## STAFF REPORT

To: City Council
From: Busse Nutley, City Administrator
Date: August 13, 2008
Re: WWTP Automatic Transfer Switch

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After several months of acquiring information and getting an agreement about payment from both FEMA and WCIA, we are now ready to award the bid for the new transfer switch at the Treatment Plant. As you recall, we also built a new shelter for the panel of electrical components that help operate the Plant. This will conclude the actions needed to finalize the repairs.

**Requested Action:**

Award the bid for an ASCO ATS switch, installation and testing for the Wastewater Treatment Plant to Advanced Electrical Testing, Inc., in the amount of $77,651.10, including Washington State Sales Tax.

# Memorandum

**To:** City Administrator, Busse Nutley

**CC:** Mayor, Bentley and Council Members

**From:** Ardyce Taylor

**Date:** 8/12/2008

**Re:** Automatic Transfer Switch

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In January of this year, after our December wind storm, we lost our Transfer Switch at the WWTP. We worked with FEMA and went out to bid. We found that there were only two manufacturers of the switch we needed. The company that proposed the bids, Advanced Electrical Testing, Inc., provided the attached bid proposal.

Vern made the choice to use the same switch that we had and not change to the Zenith.

Advanced Electrical has asked us to sign a Purchase Order to complete the transaction for ordering.

Troy – 253-891-1475 –

ADVANCED ELECTRICAL TESTING, INC.
14311 29th Street East
Sumner, WA 98390

Phone: (253) 891-2965
(866) 238-2021
Fax: (253) 891-1511

ADVANCED ELECTRICAL TESTING. INC.

PROVIDING ELECTRICAL SOLUTIONS WORLDWIDE

www.advancedelectricaltesting.com

# PROPOSAL FOR

## AUTOMATIC TRANSFER SWITCH REPLACEMENT AT MCCLEARY WWTP

January 29, 2008

Attn: Vern Merryman
Phone: 360-495-3217
Fax: 360-495-0514

AET Proposal #: 60-1713

McCleary WWTP

Advanced Electrical Testing, Inc (AET) is pleased to offer this proposal for testing and troubleshooting electrical distribution equipment.

**Supply Zenith ATS per section 1.0.....$68,850**
**Supply ASCO ATS per section 1.0.....$62,850**

**Install and test equipment per section 1.0.....$8,850**

## 1.0 EQUIPMENT TO BE REPLACED AND TESTED

1.1 One (1) Automatic Transfer Switch. Delayed Transition / Bypass Isolation Switch, 4pole, 480V, 1600A

1.2 One (1) Siemens SBA 1600 Amp Insulation case circuit breaker.

## 2.0 PROCEDURES

2.1 Emergency Systems, Automatic Transfer Switches

2.1.1 Visual and Mechanical Inspection

.01 Inspect physical and mechanical condition.

.02 Inspect anchorage, alignment, grounding, and required clearances.

.03 Use appropriate lubrication on moving current-carrying parts and on moving and sliding surfaces.

.04 Verify that manual transfer warnings are attached and visible.

.05 Verify tightness of all control connections.

.06 Perform manual transfer operation.

.07 Verify positive mechanical interlocking between normal and alternate sources.

2.1.2 Electrical Tests

.01 Verify settings and operation of control devices.

.02 Calibrate and set all relays and timers in accordance with Section 7.9.

.03 Perform automatic transfer tests:

.04 Simulate loss of normal power.

.05 Return to normal power.

.06 Simulate loss of emergency power.

.07 Simulate all forms of single-phase conditions.

.08 Verify correct operation and timing of the following functions:

- Normal source voltage-sensing relays.
- Engine start sequence.
- Time delay upon transfer.
- Alternate source voltage-sensing relays.
- Automatic transfer operation.
- Interlocks and limit switch function.
- Time delay and retransfer upon normal power restoration.

.09 Engine cool down and shutdown feature.

2.1.3 Test Values

.01 Test Values – Electrical

- Control devices should operate in accordance with manufacturer's published data.
- Relay test results shall be in accordance with Section 7.9.
- Automatic transfers should operate in accordance with manufacturer's design.
- Operation and timing should be in accordance with manufacturer's and/or system design requirements.

2.2 Circuit-Breakers, Air, Insulated-Case/Molded-Case

2.2.1 Visual and Mechanical Inspection

.01 Inspect physical and mechanical condition.

