Milford Power

Backup Fuel Oil System
Decommissioning & Restoration Plan

Overview of Physical Fuel Oil System and Decommissioning Steps

The fuel oil system at Milford Power consists of a number of subsystems. These include the following:

1.) Fuel Oil Unloading
2.) Fuel Oil Storage Tank
3.) Fuel Oil Conditioning and Forwarding Pumps
4.) Fuel Oil Pumps
5.) NO_x Water System and Pumps
6.) Fuel Oil Meters
7.) Fuel Oil Combustion System and Controls
8.) Enclosures

A summary of each subsystem and the required steps for decommissioning and maintenance required during the lay-up phase is outlined below.

All decommissioning preventive maintenance (PM) items will be entered into the facility Computerized Maintenance Management System (CMMS) database. The CMMS will automatically print out each PM item as it becomes due. Technicians will complete the PM item and update the CMMS system as needed.

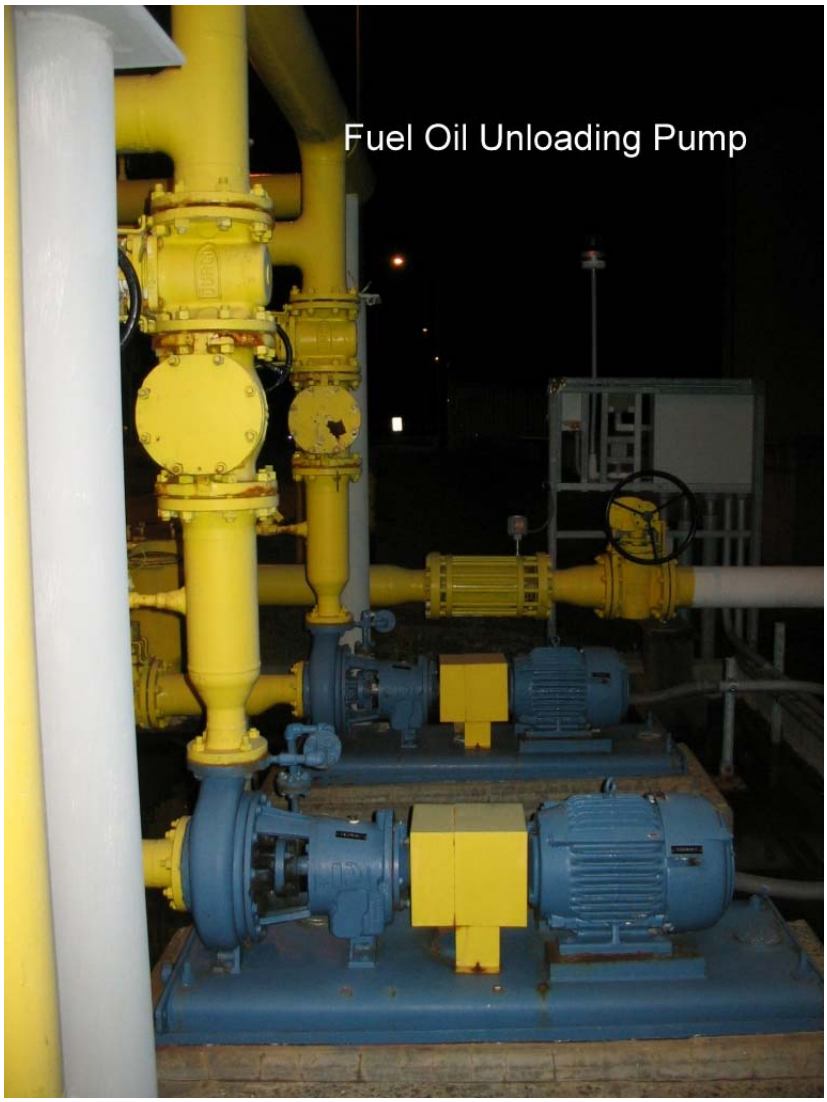
There are a number of standard PM items performed on the various pieces of equipment within the system, when the system is decommissioned. The various pumps in the system will be rotated and lubricated per original equipment manufacturer ("OEM") recommendations. Motors will be electrically tested at recommended intervals and motor heaters will remain in service to preserve the condition of the motors. Instrumentation will be

calibrated. The fuel oil and the NOx water piping systems within the gas turbine building will be periodically drained to ensure no water accumulations that may corrode piping.

