



Agenda Date: 5/17/2017

Agenda Placement: 7D

Napa Sanitation District Board Agenda Letter

TO: Honorable Board of Directors

FROM: Timothy Healy - General Manager
NS-Technical Services/Engineer

REPORT BY: Kyle Broughton, Senior Civil Engineer - 258-6000 x530

SUBJECT: Approve the 12kV Improvements Project (CIP 16714) and Concur with CEQA Determination

RECOMMENDATION

Approve the 12kV Improvements Project (CIP 16714) and concur with Staff's CEQA determination that project is Categorically Exempt.

EXECUTIVE SUMMARY

NapaSan owns and maintains the electrical distribution system inside the boundary of the Soscol Water Recycling Facility after power enters the plant through PG&E's meter. The treatment plant's electrical distribution system consists of 12,000 volt (12 kV) underground and overhead lines, various switch gears and transformers, and other electrical appurtenances. The plant is designed to operate from both PG&E's power grid and its own self-generated electricity from cogeneration equipment (fueled by digester gas created in the wastewater treatment process). The plant also has diesel-powered backup generators in the case PG&E power is not available. In addition, NapaSan has recently added solar generating capabilities and the Tesla batteries to its electrical system.

PG&E's distribution facilities outside of the treatment plant include ground fault detection/protection devices to protect its facilities, but these devices do not detect or protect against ground faults that occur inside the treatment plant. This project adds a ground fault detection relay switch to the Soscol Water Recycling Facility's existing 12kV system. In the event of a ground fault, the device will detect the ground fault and open circuits to protect electrical gear from power surges and prevent the plant from continuing to feed 12kV into a potentially damaged/failed system. The project provides increased reliability to the electrical system, equipment protection and safety. The engineer's estimated construction cost is \$56,000.

FISCAL IMPACT

Is there a Fiscal Impact?	Yes
Is it currently budgeted?	Yes
Where is it budgeted?	\$80,000 is budgeted in the FY 16/17 capital budget for this project.
Is it Mandatory or Discretionary?	Discretionary
Discretionary Justification:	The project provides increased reliability, safety and equipment protection at the Soscol Water Recycling Facility.
Is the general fund affected?	Yes
Future fiscal impact:	The project will be completed in the summer of 2017; budget not expended in FY 16/17 will be carried over to FY 17/18 to complete the project.
Consequences if not approved:	The Soscol Water Recycling Facility will remain vulnerable to ground faults; similar ground fault events could occur, damaging equipment and related impacts to the plant's treatment capabilities, and pose safety risks.
Additional Information:	

ENVIRONMENTAL IMPACT

Staff performed a preliminary CEQA review of this project and determined the project is Categorically Exempt. The project consists of a minor alteration of an existing public facility involving negligible or no expansion of use, which corresponds to Categorical Exemption 15301 of the California Environmental Quality Act (CEQA) guidelines. If the Board concurs with this determination, staff will file the attached Notice of Exemption.

BACKGROUND AND DISCUSSION

On Saturday September 20, 2014 at approximately 7:00 pm, a ground fault occurred on the 12kV power distribution system at NapaSan's treatment plant. Two phases of the 3-phase 12kV overhead lines in the plant effluent basin between the plant and the river came into contact with one another, resulting downed high voltage power lines, destroyed electrical conductors, and a small grass fire. The root cause of the ground fault was never confirmed because the incident occurred outside of normal business hours; wind or wildlife may have brought the two conductors into contact. Without ground fault detection and protection, the plant reacted to the ground fault as a normal power outage; the diesel backup generators engaged and continued to feed 12,000 volts into the downed electrical lines until on-call personnel were able to respond and address the issue. No injuries occurred and no critical equipment was damaged, however the incident identified the need for adding ground fault detection and protection on the plant's 12kV power distribution system for both safety and equipment protection purposes.

SUPPORTING DOCUMENTS

A . CIP 16714 Notice of Exemption

Napa Sanitation District: Approve

Reviewed By: Timothy Healy