Ministry of Mines
National Mineral Exploration Trust

**Minutes of the 31st Technical-cum-Cost Committee (TCC) meeting held on 8th and 9th July, 2021 through videoconferencing at Geological Survey of India, DGCO, A-II Pushpa Bhawan, New Delhi**

The 31st meeting of Technical-cum-Cost Committee [TCC] of National Mineral Exploration Trust [NMET] was held under the chairmanship of Shri Janardan Prasad, Additional Director General, Geological Survey of India [ADG, GSI], and Chairman, TCC, NMET on 8th and 9th July, 2021 at GSI, DGCO, A-II Pushpa Bhawan, New Delhi through videoconferencing. The TCC members and representatives of Exploration Agencies [EAs] participated through their respective VC nodes. The list of participants is at **annexure-1**.

Dr. L. P. Singh, Director, GSI and Member Secretary, TCC-NMET, welcomed Shri Janardan Prasad, ADG, GSI & Chairman, TCC; Members of the TCC, participants representing various EAs. He briefly outlined the project proposals submitted by EAs and conveyed that total 15 new project proposals [GSI (2); MECL (8) and CMPDI (5)] have been kept for discussion of 31st TCC meeting. He also conveyed to the committee to deliberate upon the implications of recent amendments of MMDR Act and related rules on exploration endeavour through NMET.

Shri Amit Saran, Director and HoD, NMET welcomed all the participants and informed that Minerals (Evidence of Mineral Contents) Amendment Rules, 2021 and Mineral (Auction) Second Amendment Rules, 2021 have been notified by Ministry of Mines to accelerate the mineral exploration activities in the country. Further, he expressed that it is too early to clearly state the implications of recent amendments on exploration initiatives through NMET funding. He opined that even though many of the new proposals listed for the TCC meeting qualify for grant of composite license/mining lease as per recent amendments, the committee may consider recommending these proposals on technical ground and let Executive Committee take a final decision.

Shri Janardan Prasad, ADG, GSI and Chairman, TCC welcomed the participants and opined that the recent amendments in Mineral (Auction) Second Amendment Rules, 2021 and Minerals (Evidence of Mineral Contents) Amendment Rules, 2021 brought out by M/o Mines will be a driving force for the mineral and mining sector. He expressed that the project proposals will be discussed in light of these amendments. The proceeding of meeting was initiated as per circulated agenda.

**Agenda-wise discussions are summarised as follows.**

**31.1: Technical evaluation of new project proposals:**

**31.1.1. Project: Uncover (India) Southern Transect. Proposal to carryout Deep Seismic Reflection Survey (DSRS) & Magnetotelluric (MT) Survey from Hubli, Karnataka to Nellore, Andhra Pradesh. [Implementing Agency: GSI]**

a) It has been conveyed that the DSRS and MT survey are recent techniques used by countries like Australia, Canada, China, etc. to probe the concealed and deep-seated

deposits through understanding of the lithospheric architecture and delineation of suitable tectonic domains and sub-surface structures.

b) Under project Uncover (India), Southern Transect, the transect line runs for ~560-line km with 25 km of buffer on both the sides and covers an extensive area of about 28,000 sq. km spread over about 60 toposheets from the Dharwar locality in Karnataka to the Nellore in Andhra Pradesh state.

c) GSI has submitted that the feasibility study was conducted by the team of geoscientists from ONGC and GSI in 2018 along the southern transact for DSRS and MT data acquisition. Currently, a depth of about 5 km by DSRS is being probed for oil exploration in the country.

d) In this proposal the acquisition, processing, and interpretation of 2D-DSRS and 2D-MT data have been envisaged. The approximate target depth will be about 50 km and slightly beyond Moho. Acquisition of DSRS and MT data for a depth of about 50 km deep from the ground surface with a high resolution is being planned by GSI through open tendering process.

e) GSI aims to map the high resolution seismic reflection boundaries from shallow depth (a few hundred meters) to Moho discontinuity and slightly below through 2D- DSRS and to prepare a resistivity-depth section along with the profile with the combination of three types of MT data, i.e., AMT, BBMT and LPMT with variable spacing by 2D- MT Survey.

