



14 January 1997  
EA Project No. 29600.43.5400

Mr. Dan Kopcow  
Foster Wheeler Environmental Corporation  
2300 Lincoln Highway East  
One Oxford Valley, Suite 200  
Langhorne, PA 19047-1829

Re: Naval Air Warfare Center - Trenton  
Groundwater Treatment System  
Documentation from System Startup

Dear Dan:

EA performed system verification associated with the above referenced project on 9-10 January, 1997. During system verification, Mr. Chuck Rogers (plant operator) of Flour Daniel - Groundwater Technologies provided assistance in the area of instrumentation and controls prove out and system balancing. The significant results of the two-day verification period are as listed:

- The process control logic associated with the central PLC (GE Fanuc) was demonstrated during the system verification process. The system performed in accordance with the design documents.
- The thermal overload protection device associated with the catalytic oxidation unit blower motor activated a shutdown<sup>1</sup> of the catalytic oxidation unit several times. EA believes that the cause of this is an improperly calibrated air flow meter within the catalytic oxidation unit, which "overloads" the motor and trips the thermal overload protection device.
- The discharge air pressure from the air stripper, as indicated by Pressure Switch PS-401, should be balance for no greater than 1.0" w.c. so that a slight vacuum is created at the inlet<sup>2</sup> to the Catalytic Oxidation unit.
- The differential air pressure across the air stripper trays was recorded as 20" w.c. with 15 gpm flow. EA recommends a maximum differential pressure of 30" w.c. (w/15 gpm flow) prior to system cleaning.
- The pitot tube portion of the air flow meter (FE-401) was not installed, therefore, the installation and accuracy of the device could not be verified.

<sup>1</sup>The 3-hp motor is listed for 3.8A at 480V. The amp reading prior to thermal overload was noted as 5.9A. The corresponding air flow reading at the CatOx PLC was approximately 600 SCFM.

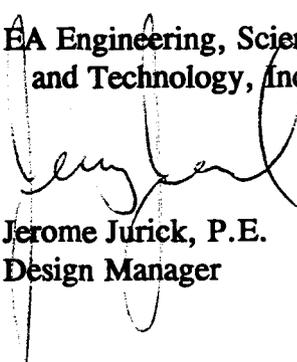
<sup>2</sup>Verify vacuum at sample port located in 8" fiberglass duct directly adjacent to Catalytic Oxidation unit.

- The discharge pump associated with the air stripper is designed to handle a flow rate of 60 gpm<sup>3</sup>. EA recommends balancing the pump discharge with the current 15 gpm influent flow rate to energize the pump no greater than 4 timer per hour.
- Mr. Dave Bingham of NAWC-Trenton indicated that the center bollard located at the electrical/controls access door of the catalytic oxidation unit is required to be removed to comply with the National Electric Code. This bollard limits the access door from fully opening, which does not provide the required 3'-0" clearance in front of the electrical equipment within this compartment.

The equipment/modifications to the ground-water treatment plant appeared to be well constructed. The treatment plant as constructed, with the incorporation of the air stripper/granular activated carbon system and the catalytic oxidation unit, is capable of meeting the effluent discharge standards promulgated by the Ewing-Lawrence Sanitary Authority (ELSA) and the State of New Jersey (NJDEP). If there are any questions regarding the information presented, please contact the undersigned.

Sincerely,

EA Engineering, Science  
and Technology, Inc.



Jerome Jurick, P.E.  
Design Manager

cc: E. Boyle, NORTHDIV  
P. Briegel, NORTHDIV  
K. Smith, NAWC Trenton  
S. Feldman, EA Berkeley Heights  
M. Ronco - EA Berkeley Heights  
S. Tyahla, EA Loveton

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<sup>3</sup>60 gpm represents the future flow rate of the system.