

Discrepancies observed in the Review of Mining Plan of Munsar Mine (Area-108.63 Hect.) of M/s MOIL Ltd., located in Tehsil Ramtek, Distt. Nagpur (Maharashtra), submitted under Rule 17(1) of MCR, 2016 inspected by the undersigned on 26/04/2017

Text and Plates:

1.0 General and Review of Mining plan:

1. PMCP is an integrated part of Mining Plan. Thus cover page should be revised accordingly and document should be mentioned submitted under Rule 17(1) of MCR'2016.
2. Date of expiry of lease period as mentioned on page number 1 should be corrected as per lease deed.
3. Details of other leases held by the lessee should be enclosed.
4. Details of lease area as given on page no. 5 should be corrected as per land schedule. Status of surface rights for the private land should be informed.
5. Under item 3.2 (a)(i) on [page no. 8, full details of boreholes drilled in the last 5 years period should be given alongwith expenditure incurred in the exploration activities.
6. On page no. 9, it is mentioned that 'Opencast operations could not be done as the proposals is pending with MoEF but in the table given under review of opencast operations, ROM production of 6418 T, 15680 T and 3013 T for the years 2012-13, 2013-14 and 2014-15 respectively have been shown.
7. Review for environment protection and monitoring activities alongwith proposed land use and actual land use details need to be furnished.
8. Granted EC limit as per Annexure-IV is 49992 T per annum whereas production carried out and proposed is beyond the approved limits. Thus all the proposals need to be modified within the EC limits accordingly.
9. Proposed and actual number of stope blocks under exploitation should be clearly mentioned alongwith their location in the review chapter.
10. Under 'Dump Development and Production' given on page no. 10, table should be modified indicating quantum of mineral available in the dumps at the start of last SOM period, quantum of material handled year-wise (proposed and actual), quantum of material recharged/dumped in the black dumps and cumulative available as on date.
11. As per the statement mentioned under 3.3.4 on page no. 10, quantum of development (waste) handled during last 5-years period alongwith the approximate quantity of waste used for underground filling and quantity brought to the surface should be informed. Management of waste brought to the surface should be given in relevant chapters.
12. Mine photographs (including photographs showing exploration done) should be enclosed.

2.0 Geology and Reserves:

1. Areas under G1/G2/G3/G4/non-mineralized area should be mentioned in a table.
2. Reporting of reserves/resources should be done giving the position of reserves/resources in the approved Mining Plan, then deducting the depletion of reserves due to production during the proposal period of the approved Mining Plan, then addition due to exploration (if any) and finally re-classification as per Mineral (Evidence of Mineral Content) Rules'2015.
3. Future exploration proposals should be made in accordance with Rule 12 of MCDR'2017.
4. Many boreholes are not clearly marked on the plan and sections. For the purpose of clarity, boreholes drilled in the last 5 years period should be shown 'bold' with clearly

indicating details for each borehole; other boreholes may be shown as normal alongwith borehole number only.

5. For dump mining, recovery mentioned on page no. 18 is 15% whereas in page no. 22, recovery mentioned is 21%. Suitable correction is required to be made.
6. As MoEF clearance for opencast mining has not yet been granted, how that part has been considered under reserves? It should be covered under E-2 category (resources) and no opencast activity (development or production) should be proposed prior to grant of EC. All the proposals made in the document need to be modified accordingly alongwith corrections in the plates.
7. 2nd vertical shaft should be shown on the geological sections (BH no. 67 V2). Also, some of the boreholes are not clearly marked on the sections (refer section on Ch 2200). Thus it should be suitably corrected.
8. Pit Limits, UNFC categories should be marked on the Geological plan and sections.
9. As per level-wise reserves enclosed in Annexure-V, mineable reserves under UNFC categories 111, 121 & 122 are mentioned upto -30'L only for 1796160 T under 111 category and 205625 T under 121. In such case, how production is being proposed from the levels beyond -30'L?