f) The cost calculation for the proposed project is based on the break-up of cost received from ONGC for the Northern Transect and the work components specified by ONGC in the feasibility report of 2018 for Southern Transect. GSI has submitted a cost estimate of about Rs. 81.12 Cr [DSRS Rs. 66.31 Cr & MT Rs. 13.34 Cr and integration of DSRS & MT data Rs. 1.48 Cr.) inclusive of 18% GST for Acquisition, Processing, and Interpretation (API) of DSRS & MT surveys along the Southern Transect. However, GSI is planning to take up these DSRS & MT surveys through open tendering process and final cost will be arrived accordingly.

g) GSI has also submitted that the additional expenses of about 20-25% may be required to take care of hard formation while shot hole drilling, higher charge size to get deeper events, deviations due to line breaks, recoveries due to logistic problems and specialized processing workflows for image enhancements, extended MT data recording and specialized MT processing, etc.

h) Based on detailed deliberation the following observations have been made by the committee:

(i) The proposal in its present form is incomplete. The outcome and findings of the DSRS project of northern transect, if any, may be included in background. It was decided in TCC meeting that the work along Northern transect would be treated as Pilot Project and after availability of satisfactory results other programmes can be launched. Therefore the committee feels that this proposal is submitted to TCC prematurely.

(ii) The project proposal should be made in proper format approved by Executive Committee (EC), NMET including survey design and quantum of work.

(iii) The cost estimates submitted by GSI are tentative and needs to be worked out through EOI and RFP.

(iv) A DPR for the DSRS and MT survey in southern transect may be submitted along with the proposal.

(v) The southern transect is passing through active mines, windmills, Solar Power Plant, Railway line, reservoirs and densely populated area and needs a detail ground verification before finalisation of transect line. The data will be generated through explosive for depth up to 50 km. To use explosive in densely populated area, clearance will be required from local authority

(vi) Operational feasibility and experience from pilot project of Northern Transect need to be mentioned in project proposal.

(vii) A brainstorming session comprising of experts and stakeholders may be organised for deciding the various parameters of MT and DSRS survey which may bring out the maximum sub-surface architectural information and also help in arriving the cost estimates.

*The committee suggested to take the Northern Transect of Project: Uncover as pilot project for DSRS and MT Survey as it has significantly less anthropogenic hurdles for such survey. On the basis of the outcome of the Northern Transect, revised project proposal may be submitted by GSI by including suggestion given at para h (i-vii).*

31.1.2. Marine baseline data collection including mineral occurrences (Phase-I) [Implementing Agency: GSI]

a) India has total 20.15 lakh sq. km area for marine survey and exploration including EEZ and TW. Based on assessment and interpretation of available marine baseline geoscience, GSI has delineated an area of 5.89 lakh sq. km as Offshore Prospective Area (OPA) for various mineral commodities viz. heavy mineral placers, construction sand, lime mud, polymetallic crust/nodules, phosphorites, hydrothermal sulphides and metalliferous mud.

b) GSI has submitted that an area of about 1.69 lakh sq. km have been covered till March, 2020 and about 3.88 lakh sq. km area will be covered by GSI through in-house resources by March, 2025. The remaining area of about 2.11 lakh sq. km required to be covered through outsourcing to achieve the goal of 5.89 lakh sq. km by 2025.

c) GSI has proposed to acquire baseline geoscience data and High-Resolution Seabed Mapping and Exploration (HRSME) / Preliminary Mineral Exploration (PME) over an area of 2,10,845 sq. km to establish Potential Areas (PA) through outsourcing by utilizing NMET fund. Accordingly, an area of 19,308 sq. km for HM Placers, 29,446 sq. km for construction sand, 61,167 sq. km for phosphorite, 31,700 sq. Km Polymetallic crust and nodules, and 69,224 sq. km for Hydrothermal sulphides has been delineated. The entire area is spread over Bay of Bengal and Arabian Sea. The project has been envisaged to be completed in three years with an estimated cost of Rs. 460 Cr.

d) The baseline data acquisition includes bathymetric data [single beam/ multi beam Echo sounder], sub-bottom profiling, shallow seismic, magnetic, gravity survey data.

