

The latter equipment is similar to the other clarifiers except that it is a two-compartment washer to increase washing efficiency and reduce soda losses. Wash water from this operation is mixed with dregs wash to give weak wash for dissolving smelt from the furnace.

The thoroughly washed lime mud of some 45% solids and relatively free of soda is pumped to an agitated storage tank.

### Lime Kiln

The lime mud is pumped to a 6' X 5' Swenson lime filter where further washing and recovery of soda is accomplished, the mud being thickened to some 60% before screw conveying same into the rotary lime kiln.

The kiln is 300 ft. long X 8 ft. in diameter weighs, in excess of 370 tons, and is lined with hi-temperature refractory. At the feed end a chain section of intricate pattern and design acts as an efficient heat transfer medium to assist in drying of mud feed. In case of power failure an auxiliary gas drive motor rotates the kiln to prevent sagging which would occur if it was allowed to remain stationary while hot.

The lime in its passage by gravity through this rotary kiln is dried then calcined to quick lime. The pebbles formed discharge into a bucket elevator thence to the slaker which completes the cycle.

The kiln flue gas and dust recovery system consists of a large steel tank located at the top of which are a series of nozzles thence through a 50 ft. stack also equipped with sprays. The recovered liquid is utilized as make up for the mud washer in the causticizing phase.

The kiln is heated either with atomized bunker "C" oil or gas manufactured in a gas producer from steam, air and coal and a temperature of some 2200°F is employed to calcine the lime.

### Technical Department

The function of the Technical Department is to determine and control the quality of raw materials entering the mill, and the pulp in the intermediate and final stages of process through tests of a chemical and physical nature. In addition, it is responsible for maintaining and improving operation of process instruments.

The work of the Technical Department is closely integrated with operations to make a uniform high quality pulp. Quality throughout process is controlled in test stations, in digesters, and pulp drying departments and in the Main Laboratory. In addition, there are test stations run by the operators in the Causticizing, Recovery and Bleachery departments.

A very important part of control is process instruments. These improve the efficiency of operation and centralize controls in each phase of the process. The Technical Department handles maintenance on all automatic controls, and is continually working to improve them.

### Engineering Department

The Engineering Department is responsible for the maintenance of all Company buildings, grounds and equipment including community utilities such as steam, water and fire protection. The Department is also responsible for development and construction of process changes related to mill or utility operations.