



Department of Public Utilities – Water Division



Providing Life's Essential Services

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SUBJECT: 2MW EMERGENCY GENERATOR FOR NORTHEAST SURFACE WATER TREATMENT FACILITY – BID EVALUATION (Bid File No. 3462)

Executive Summary

The Department of Public Utilities, Water Division utilizes emergency diesel generators to provide backup power supply at various facilities in the event of an electrical utility power loss. The Water Division presently owns, operates, and maintains 40 emergency generators and has standardized in the use of generators manufactured by Caterpillar and Cummins. The City has standardized on these two types of systems to reduce the overall long-term operations and maintenance costs associated with standby power systems, and still maintain a competitive bidding environment during procurements. The Northeast Surface Water Treatment Facility (NESWTF) does not have an emergency generator and is in need of a backup power supply due to numerous disruptions to the electrical utility. Staff prepared bid specifications for a 2 megawatt diesel engine generator to fully power the NESWTF during a utility power outage and advertised the specifications for bid. Bay City Equipment of Poway, CA, submitted the lowest priced bid at \$599,198.54. Upon review of the bids, it has been determined that Bay City Equipment's bid proposal is non-responsive due to nonconformance with the bid specifications requiring the generator engine to be manufactured by Caterpillar or Cummins. It is recommended that the contract be awarded to Quinn Power Systems, of Selma, CA, as the lowest responsive and responsible bidder in the amount of \$669,901.93.

Background

The NESWTF, located at Chestnut Avenue, north of Behymer Avenue in northeast Fresno, is a water treatment facility that treats surface water to drinking water standards. With a treatment capacity of 30 million gallons per day (MGD), the NESWTF can supply 15 to 25% of the City's annual potable water demand making it the City's most critical water system asset. The NESWTF is powered by the electrical utility and presently does not have an



emergency backup power source. The original design and bid documents for the NESWTF included standby power facilities, but those facilities were removed from the project during value-engineering to reduce the construction costs for the project. In the event of electrical utility power loss, the NESWTF cannot be operated and the Water Division must rely upon multiple groundwater wells to make up for the loss of surface water treatment capacity. The NESWTF has experienced loss of power from the electric utility on several occasions during the past 12 years the NESWTF has been in operation. To enable the facility to operate during routine utility power disruption and improve emergency preparedness related to a widespread power outage, DPU is proposing to install a 2 megawatt diesel powered emergency generator at the NESWTF capable of providing electrical power for all critical loads required to fully operate the NESWTF during an electrical utility power loss.

Standardization

The Water Division currently operates and maintains 40 emergency diesel generators located at well sites and water storage tank locations. Twenty-seven generators were installed following the widespread power outage during 1996 which lowered water pressure across the City threatening water quality and reducing the ability to provide fire protection. Since the initial installation of generators, an additional 13 have been added as new water wells and storage facilities have been constructed and brought online.

Due to the large number of generators installed at various Water Division facilities, the Water Division has standardized by focusing on two manufacturers. Of the 40 emergency generators presently owned, operated, and maintained by the Water Division, all of the them with the exception of one are manufactured by either Caterpillar, Cummins or Onan (a Cummins brand). By standardizing in the use of Caterpillar and Cummins products, the Water Division has achieved the following benefits:

- **Maintain Competitive Bid Environment** – By standardizing on two manufacturers of standby power systems, the City maintains a competitive bid environment for standby power systems for the Water Division.
- **Reduces Long Term Costs** – Water Division power generation mechanics currently service and maintain 40 emergency generators. By standardizing on two manufacturers of standby power systems, City staff has become more skilled and proficient in system inspection, repair, and maintenance; staff is more efficient and effective in troubleshooting and diagnosing system disruptions and malfunctions in the field, and staff can reduce the number, types, and makes of spare parts stocked in inventory. These key features of standardization reduce the overall long-term operations and maintenance costs for ratepayers for standby power systems..
- **Engine Manufacturer** – The most critical component of the emergency generator is the diesel engine. Both Caterpillar and Cummins are diesel engine manufacturers and use their own engines in the generators that they supply. This allows the Water Division to contract with Caterpillar's and Cummins' local authorized service companies who have access to all necessary equipment, supplies, software, etc. to service and troubleshoot all components of the generator eliminating the possibility of having to engage a separate service company specific to the diesel engine manufacturer.