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sediment logical /heavy mineral /geochemical analytical data, CTD, seawater environmental parametric etc.

e) Based on the deliberations the following observations have been made by the committee:

(i) The outcome of the marine baseline data acquisition and exploration carried out so far by GSI in the form of auctionable blocks and or estimated resource needs to be included in the background.

(ii) The resources for lime mud and construction sand had already been established by GSI in its earlier FSP programs and need not to be included in the proposed program.

(iii) The cost estimates submitted by GSI are tentative and needs to be worked out through EOI and RFP.

(iv) The marine exploration for different mineral commodities may be prepared for specified regions rather to propose entire EEZ/TW in one project.

(v) The provisions of National Coastal Regulation Zone and Mining Zone mandate need to be considered while formulating the exploration and survey project.

(vi) The baseline data acquisition and exploration in marine offshore environment requires explicit Naval and MoD clearances. The data acquisition through outsourcing by engaging private agencies warrants strict security protocol in accordance with the GoI norms and needs to be adhered before implementation of this project.

(vii) The proposal itself reiterates that the DPR will be evaluated at GSI HQ, followed by Ministry of Mines before submitting to NMET, Expert committee. This will be reviewed by EFC for obtaining the final approval. The copies of said approval may be provided to NMET/TCC.

(viii) The DPR along with cost estimates arrived through EOI/RFP may be included in the project.

***The committee suggested that a revised project proposal may be submitted by including suggestion given at para e (i-viii).***

31.1.3. MECL has submitted the following eight project proposals [2 Manganese for G2 stage exploration, 1 Gold for G2 stage, 1 Gold and associated minerals for G3 stage, 1 copper for G3 stage, 2 Iron Ore for G2 stage and 1 limestone for G2 stage exploration] for technical deliberations of the committee: **[Implementing Agency: MECL]**

i. General exploration (G2) for manganese ore in Tabalbanji Block (Block area 1.52 sq. km) District- Balangir, Odisha.

ii. General exploration (G2) for manganese ore in Khagsabahal (East and West) block, (Block area 0.98 sq. km), District- Balangir, Odisha.

iii. Preliminary exploration (G3) for gold and associated minerals in Chikka Honnakuni block, Raichur-Deodurg Schist Belt, District- Raichur, Karnataka.

iv. Preliminary exploration (G3) for copper ore in Singhana-Muradpur West intervening Block, District- Jhunjhunu, Rajasthan.

v. General exploration (G2) for gold in Sindauri East Block (Block area 8.31 sq. km), District- Ranchi, Jharkhand.

vi. General exploration (G2) for Iron ore in Bgawas Block (Block area 25 hectare) Tehsil- Virat Nagar, District- Jaipur, Rajasthan.

vii. General Exploration (G2) for Iron Ore near Kajlodiya, Tehsil-Banera, District- Bhilwara, Rajasthan.

viii. General exploration (G2) for limestone in Lakha-Ki-Nangal and Roopwas Blocks in Lakha-Jillo Limestone Belt, Tehsil- Neem Ka Thana, District- Sikar, Rajasthan.

a) In reference to two project proposals on manganese in **Tabalbanji Block (Block area 1.52 sq. km)** District- Balangir, Odisha and **Khagsabahal (East and West) block, (Block area 0.98 sq. km)**, District- Balangir, Odisha, the DGM, Odisha conveyed that the proposed blocks are suitable for auctioning of mineral concession. However, a final view will be conveyed after deliberation in the State expert committee and therefore, TCC may postpone consideration for further exploration in these two proposed areas.

b) The project proposal for gold exploration in **Sindauri East Block**, District- Ranchi, Jharkhand was sent to GSI to provide comments whether the proposed areas fall within the block boundary/coordinates of areas already explored/being explored during the current FSP/proposed for the next Field Season Programme (FSP).

