

SCRUTINY COMMENTS ON DRAFT REVIEW OF MINING PLAN IN RESPECT OF GUA (DUARGAIBURU IRON ORE LEASE) ORE MINES (AREA- 1443.756 HA.) OF M/S STEEL AUTHORITY OF INDIA LTD. LOCATED IN VILLAGE GUA (GHATKURI R.F.), DISTRICT- WEST SINGHBHUM SUBMITTED UNDER RULE-17(2) OF MCR, 2016.

A Text:

1. General (a) The Review of mining plan has not been prepared as per the IBM manual on appraisal of mining plan 2014.
- b) Dr. T.C. Ananda, Qualified Person has not signed on all pages of the text and the plates.
- c) Draft word should not be written on the cover page & text, only Review of Mining Plan and Progressive Mine closure plan may be written.
2. Consent letter/undertaking/Certificate: Para 02 is not correct. It should state that the CCOM Circular No. 02/2010 will be implemented within 3(three) months from the date of approval of Review of Mining Plan.
3. Page 6, para 3.3: Detail of lease since inception may be given.
4. Page 10, para 3.14: Star rating for the year 2016-17 was 3 star and not 4 star. Star rating for the year 2017-18 is not yet finalized.
5. Page 10, para 4.2(a): The period of modification given is not correct.
6. Page 7, para 3.4: It has been stated that the lease was renewed from 22.02.2009 to 21.02.2029 is not correct. Also it has been stated that it is under deemed extension from 22.02.2009 to 21.02.2019 is not correct. The correct statement may be given.
7. Page 28, para 6.5.3: The resources of 139.205 million tonnes under G1 (Detailed exploration) given is not correct. Justification for the same may be given.
8. Page 30, para 6.5.7: Reserve has involved from 67.23 million tonne to 87.27 million to under 111 category is not clear. Proper justification has not been given.
9. Page 32, para 6.6: The proposed borehole i.e. PBH nos. may be given Financial year wise in tabular form. Rule 12(4) of MCDR 2017 may be complied. Accordingly proposal may be given and the Geological plan may be modified.
10. Page 36, para 7.1 (a) & Page 62, para 7.20: “Bank slope” angle is not clear.
11. Page 62, para 7.23: Rated production capacity of Mine: How much tonnes or cum of Fines dump is existing has not been stated. The figure should be given as 26.39 million tonnes as given on page 74, para 11.6.
12. Page 63, para 7.21: Proposal for exploration should be such, so as to comply Rule 12(4) of MCDR, 2017.
13. Page 63, para 7.26: Waste disposal (a) The pit bottom of Ranichua block as per Reclamation plan (Drg. No. CET RN 4464 RM 7 00 016) is 660m & 670m but here it has been given as 630 m. May be reconciled.

b) The details given for backfilling area 7 & 8 are not matching with the details given on Reclamation plan (Drg. No. CET RN 4464 RM 7 00 016).

14. Page 62, para 7.24: The life of the mine has been given as 9.8 yrs. But as per the E.C. vide letter No. J-11015/453/2008-IA.II (M) dated 25th March, 2013, Para 4, it is given as 8.7 years. May be reconciled.

15. Page 63, para 7.26 & EC: As per EC letter dated 25/03/2013, para 4, the ultimate depth of the mine has been given as 550 m. but on page 63, para 7.26 except HD Buru area the pit bottom has been given about 550 m. May be reconciled/clarified.

It has been stated that backfilling will be carried out to restore the Approximate Original Contour (AOC) which may not be feasible as wherefrom the extra material will be transported to the mine. A pragmatic and feasible methodology should be described.

16. Page 62, para 7.21: Exploration: The statement that once the Stage II forestry clearance granted additional borehole will be proposed for the entire directed forest area to make it into G1 exploration level in contradicting Rule 12(4) of MCDR, 2017. May be reconciled.

17. Page 59, para 7.16: The Annual maximum production has been given as 15.2 million tonnes instead of 10 million tonnes as per E.C. calculation may be done on the basis of 10 million te., ROM production.