3.0 Mining:

1. Details of all existing dumps should be given (as shown on the plan) alongwith type of dump-top soil/ waste/ rejects/ sub-grade & active/dead/stabilized.
2. Existing and proposed area for various mining activities should be shown on the Financial Assurance Area Plan distinctly.
3. On page no. 30, estimated recovery mentioned is 25% in the dump handling, but in the second table, clean ore mentioned is quite low from 25%. Also, why tonnage factor considered for clean ore is merely 1.7? Further, in the first table, material post recovery of mineral has been termed as 'rejects'. Whether the material will be rejects or waste?
4. In the year-wise production table given on page no. 28, alongwith number of stopes, their location in chainage or co-ordinates should also be mentioned.
5. Proposed production from underground may be further sub-divided into: mineral production during underground development and production from stopes.
6. In L-section, level-wise development shown should be reviewed and corrected as per the number of stopes proposed for exploitation in each year (as discussed during site inspection). Accordingly, corrections should be done in the text on page no. 28.
7. Estimated recovery of saleable mineral from dump as given on page no. 23 is 150000 CuM or 220000 T. It shows that bulk density considered for the mineral recovered from dump is only 1.47 T/CuM which is quite low. Suitable modifications should be done accordingly.
8. Extent of development, production etc. in the proposal period as well as upto conceptual period should be mentioned clearly showing year-wise levels in the text as well as relevant plates.
9. Conceptual Plan and sections should be drawn showing position of mine at the end of mine-life period.
10. As per item 6.0 on page no. 42, 60% of the ROM is clean ore and rest material is having sub-grade and mineral rejects. Each shall be stacked separately as black dump and waste dump. But nowhere in the document has sub-grade recovery been discussed. Thus, quantum and quality of sub-grade and mineral rejects generated should be discussed separately alongwith giving management of sub-grade material generated (blending or stacking). A table should be given in stacking of sub-grade mineral indicating quantum of mineral available in the dumps as on date, proposed quantum of material to be handled

year-wise, proposed quantum of material recharged/dumped due to generation of sub-grade and cumulative available as on date.

11. First table given on page no. 39 is unclear. Backfilling has not discussed but mentioned here. Also, underground waste management has not been discussed. It should be given in a tabular form mentioning generation of waste, underground filling (refer item (a) on page no. 18) and management of rest quantum of generated waste.

4.0 Progressive Mine Closure Plan:

1. Details for underground water also need to be discussed alongwith surface water.
2. In the summary of proposal for item no. 8.3 given in the table on page no. 53, a column for cumulative till date should be added and information should be furnished accordingly. Details of reclaimed KL pit should be mentioned clearly. As seen during site inspection, the pit is water logged and need to be fenced to avoid any danger to public safety. Further, as per the table, void available for backfilling is 133000 CuM. This site needs to be shown on the relevant plates distinctly.
3. Amount of FA should be revised as per Rule 27 of MCDR'2017 and details of existing FA should be mentioned on page no. 68. FA should be calculated for the area next round off to the proposed broken area (such as: 28 in case of 27ha <broken area<28 ha).
4. A water balance chart should be enclosed and should be discussed in the text. Annexure XXVII enclosed show only consumption details. But amount of water re-circulated/recharged should also be informed. Suitable permissions for ground water withdrawal may be enclosed.
5. Reclaimed pit (KL Pit) should be distinctly shown on the plates.
6. One pit adjacent to the 2nd shaft where backfilling is under process should be marked as under reclamation/backfilling area. Amount backfilled and proposals for further backfilling should be incorporated with the document.
7. Site for proposed solar plant should be clearly marked on the plates. Further, details of solar plant alongwith tentative operational date and energy usage needs to be discussed in the text giving energy requirements and proposed consumption from green energy sources.
8. SDF: this should be added under PMCP details and a brief note about mine with special emphasis on SDF should be given here alongwith suitable supporting documents like expenditure done towards SDF and CSR, future SDF/CSR proposals, Star Rating of the Mine etc.

5.0 Plates:

1. All the plates should bear the reference of the document under submission.
2. Location plan as per item 2.0 (c) of the text needs to be submitted.
3. In compliance to CCOM Circular 2/2010, Geo referenced cadastral map authenticated by state govt. in original needs to be enclosed.
4. Key Plan: should be resubmitted as 5 m radius on the western side has not been shown.
5. Surface Plan: Demarcation of Forest and Non-forest land should be done on the plan. Contours and roads are shown in similar colour. Water logged pit near the 2nd shaft should be clearly marked.
6. Environment Plan: Environment plan should be submitted as per the provisions of Rule 32(5) (b) of MCDR'2017 showing details for 60m and 500 m radius.
7. Reclamation Plan: year-wise activities under progressive closure should be marked on the plan.
8. Financial Assurance Plan: Area put to use at the start of SOM period and area required during the 5-years period should be shown distinctly on the plates and land use table should be shown on the plate for the calculation of FA.

(Ashish Mishra)