In response to this, GSI has conveyed that the proposed drilling area of MECL (approx. 3 sq. km) is overlapping with the block area where GSI has completed G2 stage exploration in the past. The proposed block will be is duplication of work, hence committee opined that the project may not be taken for exploration and funding through NMET.

c) Further, all the above mentioned project proposals submitted by MECL were also viewed in light of recent amendments in **Mineral (Auction) Second Amendment Rules, 2021** and **Minerals (Evidence of Mineral Contents) Amendment Rules, 2021**. The committee was of the view that the projects on **Iron Ore and Limestone** qualify for grant of mining lease while proposals on manganese, copper, gold and associated mineral, wherein the G3/G2 stage exploration have been proposed by MECL, qualify for grant of composite license.

***The committee opined that all the proposals at para (i) to (viii) submitted by MECL are suitable for auctioning in the light of latest amendment of MMDR Act and suggested that the projects may be intimated to respective state governments for auctioning of mineral concession for ML or CL.***

31.1.4. Preliminary exploration (G3) for coal in Pawanchora Central Block, Wardh Valley Coalfield, District: Chandrapur, Maharashtra. [Implementing Agency: CMPDI]

a) The project was discussed in the 30th TCC meeting and it was suggested to resubmit the revised proposal after incorporating the recommendations of 30th TCC meeting. CMPDI has submitted the revised proposal for G3 stage exploration after necessary modifications.

b) The DGM, Maharashtra conveyed that the coal seams reported from Pawanchora Central block are very thin in nature. The area falls in the close vicinity of wild life sanctuary- a Tiger project. As per standard protocol, any industrial activity is prohibited within the zone of 10 km from the boundary of wild life sanctuary. It has also been conveyed that the resource may not be economically viable.

c) Keeping the above in view, and after detailed deliberations, the committee suggested to take up reconnaissance survey of G4 stage exploration with five boreholes. The boreholes may be planned on the basis of bouguer gravity anomaly data to confirm the thickness of coal seam.

d) All boreholes should be drilled in such a way that they reach up to Talchir Formation, and expected maximum drilling meterage will be 4,700m.

***The Committee recommended the proposal for approval of Reconnaissance Survey [G4 stage] for coal in Pawanchora Central Block, Wardh Valley Coalfield, District: Chandrapur, Maharashtra with estimated cost of Rs. 443.58 Lakh including GST in time schedule of 12 months for carrying out the proposed work and submission of report as per Annexure-2A & 2B.***

EC agenda.

31.1.5. General exploration (G2) for coal in south of Damuda Block, Jharia Coalfield, District-Dhanbad, Jharkhand. [Implementing Agency: CMPDI]

a) Geologically, the block is exposed by the rocks of Barren Measure Formation of the Gondwana Supergroup with a maximum thickness of 200m to 400m. Strike swings from E-W near Damuda Block to NNE-SSW in the Madhuband Block and dip varies from 5° to 30° southerly to south easterly.

b) CMPDI has submitted that about 32 regional and 8 local Barakar Seams are likely to occur in the block area. The individual thickness of coal seam varies from 0.55m to 25.83m. Both coking and no-coking varieties of coal are expected to be found in the area. The coking coal grade varies from steel grade, S-I to washery grade W-VI whereas the non-coking grade varies from G1 to G8.

c) Based on detailed deliberation the committee suggested to take up the project with 11 boreholes at 11,390m drilling. The eight boreholes may be planned at 800x800m grid pattern and three boreholes may be planned for washability studies.