18. Page 77, para 12.1(e) Ladling Plant: It has been stated that after 3 years of operation, desilted fines to the tune of 0.7 to 1.0 million tonnes of tailing of iron value >50% from the tailing disposal area will be again beneficiated. But this type of re-beneficiation should be avoided. Iron value of even >45% should be tapped in the beneficiation circuit itself. May be reconciled.

As per condition no. 25 of the letter No. F.N. 8-251/1996-FC (Pt) dated 22nd Aug. 2014, the mine should develop modern techniques to use every size and quality of iron ore to avoid opening of new area. Accordingly Modern beneficiation techniques may be adopted.

19. Page 105 to 109 of para 14.3.7 & page 117, para 14.3.12: From page 105 to 109, the afforested area from 2019-20 to 2023-24 is same i.e. 35.17 ha. but on page 117, para 14.3.12, s.no. 12 additional area of 3.5 ha has been proposed during the plan period making it total as 38.67 ha. It should be reconciled.

20. Page 117, para 14.3.12 : (a) On S.No. 8 the additional area of 37.823 ha. has been proposed for tailing pond, but it has not been shown on the Development and Reclamation plan.

b) The undisturbed area has not been given. The sub total of the area put to use may be given. Afterwards, the undisturbed area may be given. The grand total area will be the lease area. May be reconciled.

c) At S.No. 12 of the table for Financial Assurance calculation the Afforestation area has been given as 35.17 ha., which have not been shown in the surface plan. How this afforested area of 38.67 ha. after adding 3.5 ha. has been considered as fully reclaimed and rehabilitated at present may be clarified. Item wise calculation may be modified and the Financial assurance calculation may be done accordingly. Financial assurance so calculated valid upto 2023-24 may be submitted.

21. Page 118, para 14.3.13: The Financial Assurance as per the scrutiny comment no. 20 valid upto 2023-24 has not been submitted.
22. Page 82, para 13.2: Employment Potential: Number of current local employees out of current employees and additional proposed employees may be given.
23. DGPS report from the authorized agency of State Govt.of Jharkhand has not been submitted with the document.

B. Annexures:

24. Copy of MOEF letter No. J-11015/453/2008-IA(II) (M) dated 02/02/2015 not enclosed.
25. Annexure No. 28: The analysis report of Bolani Iron ore mine instead of Gua (Duarguiburu) iron ore mine has been given.
26. Annexure No. 33: Financial assurance calculated as per scrutiny no. 20 above, valid up to 2023-24 has not been enclosed.
27. Annexure No.18 Feasibility study report:
 - a. Page 8- The reserve figure given is not correct as compared to the text page 30,31 para 6.5.8.
 - b. Page 13, para 6.0 Production Schedule- The stripping ratio has not been given.
 - c. Page 14, para 7.0- The “Bank slope” angle is not clear.
 - d. Page 16, para 8.0- Instead of “Modification in existing facilities to increase the capacity to 12.5 million te/year” Modification in existing facilities to increase the capacity to 4 mt/yr has been written. May be reconciled.
 - e. Page 21, Tailing pond: May be modified as per scrutiny comment no. 18 of the text part.
 - f. Page 23, para 10.0: Employment potential- Number of local current employees and additional proposed employee may be given.
 - g. Page 25, Reclamation & Rehabilitation: Same as scrutiny comment no. 13 of the text above.
 - h. Page 26, para 12.0- The tribal issues have not been discussed at all, like poverty, illiteracy, un-employment and CSR activities undertaken by SAIL in brief.
28. In the summary of geological resources, silice wise the bench 540 m. RL has been mentioned, which has good deposit. Therefore, the reserve may be modified. The ultimate pit limit now may be upto 540 RL.

C. Plates

1. General: a): It has been stated on all the plans and sections that the plan is prepared on the precise area/lease plan authenticated by state govt. is not correct. May be deleted.
- b. Name of the leasehold should be “Duarguiburu” instead of Durgaiburu.
- c. Number of boundary pillars should be in clockwise direction as per Rule 12(v) (x) of MCR’ 2016.