This plan first describes each subsystem of the fuel oil system and its decommissioning and layup. The plan then describes the activities to restore the fuel oil system if it becomes necessary.

1.) Fuel Oil Unloading Subsystem

The fuel oil unloading subsystem consists of the pumps required to off-load the fuel oil from the delivery trucks and the associated piping to move the oil into the fuel oil storage tank. Pumps and piping will be emptied and drained and then stored in a dry condition, with the pumps being isolated electrically. Contactors and breakers will be racked out.



2.) Fuel Oil Storage Tank

The fuel oil storage subsystem consists of a 1.2 million gallon steel tank. The fuel oil tank will be drained of all fuel and water, if any. The tank will be inspected, cleaned, and placed in long-term storage. Periodic inspections will be completed in accordance with accepted industry standards.

3.) Fuel Oil Conditioning and Forwarding Pumps

Fuel oil conditioning requires the fuel oil to be a specific temperature to allow for the proper operation of the control valves that regulate the flow of fuel oil into the gas turbine. This is accomplished with the fuel oil heaters. In addition to the fuel oil heaters, a series of transfer pumps move the fuel oil to the pumps that direct the fuel oil into the gas turbine engine.

The fuel oil heaters will be emptied and stored in a dry condition and isolated electrically. Recommended OEM layup instructions will be followed.

Fuel Oil Forwarding Pump Skid

Pumps and piping will be emptied and drained and then stored in a dry condition, with the pumps being isolated electrically. Contactors and breakers will be racked out. Motor heaters will remain in service.

4.) Fuel Oil Pumps

The fuel oil is pumped from the transfer pumps to the fuel oil skid for each gas turbine, located just outside each of the gas turbine buildings. Located inside the skid is the fuel oil pump, which pumps the fuel oil directly into the gas turbine.

Pumps and piping will be emptied and drained and then stored in a dry condition, with the pumps being isolated electrically. Contactors and breakers will be racked out.

5.) NOx Water System and Pumps

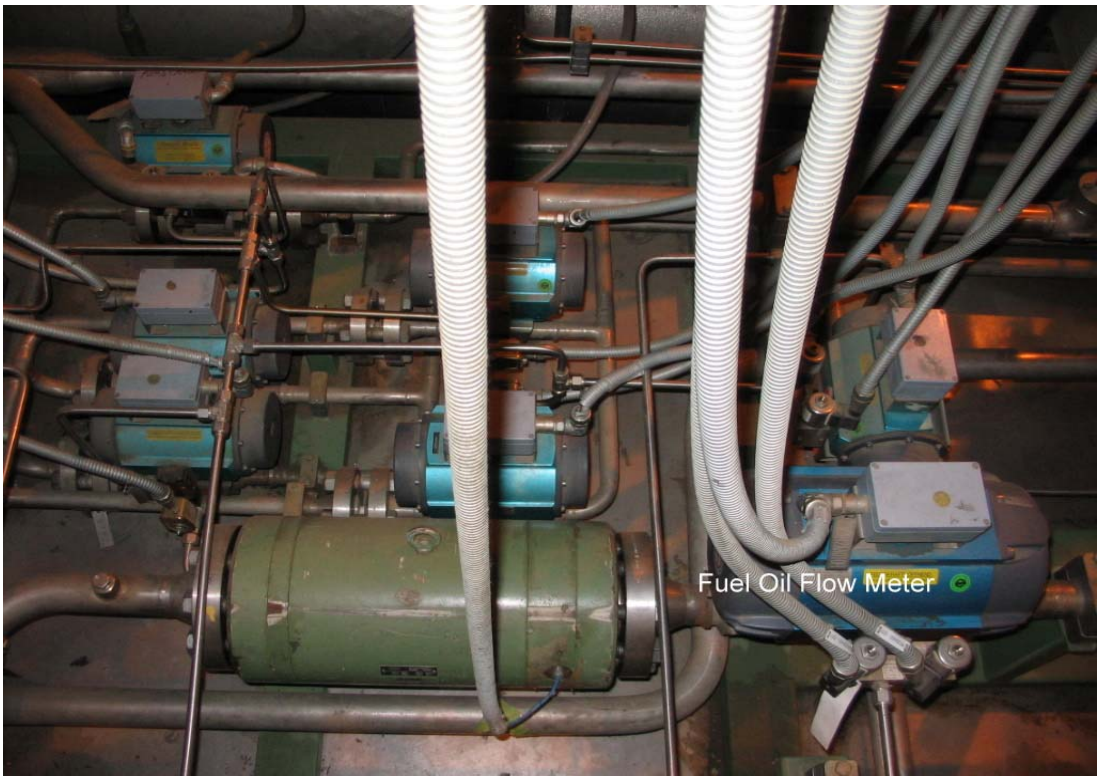
To control NOx emissions while on fuel oil, the gas turbine requires the injection of demineralized water with the fuel oil. This fuel oil/water emulsion is injected through the unit's burners to ignite inside the gas turbine. The demineralized water is stored in a 1.2 million gallon tank sized especially for fuel oil operation. The water is sent to an enclosure similar to the fuel oil pump enclosure where the water is pumped to the required pressure needed to mix with the fuel oil and enter the gas turbine.

