TARAPUR ATOMIC POWER STATION, MAHARASHTRA

Background

Tarapur Atomic Power Station is located about 140 km North of Mumbai in Palghar district of Maharashtra. This Power Station is situated on the sea shore and comprises of four units. Initially, unit 1&2 were established in 1969 with an initial generating capacity of 210 Mwe each. Subsequently, Nuclear Power Corporation of India Ltd. (NPCIL) has established two more units i.e. unit 3&4 in 2005 and 2006 respectively with a generating capacity of 540 Mwe each at a distance of about 700 m south side of the units 1&2. The cooling water requirement is drawn from the sea through an intake channel and the warm water from the condensers is discharged back into the sea through an outfall channel. Selection of location of cooling water Intake and Outfall is important at the design stage of any power plant. The locations should be selected in such a way that there should not be any recirculation of warm water discharge. The locations shall be identified by conducting Thermal dispersion studies.

Studies Conducted

- Field data collection and analysis
- Studies for Safe grade elevation
- Analysis of meteorological data
- Physical & Numerical Model studies for Hot water recirculation
- Wave resonance studies for intake and fore bay chambers of pump house
- Assessment of adequacy of Intake channels

Outcome and Benefits

- The intake and outfall structures were designed in such a way that, no warm water recirculation takes place while both the power stations are operating to their full capacity, simultaneously.
- The Power Stations are getting their desired quantum of Cooling water and working satisfactorily.