Substation in order to mitigate the impact of new electric generation projects' connection to the electric

<sup>3</sup> A volt-ampere (VA) is the unit used for the apparent power in an electrical circuit. A kilovolt (kV) equals 1,000 volts and a megavolt ampere (MVA) equals one million volts.

<sup>4</sup> The separate project is Phase I of series of upgrades at Warnerville Substation, which include: altering the 115 kV bus configuration, conducting a fault study, a grounding study, replacing fencing, and replacing circuit breakers. The project has not yet begun and is expected to be completed FY 17-18. The project is funded by bonds issued as part of the HSIP program.

grid. These connections may impact the PUC's ability to deliver electricity to one of its customers, the Modesto Irrigation District.

### **FISCAL IMPACT**

The \$6,435,000 budget for the upgrade of the Warnerville Substation is shown in Table 2 below. PUC has collected \$3,135,666 in mitigation revenue from four projects, as shown in Table 1 above. Once PUC signs a mitigation agreement and collects mitigation funds, those funds are not returned to developers, even if they withdraw their project. PUC is expecting to collect the remaining balance of the project cost, \$3,299,334, from one of three possible revenue sources:

1. An expected mitigation payment of \$4,556,643 from a Sunpower project in Clusters 1 / 2. PUC expects to collect these funds no later than March 2015.
2. If no further mitigation agreements are signed in Clusters 1 and 2, including the potential agreement with Sunpower, PUC intends to use Hetch Hetchy System Improvement Program (HSIP) funds from bonds to be issued in March 2015. According to Carlos Jacobo, PUC Budget Director, these funds have already been appropriated and are currently on Controller's reserve. According to Mr. Jacobo, use of HSIP bonds is appropriate because the Warnerville Substation upgrades are consistent with the capital program.
3. An additional possible source of revenue is mitigation revenues from projects in Clusters 3 through 7 that sign mitigation agreements with PUC because they are found to adversely impact the Warnerville Substation. PUC expects to be able to collect these funds no earlier than mid-2016.

At this time, PUC has not expended any funds on the Warnerville Substation Upgrade and construction has not begun. PUC intends to proceed with assessment, design, environmental review and preparation of construction contracts (items A and B in Tables 2 below), totaling \$375,000 in costs. The Budget and Legislative Analyst therefore recommends that the Budget and Finance Committee approve the release of \$375,000 and retain the balance of \$2,760,666 on reserve until PUC submits revenue and expenditures details regarding construction.



**Table 2: Cost of Upgrading One Auto Transformer**

<b>Cost of Replacing Banks 2 and 3 with One 300 MVA Transformer</b>	
A Assessment	Included in B Below
B Design, Permitting & Environmental Documentation	\$375,000
C Construction Management	\$375,000
D Construction	\$3,760,000
E Project Closeout	\$25,000
<b>Subtotal</b>	<b>\$4,535,000</b>
F City Administration	\$450,000
<b>Subtotal</b>	<b>\$4,985,000</b>
Contingency (20%)	\$997,000
Project Estimate with Contingency (August 2014)	\$5,982,000
Escalation	\$453,000
<b>Total Project Estimate (2016)</b>	<b>\$6,435,000</b>

Source: PUC

<sup>1</sup> According to Mr. Jacobo, the project contingency of 20 percent is necessary due to the complexity of the electric system upgrades.

**RECOMMENDATIONS**

1. Approve the release of reserves totaling \$375,000 to cover assessment, design, environmental review, and construction management for the upgrade of one auto transformer at Warnerville Substation.
2. Retain the balance of \$2,760,666 on Budget and Finance Committee Reserve, pending submission by PUC to the Budget and Finance Committee of revenue and expenditure details regarding construction.