Pumps and piping will be emptied and drained and then stored in a dry condition, with the pumps being isolated electrically. Contactors and breakers will be racked out.

NOx Water Skid with Fuel Oil Forwarding Skid to the Right

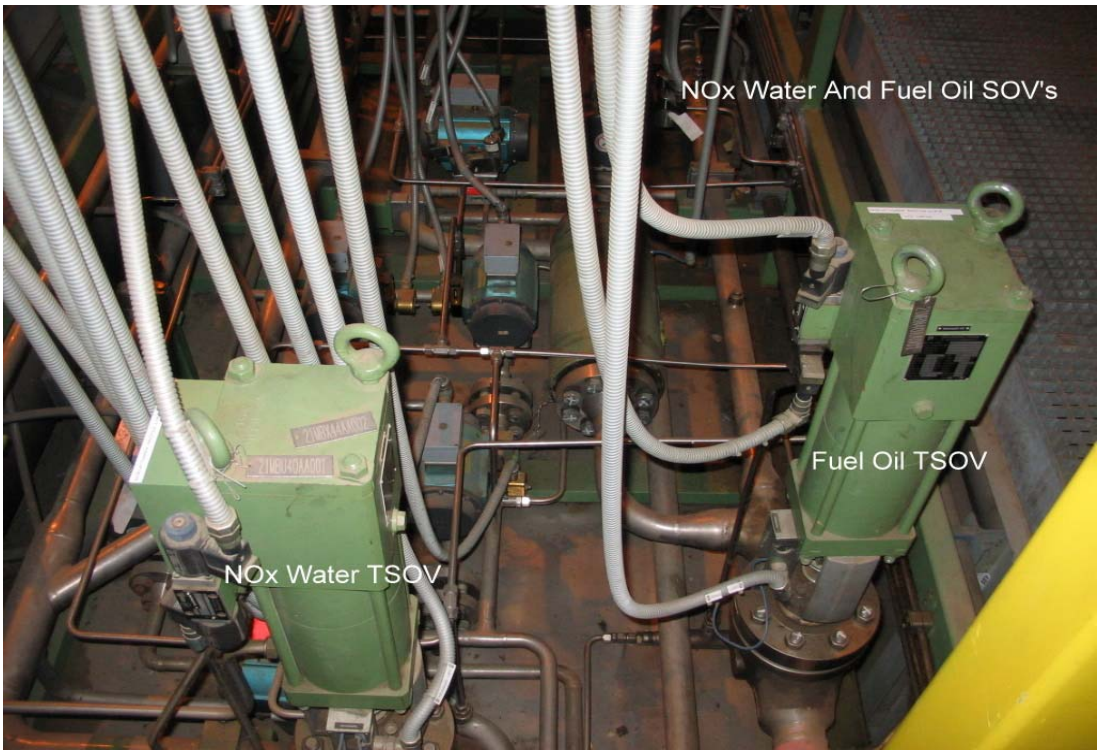
6.) Fuel Oil Meters

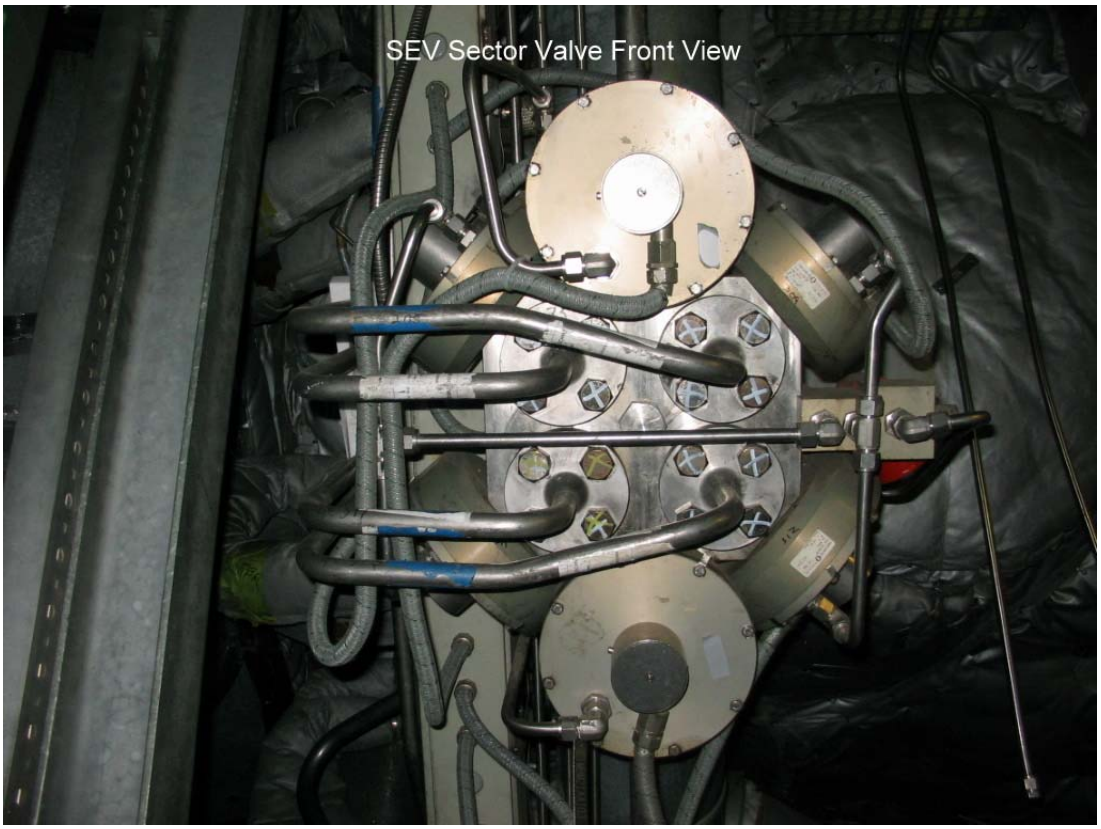
The fuel oil flow is metered for both turbine operations and emissions reporting required under the facility's air permit. The fuel oil flow meters will be removed and stored in a suitable environment on-site to maintain permit compliance. All other instrumentation will be stored as per the OEM's recommendations.

