

FUEL GAS AND OIL SYSTEM

GENERAL

All boilers are designed for burning natural gas as primary fuel. A complete description of the combustion control system and purge timing and trip systems is given in another section of this manual. Boilers 1-2-3 have been converted to allow oil burning, also.

A. Fuel Gas System

Natural gas gathered from south Louisiana is supplied to the plant by the Humble Gas Transmission Company, Texaco, Inc., and the Dow gas system. The main lines enter the plant on Louisiana Highway 1 where the Dow railroad spur crosses the highway. Humble, Texaco and Dow meter at this location. The incoming pressure depends on Humble and Texaco's line pressure. The pressure is dropped to 250 psi by regulating stations located just outside the metering houses. From the metering stations, the lines merge and run along the future extension of Canal Road to Ethylene Road. Dow gas is metered and regulated at a station on the Choctaw Road (Hwy. 1148).

Located in the southeast corner of Block 48 is Low Pressure gas Station #1 which supplies 75 psig gas to Boilers 1, 2 and 3 and other users. Low Pressure Gas Station #2 is located in the southwest corner of Block 28 and is the normal source of fuel for Boilers 4 & 5. Gas is piped to the Power Plant adjacent to the condensate storage tanks. An arrangement of block valves and tie valves is available so that all boilers may be supplied from either of the two low pressure stations. Plug valves are located on the block line for block shutoff. Just after entering the block line, the supply lines run through a fuel gas scrubber.

B. Fuel Oil System

Fuel oil is received by barge and stored in the west Tank Farm area. As required it is pumped to the Day Tank facilities located in Block 18. Fuel oil forwarding pumps deliver the oil to the Power Plant.

The fuel oil system is designed for high grade (No. 2) oil or for heavier oils (No. 6, naphtha bottoms, etc.). The entire system - pumps, piping, filters -- is heat traced for the times when it becomes necessary to burn the heavier fuels. Also, the heavy oils are heated by two heat exchangers utilizing 235 psi desuperheated steam, and chemically treated with additives to reduce the corrosion problems in the Boilers.

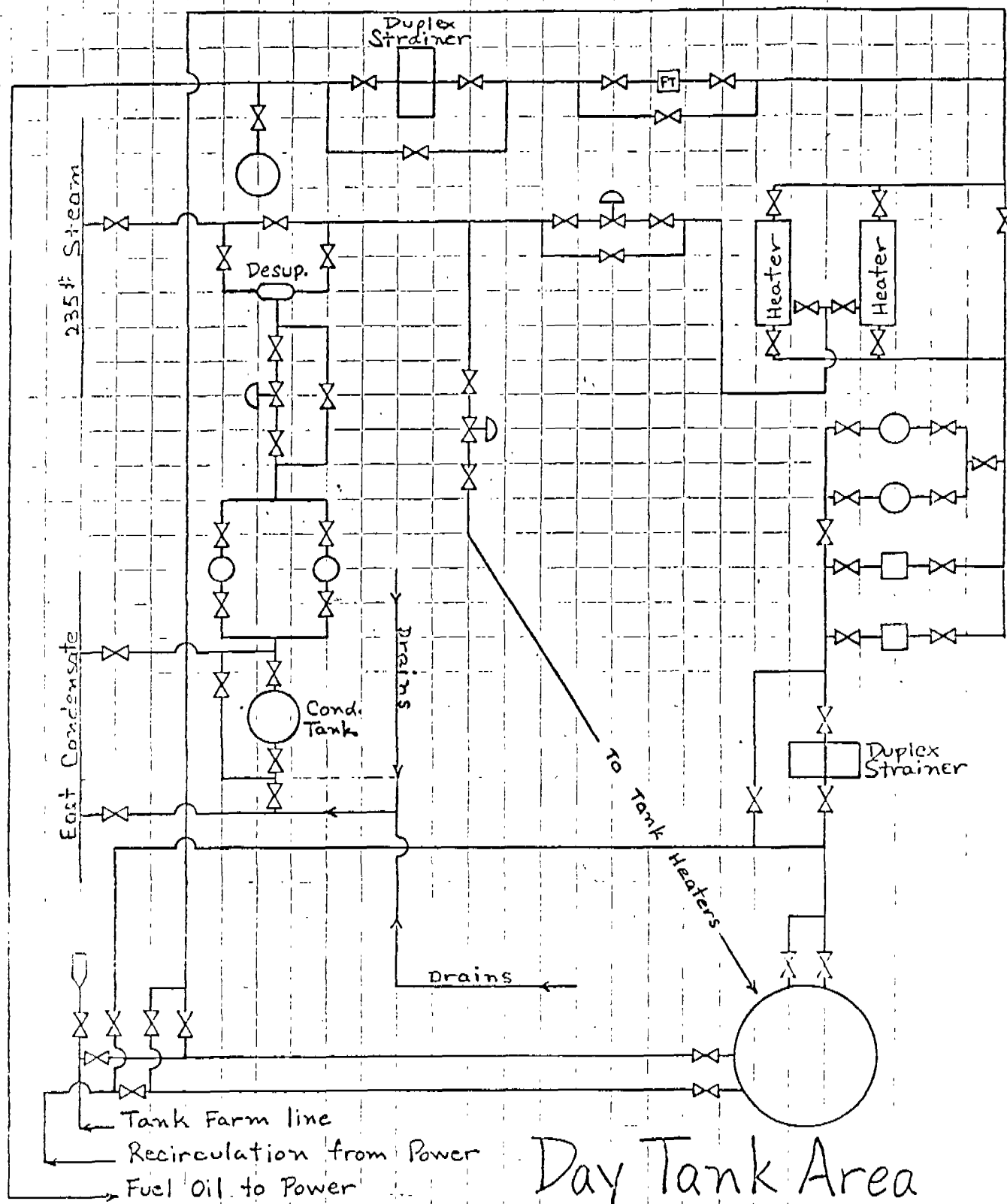
The oil is pumped from the Day Tank area in Block 18 to the Power Block, through a meter, through recirculation valves which maintain a set pressure on the system, to the Boiler fronts. The excess is recirculated back to the Day Tank area, also through a meter which allows for accurate accounting of the amount of oil burned in the Boilers.