***The Committee recommended the proposals for approval of General exploration (G2) for coal in south of Damuda Block, Jharia Coalfield, District-Dhanbad, Jharkhand with estimated cost of Rs. 1124.87 Lakh including GST in time schedule of 18 months for carrying out the proposed work and submission of report as per Annexure-3A & 3B.***

EC agen

31.1.6. Preliminary exploration (G3) for coal in North of Parbelia, Raniganj Coalfield, District-Purulia, West Bengal. [Implementing Agency: CMPDI]

a) The North of Parbellia blockis located in the south-western corner of the Raniganj Coalfield in the district of Purulia.

b) CMPDI has proposed to take up G3 stage of exploration for coal in the North of Parbellia Block having area 2.61 sq. km (approx), involving 2900m of drilling in 4 boreholes at 1600m×1600 m grid pattern.

c) It has been submitted that the coal seam grade varies from G6 to G14 category.

d) Based on the detailed deliberation, the committee suggested to take up this project with four boreholes at 2900m drilling.

*The Committee recommended the proposals for approval of Preliminary exploration (G3) for coal in North of Parbelia, Raniganj Coalfield, District-Purulia, West Bengal with estimated cost of Rs. 285.77 Lakh including GST in time schedule of 12 months for carrying out the proposed work and submission of report as per Annexure-4A & 4B.*

EC agen.

31.1.7. General exploration (G2) for coal in West of Ramgarh Block-II, Ramgarh Coalfield, District- Ramgarh, Jharkhand. [Implementing Agency: CMPDI]

a) The Ramgarh Coalfield is situated in Ramgarh district of Jharkhand. The Eastern part of Ramgarh Coalfield is divided into three blocks, viz; Rajrappa, Ramgarh Block-II, and Bhairavi. The 'West of Ramgarh Block-II' covering 1.85 sq. km is situated in the central part of the coalfield.

b) CMPDI has proposed to take up exploration for coal in West of Ramgarh Block-II involving 3050 m of drilling in 8 boreholes at 800m×800 m grid along with Surface Geophysical Survey for G2 stage exploration.

c) After detail discussion on the physiography and drainage system of the area it has been observed that the Damodar river is flowing all along the block and exploration in the proposed area may not be possible.

d) Committee suggested CMPDI not to take up this project and advised that the physiography, drainage system and location of major rivers needs to be taken into consideration before formulating any project proposal.

*The Committee recommended not to take up the proposal for General exploration (G2) for coal in West of Ramgarh Block-II, Ramgarh Coalfield, District- Ramgarh, Jharkhand.*

31.1.8. Preliminary exploration (G3) for coal in Chopna Shaktigarh & Jholi Block, Pench Kanhan Tawa Valley Coalfield, District- Betul, Madhya Pradesh. [Implementing Agency: CMPDI]

a) The project proposal was sent to GSI to provide comments whether the proposed areas fall within the block boundary/coordinates of areas already explored/being explored during the current FSP/proposed for the next Field Season Programme

(FSP). In response to this GSI has conveyed that the Chopna-Shaktigarh & Jholi Area, Tawa Valley Coalfield, Betul District, MP, proposed by CMPDI, is bounded by Latitude 22° 09' 57" N to 22° 15' 03" N and Longitude: 78° 2' 12" E to 78° 8' 26" E. The area is located in the north western part of Tawa valley CF and falls in the toposheet 55 J/04 and 55P/4.

b) It has been conveyed that the regional exploration for coal in Chopna-Shaktigarh area was carried out by GSI during the period 1997-98 and was continued up to 2000-2001. Five boreholes were drilled by GSI in Chopna-Shaktigarh area, out of which coal was encountered in only one borehole, whereas, in Jholi area, seven boreholes were drilled out of which coal was encountered only in two boreholes.

c) GSI has conveyed that the area proposed by CMPDI is overlapping with the already explored Chopna-Shaktigarh and Jholi area of GSI.