.02 Inspect anchorage and alignment.

.03 Prior to cleaning the unit, perform as-found tests, if required.

.04 Clean the unit.

.05 Operate the circuit breaker to insure smooth operation.

.06 Inspect bolted electrical connections for high resistance using one of the following methods:

.07 Use of a low-resistance ohmmeter in accordance with Section 7.6.1.1.2.

.08 Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or Table 100.12.

.09 Perform a thermographic survey in accordance with Section 9.

.10 Inspect operating mechanism, contacts, and arc chutes in unsealed units.

.11 Perform adjustments for final setting in accordance with coordination study provided by end user.

.12 Perform as-left tests.

.13 Reset all trip logs and indicators.

2.2.2 Electrical Tests

.01 Perform resistance measurements through bolted connections with a low-resistance ohmmeter, if applicable, in accordance with Section 7.6.1.1.1.

.02 Perform insulation-resistance tests for one minute on each pole, phase-to-phase and phase-to-ground with the circuit breaker closed, and across each open pole. Apply voltage in accordance with manufacturer's published data. In the absence of manufacturer's published data, use Table 100.1.

.03 Perform a contact/pole-resistance test.

.04 *4. Perform insulation-resistance tests on all control wiring with respect to ground. The applied potential shall be 500 volts dc for 300-volt rated cable and 1000 volts dc for 600-volt rated cable. Test duration shall be one minute. For units with solid-state components, follow manufacturer's recommendation.

.05 Determine long-time pickup and delay by primary current injection.

.06 Determine short-time pickup and delay by primary current injection.

.07 Determine ground-fault pickup delay by primary current injection.

.08 Determine instantaneous pickup current by primary injection.

.09 *9. Test functions of the trip unit by means of secondary injection.

.10 Perform minimum pickup voltage test on shunt trip and close coils in accordance with Table 100.20.

.11 Verify correct operation of auxiliary features such as trip and pickup indicators, zone interlocking, and trip unit battery condition.

.12 Verify correct operation of features such as electrical close and trip operation, trip-free, and antipump function. Reset all trip logs and indicators.

## 3.0 CONDITIONS/ASSUMPTIONS

3.1 AET to provide:

3.1.1 All test and rigging equipment necessary for the above scope of work.

3.1.2 An electronic (PDF Format) copy of the report within 14 days of completion of testing.

3.2 Customer to provide:

3.2.1 All available technical documentation as it pertains to the ATS.

3.2.2 120VAC test power at the testing location.

3.2.3 De-energized & isolated equipment with clear unobstructed access.

Summary:

Advanced Electrical Testing, Inc. (AET) is a full service company focused on providing quality work at a reasonable price. We look forward to working with you on this project.

Sincerely,
Advanced Electrical Testing, Inc.

Randy Heppell
rheppell@advetest.com

# PURCHASE ORDER

## CITY OF McCLEARY

City of McCleary
Home of the McCleary Bear Festival

100 South 3rd Street
McCleary, WA 98557
Phone: 360-495-3863
Fax: 360-495-3097

P.O. NO. 11202
DATE August 11, 2008
CUSTOMER ID

**VENDOR**
Advanced Electrical Testing, Inc
143011 29th Street E
Sumner, WA 98390

**SHIP TO**
City of McCleary
100 S 3rd St
McCleary, WA 98557

| ORDERED BY | SHIPPING TERMS | DELIVERY DATE |
|---|---|---|
| Vern | | |

| QTY ORDERED | QTY RECVD | DESCRIPTION | DEPT | UNIT PRICE | LINE TOTAL |
|---|---|---|---|---|---|
| 1.00 | | Automatic Transfer Switch | Sewer | 62,850.00 | 62,850.00 |
| 1.00 | | Install & Test | | 8,850.00 | 8,850.00 |

| | |
|---|---|
| SUBTOTAL | $ 71,700.00 |
| SALES TAX | 5951.1 |
| TOTAL | $ 77,651.10 |

1. Please send two copies of your invoice.
2. Enter this order in accordance with the prices, terms, delivery method, and specifications listed above.
3. Please notifiy us immediately if you are unable to ship as specified.
4. Send all correspondence to:

CITY OF McCLEARY
100 South 3rd Street
McCleary, WA 98557
360-495-3863
360-495-3097

*Authorized by* *Date*