

- **Board of Directors**  
**Engineering and Operations Committee**

March 8, 2005 Board Meeting

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7-5

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**Subject**

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Appropriate \$480,000 to repair overflow damage at Red Mountain Hydroelectric Plant (Approp. 15423)

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**Description**

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The Red Mountain Hydroelectric Plant (HEP) is located along the San Diego Pipeline No. 5 in the city of Fallbrook. It generates approximately 5.9 megawatts of electricity and provides revenues of approximately \$1.25 million per year. The plant was placed into service in 1984, and except for scheduled maintenance shutdowns, has been operating continuously ever since.

On November 30, 2004, the Red Mountain HEP suffered damage as a result of a failed drain valve. The cause of failure is still under investigation, but it appears that a newly installed 4-inch butterfly valve may have experienced mechanical failure. As a result, the valve remained open when it should have closed, allowing water to overflow into two basement level rooms, the turbine shutoff valve pit, and the mechanical equipment room. The water damage to electrical, hydraulic, and mechanical equipment was substantial.

The generator speed controller and the uninterruptible power supply (UPS) that powers the motor-operator for the San Diego Pipeline No. 5 flow control valve were damaged beyond repair. Temporary power to the valve operator is being provided from an available circuit of station power, which is served by San Diego Gas & Electric. Because the motor-operated valve is used to regulate flows through San Diego Pipeline No. 5, replacement of the UPS is a priority to ensure system reliability. Despite the damage, water continues to be delivered through San Diego Pipeline No. 5. However, power generation at Red Mountain HEP has not resumed due to the severity of the electrical and mechanical damage. Until the equipment is repaired, the resulting loss of revenue is on the order of \$3,500/day.

Following damage assessment and cleaning of the equipment, salvaging and repairs were initiated without delay. In order to expedite the repairs, staff salvaged parts, replaced damaged parts with spares, and purchased small equipment items. While most of the equipment can be easily replaced, some of the damaged equipment is obsolete and requires redesign. As an example, the generator's governor/speed controller is outdated and replacement with a new speed controller would require upgrading of the generator's controls.

This action appropriates \$480,000 for design, procurement, installation, and testing of the replacement equipment. Staff will prepare the design and equipment specifications, and install the equipment. Removal of the damaged turbine valve's hydraulic system requires specialized equipment and will be performed by a contractor. It is anticipated that the contract will be less than \$250,000 (approximately \$30,000) and will be awarded under the authority of the Chief Executive Officer in accordance with Metropolitan's Administrative Code. Metropolitan is investigating the cause of the valve failure and will seek recovery of these expenses from the manufacturer, if appropriate.

This project has been evaluated and recommended by Metropolitan's Capital Investment Plan Evaluation Team. Due to the urgent nature of the work, it is unbudgeted within the fiscal year 2004/05 capital budget. See [Attachment 1](#) for the financial statement and [Attachment 2](#) for the location map.

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**Policy**

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Metropolitan Water District Administrative Code Section 5108: Capital Project Appropriation

**California Environmental Quality Act (CEQA)**

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CEQA determination for Option #1:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall activities involve the funding, design, minor alterations and replacement of existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed action qualifies under Class 1 and Class 2 Categorical Exemptions (Sections 15301 and 15302 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under two Categorical Exemptions (Class 1, Section 15301 and Class 2, Section 15302 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

**Board Options/Fiscal Impacts**

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**Option #1**

Adopt the CEQA determination and appropriate \$480,000 for design, procurement, installation, and testing of equipment damaged by an overflow at Red Mountain Hydroelectric Plant.

**Fiscal Impact:** \$480,000 of unbudgeted capital funds. If the Board approves this option, the fiscal year 2004/05 CIP expenditure plan will be adjusted for this project.

**Option #2**

Do not authorize funds for this work.

**Fiscal Impact:** Loss of power generation revenue of approximately \$1.25 million annually.

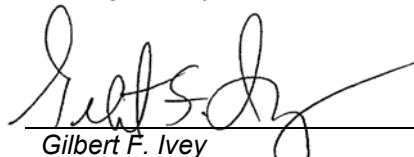
**Staff Recommendation**

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Option #1

  
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Roy L. Wolfe  
Manager, Corporate Resources

2/1/2005  
Date

  
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Gilbert F. Ivey  
Interim Chief Executive Officer

2/14/2005  
Date

**Attachment 1 – Financial Statement**

**Attachment 2 – Location Map**

BLA #3455

**Financial Statement for the Red Mountain Hydroelectric Plant Damage Repair**

Board Action No.1 for Appropriation No. 15423 for repair of overflow damage at Red Mountain Hydroelectric Plant:

	<b>Board Action No. 1 (March 2005)</b>
Labor	
Design and Specifications	\$ 25,000
Owner Costs (Program management, control system integration, and bidding process)	72,000
Metropolitan Force Construction	175,000
Materials and Supplies	110,000
Incidental Expenses	3,000
Professional/Technical Services	10,000
Equipment Use	3,000
Contracts	<u>30,000</u>
Remaining Budget	<u>50,000</u>
<b>Total</b>	<b><u>\$ 480,000</u></b>

**Funding Request**

<b>Program Name:</b>	Red Mountain Hydroelectric Plant Overflow Repairs		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15423	<b>Board Action No.:</b>	1
<b>Requested Amount:</b>	\$ 480,000	<b>Capital Program No.:</b>	15423-I
<b>Total Appropriated Amount:</b>	\$ 480,000	<b>Capital Program Page No.:</b>	N/A
<b>Total Program Estimate:</b>	\$ 480,000	<b>Program Goal:</b>	Reliability

