5.0.0 SITE CONDITION

5.1.0 Location and existing Infrastructure

The plant location details are as follows:

Country	:	India
State	:	Tamil Nadu
Administrative district	:	Thoothukudi
Next big cities to site	:	Thoothukudi (approx.45 kms from site)
Road access	:	East Coast Road – State high way (176)
Nearest Railway Station	:	Thiruchendur (approx.12 kms from site)
Nearest Airport	:	Vagaikulam (approx.60 kms from site)
Nearest Harbour	:	Tuticorin (approx.45 kms from site)

The proposed power project will be located at Udangudi in Tamil Nadu. The proposed power project site is located at about 45km South of Thoothukudi. The proposed marine facilities for the power project will be built on the coast adjoining the power project. The site is accessible by well developed roads.

The town of Tuticorin has all infrastructural facilities and has number of Industries. Tuticorin is well connected by both state highways, National highways and has direct rail link with State Capital Chennai.

5.1.1 Soil Profile

A Preliminary soil investigation report and topographical survey has been carried out by Owner. The results are furnished in a separate annexure.

The Detailed geotechnical Investigation and Setting out survey will be performed by the EPC contractor, and will be the basis for the detailed engineering for the project. The geotechnical report shall contain recommendations for foundation design during detailed engineering.

5.1.2 Seismic intensity

Seismic Intensity	:	As per IS : 1893 Latest
Zone	:	II
Intensity	:	As per IS:1893-Latest

5.1.3 Tide Levels

The recorded tide levels with respect to the Chart Datum (CD) near the identified intake point are as follows:

Mean high water-Spring	CD + 0.99 m
Mean high Water-Neap	CD + 0.71 m
Mean low Water-Neap	CD + 0.55 m
Mean low water-Spring	CD + 0.29m
Mean sea level	CD + 0.64 m
Highest High Tide Level	CD+ 1.026 m
Lowest Low Tide Level	CD + 0.110 m

5.2.0 Meteorological conditions

Ambient Air Temperature

Maximum dry bulb temperature	:	41℃
Minimum dry bulb temperature	:	17℃

Relative humidity

Mean Maximum humidity (Summer)	:	84%
Mean Minimum humidity (Summer)	:	62%
Maximum humidity (Monsoon)	:	97%
Minimum humidity (Monsoon)	:	45%

Rainfall

Annual rainfall (Maximum)	:	718.2 mm
Annual Rain fall (Minimum)	:	384.1 mm
Twenty four (24) Hour max	:	138.2 mm

High Flood Level

High Flood Level for site	:	RL 2.450 m

Wind

Mean Wind Speed (max)	:	20.6 km/h
Wind direction	:	North, North East, North West, East

The details given are arbitrary and may vary. The contractor should collect the actual data from the Meteorological Department pertaining to the site location and design the plant accordingly.

Meteorological data corresponding to Tuticorin observatory station shall be adopted. These data can be collected from Regional Meteorological Centre, India Meteorological Dept, 50, College Road, Chennai – 600 006.

5.3.0 Design Requirements related to site conditions

5.3.1 Design Ambient Data

Rainfall data:

The maximum rainfall in a year to be considered for design is 718.2 mm. 24 hours maximum to be considered is 138.2 mm. Area drainage study as required is in Contractor's scope of work.

Wind data

Wind loads to be considered for design of structures shall be based on the design wind speeds arrived at based on IS : 875 (Part -3) – Latest Edition. The parameters for calculation of design wind speed as per IS : 875 (Part -3) – Latest Edition are elaborated under Volume II, Section 5 of Detailed Technical Specification - Civil.

5.3.2 Seismic Data

Seismic loads to be considered for design of structures shall be as per as per IS : 1893. Seismic design criteria are elaborated under Volume - II, Section 5 of Detailed Technical Specification- Civil.