***Based on the submission of GSI and outcome of the exploration work by GSI, the committee opined that the proposal on Preliminary exploration (G3) for coal in Chopna Shaktigarh & Jholi Block, Pench Kanhan Tawa Valley Coalfield, District- Betul, Madhya Pradesh may not contain economic resource and recommended not to take up the project.***

## 31.2. Review of exploration work for the ongoing projects

### 31.2.1. Preliminary exploration for potash in Lakhasar-sub basin, North-Western part of Rajasthan, District- Bikaner, Rajasthan.

a) The project was recommended in 23rd TCC meeting held on 12th and 13th February, 2020 with estimated cost of Rs. 1753.53 Lakh and approved in 16th EC meeting held on 25th February, 2020.

b) The TCC recommended 10,040m drilling in 15 boreholes is to be carried out (Bh-1, 6, 11, 12, 13, 19, 20, 24, 25, 29, 30, 34, 35, 36 and 38). The area of influence along the block boundary to be taken into consideration for deciding the borehole locations and it is suggested to keep the boreholes 400m away from the boundary.

c) MECL presented the work done and requested to drop three boreholes (Bh-1, 6 and 11) approved in 23rd TCC meeting and request to approve three new boreholes (Bh-14, 33 and 37).

d) MECL informed that drilling in 6 Bhs have been completed and drilling work is in progress for the remaining boreholes.

***The committee agreed to drop the boreholes [Bh-1, 6 and 11] and approved the new boreholes [Bh-14, 33 and 37] plan with proposed borehole location.***

### 31.2.2. Preliminary exploration for potash in Bharusari sub basin, North Western part of Rajasthan, district- Hanumangarh, Rajasthan.

a) The project was recommended in 24th TCC meeting held on 07th, 08th and 09th October, 2020 with estimated cost of Rs. 1754.13 Lakh and approved in 17th EC meeting held on 05th November, 2020.

b) MECL presented the work done and informed that 1861m drilling have been completed in 4 Bhs and drilling is in progress.
c) The halite cycle intersected in all the 4 boreholes in progress.

*The committee noted the progress of the work and suggested to complete the work in given time schedule.*

31.2.3. Reconnaissance Survey for Namapur Block of 115 sq.km area, District- Rajanna Sircilla (Erstwhile Karimnagar), Telangana.

a) The project was recommended in 24th TCC meeting held on 07th, 08th and 09th October, 2020 with estimated cost of Rs. 54.83 Lakh and approved in 17th EC meeting held on 05th November, 2020.
b) MECL presented the work done. All the approved work components have been done excluding pitting and trenching (210 cu.m).
c) The Chalcopyrite occurrence and Copper high values in bed rock (0.2%) and in soil sample (0.1%) available in the demarcated area.
d) The committee suggested to complete the pitting and trenching, delineate the potential zone for Cu along major shear zone associated with Gabbro intrusion.

*The committee suggested to carry out pitting and trenching to drawn subsurface mineralisation before planning for drilling. The review of the chemical analysis of the pit and trench samples will be done for further exploration work.*

31.2.4. General exploration for Sonrai rock phosphate deposit, Tehsil-Mehrauni, District- Lalitpur, Uttar Pradesh.

a) The project was recommended in 12th TCC meeting held on 08th and 09th January, 2018 with estimated cost of Rs. 470.39 Lakh and approved in 6th EC meeting held on 11th January, 2018.
b) MECL presented the work done. It was informed that all the geological mapping in 2.36 sq. km has been completed. After getting forest clearance, drilling was started on 1st March, 2020. Drilling in 19 boreholes have been completed and work is in progress in the remaining boreholes.
c) The drilling data has been analysed and mineralisation zone has been marked for 10% $P_2O_5$ cut off.
d) MECL has submitted that the borehole locations for the Sonari block needs to be changed due to technical issues.
e) The Committee suggested to submit the revised borehole plan for remaining drilling and time extension in next TCC meeting.