- d. All the plan and sections are not signed by Dr. T.C.Ananda, QP.
- e. The quarry area in O.T. Hill, Ranichua, Bari hill, H.D. Bara, IInd level are shown beyond the broken area. May be reconciled.
- d. The retaining wall and garland drain from O.T. hill dump & Ranichua dump is going beyond broken area. May be corrected.
2. Key plan (Drg. No. CET RN 4464 RM 7 00 001)
 - a. Karo river and its flow direction has not been shown.
 - b. The state boundary has not been shown clearly.
 - c. Village with population not shown.
 - d. Road going to Kiriburu & Meghahatuburu has not been shown.
 - e. Railway line going towards Gua Rly station has not been shown.
 - f. In the index for Duarguiburu lease no. 7 should be shown.
 - g. The Saranda forest division boundary shown is not clear.
3. Surface Plan (CET RN 4464 RM 700002 RZ)
 - a. The boundary line should be broken and not continuous line as per MMR 1961.
 - b. The ground control points and its coordinates not given.
 - c. The mining block is not demarcated clearly on the surface plan where excavation work is planned for next five years.
 - d. The Topailor lease has not been shown.
 - e. The railway line going upto Gua Railway siding not shown properly.
 - f. Lease area of M/s Misrilal Jain not shown correctly. Proposed lease of M/s Horizon Loha Udyog not shown.
 - g. The top RL of fines dump, existing Ranichua Dump, O.T. Hill Dump has not been shown.
 - h. Some of the dump area of Ranichua dump and Boulder Retaining wall of existing Ranichua dump and O T hill dump area have been shown outside the broken area. It may be ascertained & corrected.
 - i. The haul road from the crusher to various mining areas i.e. HD Buru, IInd level, O.T. Hill, Bai Hill, Ranichua area have not been shown properly.
 - j. Magazine on the SE side of Bai Hill and road up to it has not been shown.
 - k. The mining area in the block O.T. hill, Block-Ranichua, Block Bai hill, HD Buru, IInd level, subgrade dump have been shown outside the broken area boundary. May be reconciled.
 - l. The boundary pillar nos. should be given in clockwise direction as per Rule 12(v) of MCR 2016.

4. Development plan 2019-20 (O.T. hill & IInd level AREA)(Drg no. CET RN 4464 RM5 00005) (Sheet 1 of 3)
 - a. O.T. hill area may be written on the S.E side.
 - b. Direction of the movement of the benches have not been shown.
 - c. Haul road upto the quarry and dump area not shown properly.
 - d. Retaining wall and garland drain & some of the benches are shown outside the broken area. May be corrected. Simultaneously other Development plan may be corrected.
5. Development plan 2019-20 (Ranichua & Bai Hill area) (Drg CET RN 4464 RM5 00 005)(Sheet 3 of 3)

Retaining wall and garland drain and some of the benches are proposed outside the broken area. May be reconciled.
6. Waste Dump Plan (O.T. HILL AREA) (Drg No. CET RN 4464 RM 6 00 011)
 - a. Retaining wall and garland drain with settling tank not shown.
 - b. Top RL of dump position (2020-21) not given.
7. Waste Dump Plan (Ranichua AREA) (Drg No. CET RN 4464 RM 6 00 011)
 - a. Retaining wall and garland drain with settling tank not shown.
 - b. Haul road from crusher plant to HD Buru, IInd level area not shown.
8. Waste dump sections (Drg No. CET RN 4464 RM 5 00 012)
 - a. The top RL shown in the plan for O.T. hill dump area for 2020-21 & Ranichua dump area for 2023-24) not matching with plan. May be reconciled.
 - b. Retaining wall, garland drain with settling tank shown outside the broken area in Ranichua dump area may be corrected.
 - c. The broken area line not shown for O.T. Hill dump area
 - d. Below the existing dump surface dumping in blue colour which pertains to dumping during 2022-23 as per index is not clear.
 - e. The benches below the existing dump surface is not clear.
 - f. Near the borehole GBH522, How it has been written non mineralized zone is not clear.
9. Environment plan (Plate no. CET RN 4664 RM 7 00 013)
 - a. Predominant wind direction on the south west side of the plan is not correct.
 - b. The existing Ranichua dump has not been shown.
 - c. Part of the quarry area in block O.T. Hill, Ranichua block, Bai Hill area, HD Buru, IInd level, subgrade dump have been shown outside the broken area boundary. May be reconciled.

