S"FEEL AUTHORITY OFINDIA LIMITED
DURG APL R STEEI.PLANT
DESIGN DEPARTMENT

TECHNICAL SPECI FIXATION
FOR

ENHANCEMENT OFSI“ORAGE CAPACITY OFGROUND WATER RESERVOI R OF DtJRGAPUR STEEL PLANT

TECHNICAL SPECIFICATION NO: - DD/TS/2020-777

1. INTRODUCTION :

1.1. GROUND WATER RESERVOIR:

1.1.1. Durgapur Steel Plant is getting water for industrial purpose from DVC water supply canal, maintained by DVC. Water is lifted from the canal through a set of pumps installed at Canal Pump House and is stored in the Ground Water Reservoir (GWR). The resei'voir was put into operation in 1959 in order to reserve water drawn from canal and allow it for settling to reduce turbidity. Settled water is pumped to plant for industrial and domestic water through a set of pumps installed at Work Pump House. Since inception it is functioning satisfactorily and taking care of any fluctuation in supply/demand of water.

1.1.2. The reservoir was designed to hold total 1.925 Million Cubic metei (Mm3) of water, out of which 1.05 Mm3. was live storage capacity and 0.85 Mm3 was dead storage capacity. Due to topography of the bottom of the reservoir, large volume of water remains trapped in localized deep pockets and cannot be drawn below certain levels, This has formed the dead storage volume. Dead storage space is utilized for siltation and in case of extreme situation, part of this capacity can be utilised, though the quality of water at this level of reservoir deterioIates drastically.

1.1.3. As a result of continuous siltation due to settling of turbid river

water and decomposition of under-water vegetation at the bottom of water surface of the reservoir, storage capacity of the reservoir has reduced significantly. Even some ot' the areas have formed high land which remains exposed above top water level. Excavation of the high land areas of the reservoir was taken up in the year 2017- 18 and live storage capacity was restored by 0.24 Mm . Present live storage capacity is 1.0l5Mm and dead storage capacity is 0.720Mm

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1.1.4. For last few years it has been observed that supply of water through DVC canal has become erratic. Severe shortage of water in the canal in several occasions is putting DSP in a great risk of disruption in production. Frequency and duration of the disruption is increasing in each passing year.

1.1.5. To mitigate the risk of disruption in production due to shortage of water and to increase water security, it has become necessary to increase the water holding capacity of the reservoir. Accordingly it has been planned to increase the capacity by deepening of the reservoir. The report of the hydrographic survey conducted during yr.2017-18 indicated that highland area of approx. 1,33,077 sq.m is still there. Deepening of the highland area up to 6 fi. (1.829 mtr) will further increase the holding capacity of the reservoir by 2,43,000 cu.m. from present.

1.2. SCOPE OF WORK :

1.2.1. The scope of work will cover execution of underwater wet excavation for highland area of the reservoir deploying excavator mounted on pontoon which includes mobilisation- demobilisation of equipment, removal of floating hyacinth for ease of work, removal of trees, bushes in the highland areas inside the reservoir, disposal of excavated soil and vegetation etc. within the lead of 1000 mtr. front the embankment, execution of pre survey for initiating the work and post work survey for the volume measurement of the worl. m. m. m. y. u.p.and subsequent commissioning on ITEM RATE BASIS to make the reservoir operational and complete in all respects.

1.3. THE BRIEF OF SCOPE ARE AS FOLLOWS:

1.3.1. Under water wet excavation of the highland area of' the reservoir to achieve a depth of 1.829 mtr. (6'-00") from top water level i.e. RL. 72.542mtr (238'-00") by deploying excavators mounted on pontoon and immediate disposal of the excavated material to the designated area.

1.3.2. The job also includes mobilisation-demobilisation of equipment, pre and post work survey, removal of floating hyacinth for ease of work, removal of trees, bushes in the highland areas inside the reservoir, disposal of excavated soil and vegetation etc. up to a lead of 1 Km from the embankment.

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