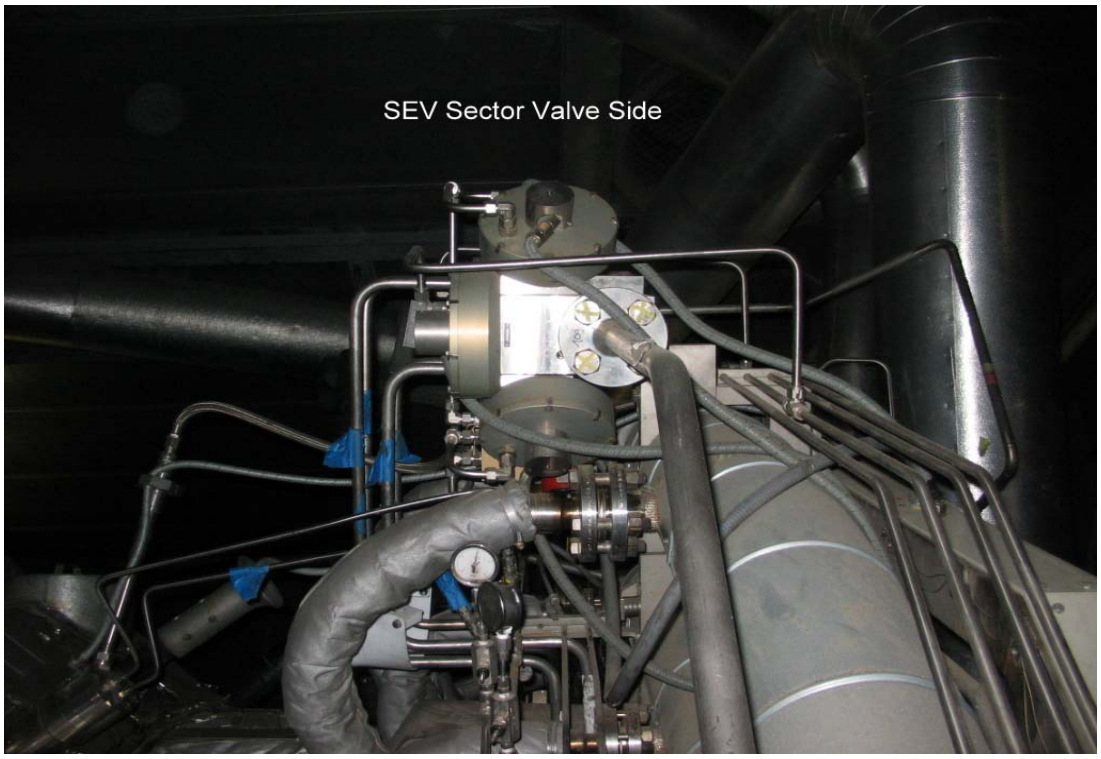


7.) Fuel Oil Combustion System and Controls

The fuel oil and demineralized water is combined at the sector valves on the gas turbine. The mixture then enters the gas turbine where the control system ensures the fuel is combusted. To meet permit and operational requirements, a series of trip shut-off valves (to protect the gas turbine engine) and control valves are required.


NOx Water And Fuel Oil SOV's
Fuel Oil TSOV
NOx Water TSOV


SEV Sector Valve Front View



The trip shut-off valves and control valves associated with fuel oil combustion will be disassembled, preserved, and reassembled as per OEM recommendations. Sector and purge valves and all manual valves will be exercised routinely as part of the long term layup maintenance program. Valves and valve actuators will continue to be serviced as per OEM requirements.

The emulsion piping, which carries the fuel oil/water mixture to the burners, will be removed and placed in storage on site. The emulsion piping is the only significant hardware that will be physically removed from the gas turbine engine.

The emulsion piping on Unit 1 has shown cracking, due to stress corrosion cracking and has been removed from the unit. Stress corrosion cracking occurs when certain chemicals, such as chlorides, attacks the grain structure of the material while under stress. The emulsion piping is under stress

within the turbine enclosure because of the associated heat and stress from vibration from the gas turbine engine. The set of emulsion pipes on Unit 2 has been tested and has not exhibited any evidence of stress corrosion cracking at this point. With the problem shown in Unit 1, there may be a possibility the emulsion pipes from Unit 2 could exhibit stress corrosion cracking in the future.

The logic in the software of the Distributed Control System related to the combustion of fuel oil will be deactivated under the supervision of the OEM. Milford Power has already discussed the required steps and work needed to decommission the controls system with the OEM.

8.) Enclosures

As mentioned previously, there are a number of enclosures associated with the fuel oil system. These include the fuel oil forwarding building (heaters and transfer pumps), fuel oil pump skid, NOx water pump skid, and the foam fire protection enclosure for the fuel oil tank.

