
Skikda Oil Refinery, Algeria



Client: Sonatrach SPA

Principle Contractor: Etterkib SPA

Skikda oil refinery is the largest oil refinery in Africa with a total output of 350,000 barrels per day of refined oil. The plant can process 16million tons per year of Saharian blend and sour crude oil. The plant was built in 1980 and is comprised of eight crude oil refining units. The plant contains a total of 235 large crude and refined oil storage tanks and process gasses are stored in 12 large sphere tanks.

Incendia Consulting carried out the design and engineering to NFPA standards for the €45million EPCC9 Rehabilitation and Adaptation project. The project involved the upgrade and enhancement of the existing fire system water supplies, fire water mains and fire fighting capabilities in the plant.

The enhancements allowed for the fire fighting capabilities of the refinery to cater with two simultaneous major tank fires at any location.

The EPCC project incorporated a new fire water pumping facility which comprised of new fire water tanks with a total storage capacity of 40,000m³, and six new 5.5kv electric and 650kw deisel fire pumps housed in a new pumphouse with a total pumping capacity of 102,000 litres per minute. A new PLC and power supply system was engineered to control the operation and monitoring of the new water supplies. 11Km of new carbon steel fire water piping ranging from 12" to 26" was engineered throughout the plant to enhance the existing fire water system.

120 new 7500lpm AFFF foam/water monitors were engineered throughout the plant to provide a means of manual fire fighting for each oil storage tank and gas sphere in the plant. These were supported with 95 new stand post fire hydrants located throughout the plant.

Waterspray cooling and foam top pourer protection was engineered to protect 19 cone roof and floating roof refined oil storage tanks with diameters of 57.5m and 63.0m. The foam protection to the tanks is controlled by four foam pumping stations each with 50m³ of stored flouroprotein foam concentrate.