- d. Retaining wall, garland drain with settling pond shown outside the broken area in Ranichua dump and O.T. Hill dump area. May be clarified/reconciled.
 - e. Proposed tailing pond location not shown on the plan though indexed.
 - f. Lease area of M/s Misrilal Jain not shown correctly .Proposed applied area of M/s Horizon Loha Udyog have not been shown.
 - g. The haul road from the crusher to various mining area i.e. O.T. Hill, HD Buru, IInd level, Ranichua & Bai hill and dump area of O.T. hill have not been shown properly.
 - h. Surface lease have note not been shown prominently using colour and its area in hectare not given.
 - i. Topailor lease have not been marked prominently using colour.
 - j. Top RL of fines dump, O.T. Hill, Ranichua dump not given.
 - k. Though contour line have been marked but their value at 5 m. interval have not been shown.
 - l. Magazine on south eastern side of the Bail hill not shown.
 - m. On the S-E side of plan, instead of 'Explosive Magazine', Explosive Magazine has been written.
10. Conceptual Plan (Dr. No. CET RN 4464 RM 7 00 014)
- a. Topailore lease area has not been shown prominently using colours.
 - b. Conceptual UB Grade dump 1 is not clear.
 - c. Position of Tailing pond has not been shown.
 - d. Plantation on the whole broken up/backfilled area may be proposed.
11. Reclamation Plan(Drg CET RN 4464 RM7 00 016)
- a. Backfilling area nos. 2, 4 & 5 are not clearly visible. May be shown clearly.
 - b. Backfilling area nos. 7 & 8 are not clear as the Bai hill pits are at other places. Where the backfilling will take place is not clear.
 - c. As per the plan the pit bottom of Ranichua block is 660 m. & 670 m, but in the text at page 63, para 7.26 it is given as 630 m. May be reconciled.
 - d. Topailore lease area not shown.
 - e. Railway line not shown.
 - f. Boundary pillars should be numbered in clockwise direction.
 - g. Road up to Bai hill block & Ranichua block from crusher house area is not shown completely.
 - h. Top RL of fines dump, proposed dump area of different Financial year not given.

- i. Road from crusher house upto the HD Buru, IInd level, O.T. hill block is not shown completely.
 - j. Additional area of 37.823 ha. for tailing pond has not been shown as given in the text para 14.3.12.
 - k. The existing Ranichua dump has not been shown.
 - l. Boulder retaining wall should be proposed within the broken land.
 - m. Surface lease not shown with separate colour code and its areas in hectare not given.
 - n. The three tailing pond of 37.76 ha. area have not been shown as per page no.21, 22 of feasibility report. Also the tailing pond area is not matching as given on para 14.3.12. of the Text.
12. Financial assurance Plan (Drg no. CET RN 4464 RM7 00 018)
- a. The proposed location of tailing pond on the North West side of the Director's Bungalow is not correct.
 - b. The plan may be modified as per scrutiny comment no. 20 of the text.
13. DGPS Survey Map (Drg no. CET RN 4464 RM7 00 019)
- a. The map is not prepared on 1:3960 scale.
 - b. DGPS surveyed area not given.
 - c. Boundary pillar numbers are not in clockwise direction.
 - d. It has not been certified by the State Govt.
14. Geo referenced ML Map (Drg no. CET RN 4464 RM7 00 020)
- a. The lease area after the DGPS survey has not been given.
 - b. Boundary pillar numbers are not in clockwise direction.
15. Location plan of proposed beneficiation and pellet plant (Drg no. CET RN 4464 RM7 00 021)
- a. The proposed location of tailing pond on the North West side of the Director's Bungalow is not correct.

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