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The system in Block 18 consists of the storage or Day Tank, dual suction filters, two screw-type pumps for heavy oil, two centrifugal pumps for lighter oil, two heat exchangers, dual discharge filters, a surge tank padded with 1000 psi of nitrogen, desuperheating equipment, and the chemical additive equipment. The valving is such that flow can be directed in several different ways; i.e., by-passing, recirculating, cross-connecting, etc. See diagram of Day Tank area.

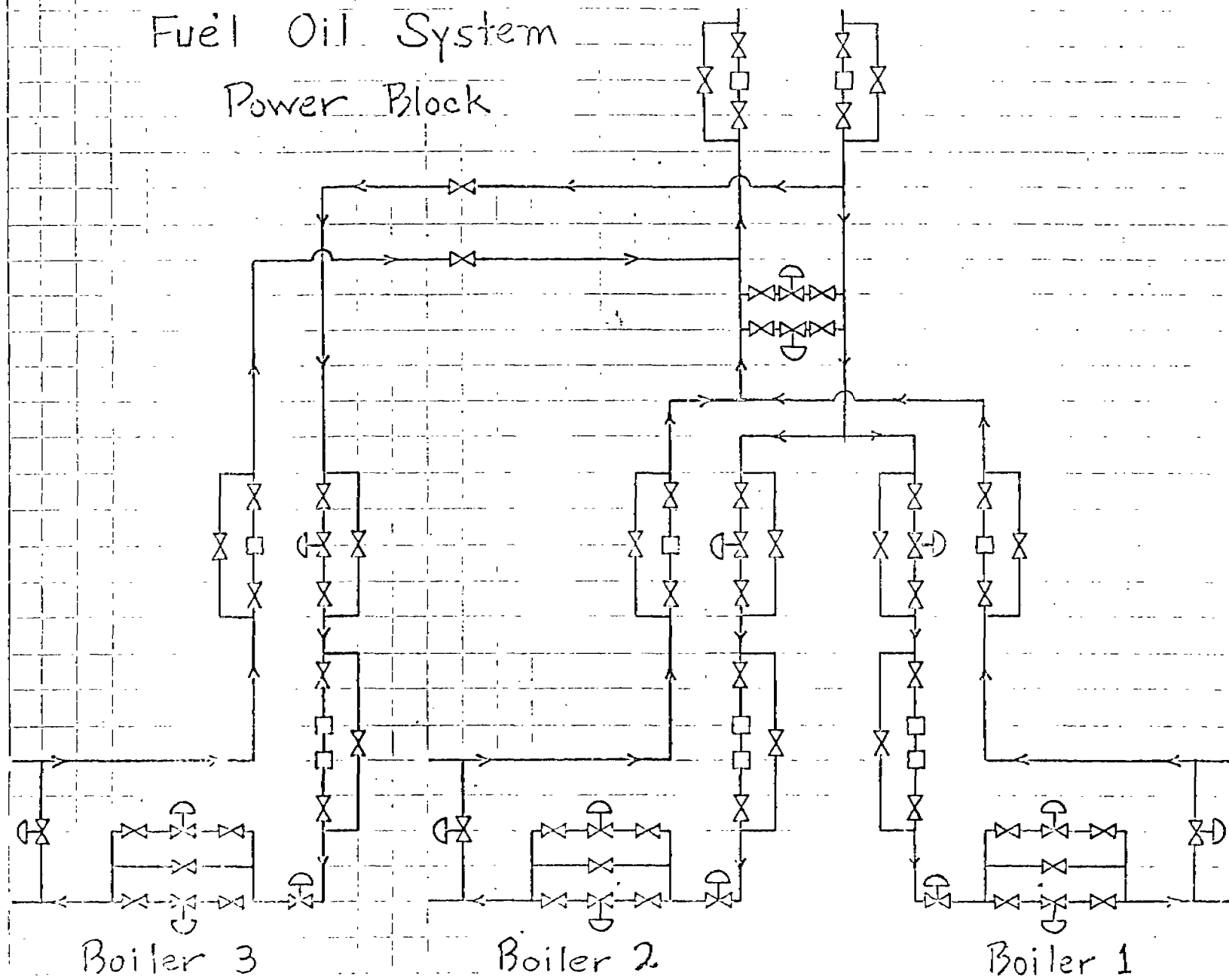
The system in the Power Block consists of metering equipment, recirculation valves, burner control equipment, and atomizing steam piping and control valves. See diagram of Power Block system.

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Day Tank Area

Fuel Oil System Power Block



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BOILER PURGE, FAN INTERLOCK AND FUEL TRIP SYSTEM

General

These systems are combination electro-pneumatic devices to insure safe lighting off of the boilers under normal conditions.

The primary function of the system is to insure that all requirements of the purge system have been met before the gas safety shutoff valves will remain open.

The conditions which must be met are generally the same for all boilers. However, operations must be familiar with the purge system of each as they vary in detail.

Boilers #1 and #2

Refer to "Approved Safe Work Procedure A-1".

Boiler #3

Refer to "Approved Safe Work Procedure A-2".

Boiler #4

Refer to "Approved Safe Work Procedure A-9".

Boiler #5

Refer to "Approved Safe Work Procedure A-8".