Foam Fire Protection Enclosure

A normal environment will be maintained in the enclosures. Each enclosure will be inspected periodically and temperatures will be monitored continuously via wireless temperature probes.

Recommissioning

In returning the decommissioned fuel oil system to operational status, a number of concurrent steps will need to be performed. The work can be summarized in three phases. These phases are Pre-Cold Commissioning Work, Cold Commissioning, and Hot Commissioning. Overall, recommissioning could take four to six months as a number of the steps outlined below are dependent on third-party actions, which cannot be controlled by Milford Power.

Pre-Cold Commissioning Work (Approximately Four to Twelve Weeks)

- Equipment that has been removed, such as the emulsion piping, will be reinstalled. This reinstallation may require an outage of the gas turbine engine to perform the work. As noted previously, the emulsion piping on Unit 1 has been removed and the emulsion piping on Unit 2 may require replacement. Upon initiation of the recommissioning work, Milford Power will order replacement piping from the OEM.

- Installation of temporary instrumentation (used to measure cooling air flow) to perform Hot Commissioning Work. This installation will require a two to three day outage and will coincide with installation of emulsion piping.

- The software in the Distributed Control System will be restored to include all logic associated with the combustion of fuel oil. This restoration will require OEM support and could be dependent on availability of the OEM's personnel.

- The fuel oil flow meters will be sent out for calibration, if necessary, and reinstalled.

- Arrangements and testing associated with obtaining fuel oil will be completed. This activity requires the isolation of a dedicated tank to ensure the fuel oil meets the OEM's specifications.

- All in-service date related testing will be completed on the fuel oil tank prior to filling the tank. The fuel tank vacuum breaker/vent valve will be inspected and tested.

- The fuel oil tank foam system will be made operational and tested.

- Filling of the fuel oil tank, which may be dependent on availability of truck deliveries by the fuel oil vendor.

- An internal inspection and an alignment check of the large pumps (NOx water & Fuel Oil) will be conducted.

- The contactor, breakers, and instrumentation in all systems to be recommissioned will be inspected and calibrated as appropriate.

- Pump motor checks will be completed and the pumps will be bump tested.

- System integrity will be verified for all systems being restored and then the systems will be filled, flushed, and tested as required.

- Arrangements will be made for stack testing on fuel oil to be performed during the hot commissioning. The stack testing company and the DEP will be notified.

Cold Commissioning (One Week to Two Weeks)

Cold Commissioning includes the inspection of all fuel oil combustion related systems and equipment. The equipment will be inspected and functionally tested by OEM engineers and technicians prior to gas turbine fuel oil combustion. The system will be pressure tested to ensure that there are no fuel oil leaks, that all control valves, and instrumentation are working properly, and that all input and output signals from the control system are manipulating equipment as expected.

The work is performed almost entirely by the turbine OEM engineers and technicians, with limited support from site personnel. The timing of the work would be dependent on the availability of the OEM engineers and technicians. The leak check portion of the work would require the gas turbine engine to be offline and cold. This would require an outage of 2 to 3 days.

Hot Commissioning (One Week)

Hot Commissioning is the actual test firing of the gas turbine engine on fuel oil. This work is performed entirely by OEM engineers and technicians and timing would be entirely dependent on their availability. Hot Commissioning work requires a number of adjustments to the combustion system to balance combustion stability and performance, along with ensuring that the unit operates within permitted emission limits.

To perform the Hot Commissioning, the unit is operated at increasing levels of output to "tune" the combustion system. During this time, the unit is not available for dispatch to the New England ISO and is run in a self-scheduled mode. The testing may be delayed or extended if the New England ISO is not able to accept the power from the tested unit because of market conditions.
The turbine OEM's expected duration and consumption of fuel oil are approximately 30 hours of operation and 300,000 gallons of fuel oil if there are no significant problems, delays, and/or unit trips with the fuel oil testing.

At the end of the Hot Commissioning, another 2 to 3 day outage is necessary to remove the instrumentation needed for the work.