*The committee suggested to carry out the exploration work and submit the revised borehole plan and further time extension to complete the exploration work.*

31.2.5. General exploration for magnesite in Selu Block, District- Udaipur, Rajasthan.

a) The project was recommended in 22th TCC meeting held on 13th and 14th November, 2019 with estimated cost of Rs. 303.88 Lakh and approved in 15th EC meeting held on 28th November, 2019.
b) MECL presented the work done. It was informed that all the approved geological component has been completed. A total of 1350m drilling in 43 boreholes has been completed against 1290m approved drilling. There is additional drilling of 60m with estimated cost of Rs. 7,72,484/-
c) It was also requested for time extension till 30th September, 2021.
d) Tentative resource estimated by cross section with grade are given below

| Grade | Net In-situ Resources (Tonnes) | Average Grade (%) | | |
|---|---|---|---|---|
| | | CaO | MgO | $SiO_2$ |
| 3A | 11625461.26 | 3.45 | 40.32 | 2.12 |
| 4 | 1980518.11 | 5.89 | 36.73 | 2.31 |
| 2 | 950323.01 | 1.27 | 44.06 | 0.78 |
| | 14556302.37 | 3.64 | 40.08 | 2.06 |
| Million Tonnes | **14.56** | | | |

*The Committee noted the achievements of the project and suggested that the mangesite and dolomite resources should be assessed and reported separately. The committee also approved the additional drilling of 60m with additional estimated cost of Rs. 7,72,480/- and time line extension till 30th September, 2021. It was also suggested to submit the geological report for peer review.*

31.2.6. Reconnaissance Survey for limestone in Sangmania Block for limestone, District- Satna, Madhya Pradesh.

a) The project was recommended in 21st TCC meeting held on 26th and 27th June, 2019 with estimated cost of Rs. 41.52 Lakh and approved in 14th EC meeting held on 09th September, 2019.
b) Directorate of Geology and Mining, MP presented the work done. It was informed that all the approved geological component has been completed. The chemical analysis is under progress.
c) The committee suggested to complete the chemical analysis, resource estimation and geological report. The committee agreed to extend the timeline till 30th September, 2021.
d) For the Bills payment, it was suggested that exploration agency has to submit the bills as per work done vis-à-vis approved work components according to the SoC rates at the time of project approval by EC.

*The committee suggested to submit the bills as per the work done and approved the time extension till 30th September, 2021 to completed the chemical analysis and submit the geological report.*

31.3. Timeline extension of projects.

a) The NEAs have requested for time over run for the ongoing projects as work could not be carried out since implementation of lockdown due to COVID-19 pandemic.
b) In view of prevailing pandemic situation evolved due to COVID19, the committee has recommended a time overrun for the ongoing projects given in **annexure-5**.
c) The committee also suggested that for the extended period, the payment will be as per Schedule of Charges applicable during the original approved period of the project.

***The committee recommended for approval of timeline extension for the projects (annuxure-5) in next EC.***

31.4. Approval of Peer review charges for nine blocks approved in 20th-22nd TCC, NMET.

TCC in its 12th meeting held on 08th and 09th January, 2018 approved honorarium of Rs. 10,000 (plus 15% handling charges) per report and to be paid to peer reviewer for peer review of geological report submitted by exploration agencies. The amount paid should be included in the exploration cost for all proposals.

***The committee agreed about the honorarium payment and approved the honorarium for all the projects not included in cost sheet.***

31.5. The meeting ended with vote of thanks by Director and Member Secretary, TCC, NMET.

16/3/21

16/03/21

List of TCC members attended 31st Technical-cum-Cost Committee (TCC) meeting of NMET held on 08th and 09th July, 2021 through videoconferencing.