- **Local Impact** – Both Caterpillar and Cummins have local distributors and service facilities that meet the local preference requirements established by FMC Sec 4-108 & 4-109. Both have factory trained service representatives available in Fresno 24 hours a day and a readily available parts supply.
- **Longevity** – The Water Division installs emergency generators at critical asset sites that are constructed with a service life of 50 years or longer. Due to the stringent air pollution regulations enforced by the San Joaquin Valley Air Pollution Control District (SJVAPCD), diesel generators once installed must continue to meet the air pollution standards in place at the time of installation. Failure to meet the regulations through continued maintenance and service of the generator will render the generator obsolete and place the City at risk of fines and penalties from the SJVAPCD. Both Caterpillar and Cummins are two of the oldest American diesel engine manufacturers with a proven history of standing by their products in terms of parts availability and service to enable their products to achieve an extended service life. The Water Division has 28 Caterpillar or Cummins generators that have been in service for over 20 years and all remain fully operational and serviceable with no foreseeable timetable for replacement during the next 10 years.

Specifications

The emergency generator to be installed at the NESWTF will be the largest generator installed at a City water facility and most critical in terms of its ability to supply emergency power to a facility capable of producing up to 30 MGD of potable water during a utility power outage. When preparing the specifications for this installation project, the following criteria was developed and incorporated into the specifications in addition to the standard technical component requirements:

- **Manufacturer** – To qualify as a manufacturer, the engine must be the principal item manufactured and the completed engine generator must be supplied by that manufacturer's authorized distributor only.
- **Engine** – The engine shall be manufactured by Caterpillar or Cummins.
- **Experience** – The manufacturer of the generator must have a minimum of 25 years of experience building this type of equipment.
- **Warranty** – The manufacturer's standard warranty shall be no less than 5 years from the date of initial startup.
- **Service** – The generator supplier must have service facilities within 100 miles of the project site and maintain 24 hour parts and service.
- **Personnel** – The service facility shall maintain factory trained service personnel that can respond to emergency calls within 4 hours.
- **Training** – The supplier shall provide 1-day onsite training for Water Division personnel in the proper operation and maintenance of the generator.

In review of generator manufacturers and presently available models applicable to the NESWTF application, it was determined that both Caterpillar and Cummins currently manufacture products that meet these requirements and were listed as approved manufacturers in the bid specifications. To allow other manufacturers to be considered and compete during competitive bidding, a substitution process was included in the specifications. Requests for substitution were required to be made ten days prior to bid date and authorized acceptance was by addenda only. One substitution request was received during bidding which was not approved due to nonconformance with the bid specifications related to the generator voltage, fuel tank, warranty, and engine manufacturer.

Bid Evaluation

The City advertised the NESWTF emergency diesel generator specification for bid on April 8, 2016. Four sealed bids were received and opened on April 26, 2016. The lowest bid received at the time of bid opening was submitted by Bay City Equipment, of Poway, CA, in the amount of \$599,198.54. In review of Bay City's bid proposal, it was determined that it did not comply with the following sections of the bid specifications.

1. 1.04A specifies that requests for substitutions shall be made a minimum of ten (10) days prior to bid date. Manufacturers catalog data shall accompany each request and authorized acceptance shall be addenda only.

Bay City Equipment did not submit a substitution request 10 days prior to the bid date. No addenda for an approved substitution in accordance with 1.04 A of the bid specifications were issued for this bid.

2. 2.02A specifies the engine shall be as manufactured by Caterpillar or Cummins.

Bay City Equipment proposes a Kohler generator with a Detroit Diesel engine. No addenda for an approved substitution in accordance with 1.04A of the bid specifications were approved for this bid.

Upon review of the submitted bid proposals, it is recommended that Bay City Equipment's bid proposal is found non-responsive for failing to comply with the above bid specifications. The second lowest bidder's bid proposal has been determined to comply with bid specification requirements. It is recommended that the contract be awarded to Quinn Power System, of Selma, CA, as the lowest responsive and responsible bidder in the amount of \$669,901.93.