Brief summary of the project

Name of the project proposal: Construction of new Screening & Beneficiation plant-II, slime disposal pipeline-1 & 2, Tailing dam-1 & 2 at Donimalai for Donimalai and Kumaraswamy Iron Ore Mines of M/s. NMDC Limited, Bellary District, Karnataka state.

1.0 NMDC commenced mining operations at Donimalai in the year 1977. The ultimate production capacity of Donimalai iron ore mine is 7 MTPA as per E.C. letter no: J-11015/151/2008-IA.II(M) dated 7/8/2009. The iron ore produced from Donimalai is treated in existing screening and beneficiation plant-I, which is having capacity of 7.0 MTPA. NMDC is also operating another mine at Kumaraswamy iron ore hill range. The onsite crushing and screening facilities are developed for crushing and screening of iron ore. The project received Environmental clearance vide letter no: J-11015/20/2002-IA.II9M) dated 29/10/2004 for a production capacity of 7.0 MTPA. Construction of 2000 TPH crushing plant and Downhill conveyor of 4.9km upto Donimalai is under construction stage for achieving production capacity of 7.0MTPA. Earlier, it was envisaged to utilize existing screening and beneficiation plant-I for Kumaraswamy Mine also as iron ore reserves in Donimalai mine are getting depleted. Subsequently, based on the exploratory core drilling operations, additional iron ore reserves have been established. The total reserves enhanced to 95.48 million tons (as on 1/4/2013) at Donimalai and life of the mine has enhanced to 20 years.

2.0 As the existing screening and beneficiation plant-I is 35 years old and further processing capacity is not possible, hence, it is proposed to construct a new Screening and Beneficiation plant-II of capacity 10 MTPA for screening and beneficiation of iron ore received from both Donimalai and Kumaraswamy iron ore mines of NMDC Limited.

3.0 Once, the proposed Screening & Beneficiation plant-II achieves ultimate production capacity of 10 MTPA, the existing Screening & beneficiation plant-I of Donimalai will be operated at lesser production capacity.

4.0 **Plant Capacity:** The proposed screening & beneficiation plant-II will have the following capacities along with other associated facilities.

- Screening & Beneficiation plant–II, capacity: 10.0 million ton per annum (1st phase: 7 MTPA. 2nd Phase: capacity will be augmented to 10 MTPA). Provision for handling additional 3 MTPA will be made in proposed Screening and beneficiation plant-II.
- Tailing dams (no: 1 & 2) capacity: 13.40 million ton.
- Slime disposal pipeline-1 length = 200 m
- Slime disposal pipeline-2 length = 1,110 m

5.0 After reconnaissance survey, the proposed Screening and Beneficiation plant-II is planned to be set up towards southern side of the existing screening and beneficiation plant on the hillock between fine ore belt conveyor number BC 411 and existing lump ore conveyor number BC 501. The proposed plant will be installed in an area of 39.320ha which is forest land (open mixed jungle) falling outside M.L. area of Donimalai iron ore mine in Narasingpur village, Sandur Taluq, Bellary District, Karnataka. The area is approachable from nearest towns

such as Sandur / Hospet / Bellary / Bangalore. Nearest Railway station is Toranagallu, 28km from Donimalai.

6.0 Application for 39.320ha of forest land has been submitted by NMDC to Forest Department on 28/2/14 for diversion of forest land and is under process at State Forest Deptt. There are no protected areas viz Wild life sanctuaries / Tiger Reserve / National Park within 10km radius of the plant site.

7.0 **Technological Facilities**

The new Screening & Beneficiation plant shall have major facilities like – Feeder to receive ore from Kumaraswamy & Donimalai downhill conveyor, Tripper conveyor , storage silos; Apron feeder; Belt conveyors; Double deck primary screens; Double deck secondary screens; Tertiary crushers; Double deck tertiary screens; Spiral classifiers; Dewatering screens; Hydro cyclones; Horizontal Belt Filters (HBF); Tailing thickeners; Slime disposal pipelines; Tailing dam; Water storage tanks; Water reclamation and distribution; Suitable material handling facilities; Dust control systems. The Screening and beneficiation will be operated in wet condition whereas tertiary crusher will be operated in dry condition.

8.0 **Water**

Make up water requirement for processing 7 MTPA ore is estimated at about 370 m^3/hr (2451m^3/hr is required for operation, out of which make-up water is 370m^3/hr). The source of water for the project is from Water Treatment Plant (WTP) at Donimalai base camp located about 1km from the proposed plant sire and the water is drawn from Narihalla Dam.

8.0 **Power**

The incoming power supply for the proposed Screening & Beneficiation Plant –II is planned to be tapped from existing Valley sub-station through over head line (IIKV)/ underground HT cable(IIKV), which is about 2 km distance. The estimated power requirement of the proposed plant is as follows: Maximum Demand (Crushing & Screening): 1.5 MVA Mega Volt Amperes) Annual Energy Consumption: 7.2 MU (Million Units)

9.0 Pollution control measures:

To prevent air pollution in the plant, suitable integrated dust suppression systems will be adopted. Enclosures will be provided for the conveyors and junction houses and green barriers around the plant site will be developed. Water pollution in the form of iron ore tailings is expected from the plant. There tailings are non hazardous in nature. The tailings will be impounded in new Tailing dams-1 & 2 and clear water is re-used in the beneficiation plant.

10.0 Man –Power

The overall manpower requirement has been estimated at 10 executives and 71 non-executives. Apart from operation and running maintenance (mechanical and electrical) the proposed manpower also caters to preventive maintenance and shut down operations.

11.0 **Capital Outlay**

The capital outlay estimated for the scheme is about Rs.399.75 crores. The capital cost includes for Mechanical equipment & Works, Civil & Structural works, Tailing Dam and Electrical & Control works. Other costs considered in the outlay are design, engineering and consultancy services administration during construction and Turnkey Package Concept, overheads and contractor's profit margin.