| S. No. | Name/Designation | Status | Remarks |
|---|---|---|---|
| 1 | Shri Janardan Prasad,<br>ADG & HoD, SR, GSI, Hyderabad | Chairman, TCC, NMET | Attended via videoconference |
| 2 | Shri Ranjan Kumar Sinha,<br>Controller General (Retd.)<br>Indian Bureau of Mines, Noida | TCC Member | Attended via videoconference |
| 3 | Shri P. Tarafdar,<br>Dy. Director General (Retd.)<br>Geological Survey of India, Kolkata | TCC Member | Attended via videoconference |
| 4 | Dr. Manoranjan Mohanty,<br>Dy. Director General (Retd.)<br>Geological Survey of India, Bhubaneshwar | TCC Member | Attended via videoconference |
| 5 | Shri Naeem Ahmad,<br>General Manager-Exploration (Retd.),<br>CMPDI Ltd., Aligarh | TCC Member | Attended via videoconference |
| 6 | Dr. Anjani Kumar,<br>Dy. General Manager (Exploration) & HoD-Planning (Retd.), MECL, Nagpur | TCC Member | Attended via videoconference |
| 7 | Dr. J. V. Ramarao,<br>Dy. Director General (GP) [Retd.],<br>Geological Survey of India, Hyderabad | TCC Member | Attended via videoconference |
| 8 | Shri B. Saravanan, Additional Director,<br>Atomic Minerals Directorate for Exploration and Research, Hyderabad | TCC Member | Attended via videoconference |
| 9 | Dr. L. P. Singh, Director,<br>Geological Survey of India,<br>DGCO, New Delhi | Member Secretary, TCC, NMET | Attended in person |
| 10 | Shri Amit Saran,<br>Director, NMET, MoM | TCC Member | Attended via videoconference |
| 11 | Shri Ravi Kumar Gupta,<br>Deputy General Manager (Finance),<br>HCL, Kolkata | TCC Member | Not Attended |
| 12 | Shri P. K. Maharana,<br>Dy. General Manager (Finance),<br>NALCO, Bhubaneshwar | TCC Member | Attended via videoconference |
| 13 | Shri Vinay Pal,<br>Assistant Cost Account Officer (Finance),<br>Geological Survey of India,<br>DGCO, New Delhi | TCC Member | Not Attended |

Annexure-1

**List of participants attended 31st Technical-cum-Cost Committee (TCC) meeting of NMET held on 08th and 09th July, 2021 through videoconferencing.**

| S. No. | Name/Designation | Email ID | Contact No | Organisation |
|---|---|---|---|---|
| 1 | Shri Janardan Prasad, ADG & HoD, SR, GSI, Hyderabad | janardan.prasad@gsi.gov.in | 7763800788 | Chairman, TCC |
| 2 | Shri Ranjan Kumar Sinha, Controller General (Retd.) IBM, Noida | sinhark57@rediffmail.com | 9421777637 | Member, TCC |
| 3 | Shri Pradipta Tarafdar, DDG (Retd.) GSI, Kolkata | tarafdar.pradipta@gmail.com | 9503088847 | Member, TCC |
| 4 | Shri Manoranjan Mohanty, DDG (Retd.) GSI, Bhubaneshwar | manoranjanmoha@gmail.com | 9483511287<br>8249014425 | Member, TCC |
| 5 | Dr. J. V. Ramarao, DDG (GP) (Retd.) GSI, Hyderabad | rarajammi@gmail.com | 9440691284 | Member, TCC |
| 6 | Shri Anjani Kumar, (Retd.), MECL, Nagpur | anjanikumar1957.ak@gmail.com | 9975350576 | Member, TCC |
| 7 | Shri Naeem Ahmed, (Retd.), CMPDI, Aligarh | ahmadnaeem17@yahoo.co.in | 8588092153 | Member, TCC |
| 8 | Shri B. Saravanan, Additional Director, AMD, Hyderabad | addldir-op1.amd@gov.in | 8987571606 | Member, TCC |
| 9 | Shri Amit Saran, Director & HoD, NMET | amit.saran@nic.in | 9717647259 | Member, TCC |
| 10 | Dr. L. P. Singh, Director, GSI, New Delhi | nmet-tcc@gov.in | 9490748249 | Member Secretary, TCC |
| 11 | Shri P. K. Maharana, DGM (F), NALCO, Bhubaneshwar | pmaharana@rediffmail.com | 8500669500 | Member, TCC |
| 12 | Shri Hemraj Suryawanshi, Dy.DG (G) | hodm2gsi@gmail.com | 9425603674 | NMH-II, GSI, Nagpur |
| 13 | Shri Basab Mukhopadhyay, Dy.DG (G) | basab.mukhopadhyay@gsi.gov.in | | MCSD, GSI |
| 14 | Dr. Deshraj Trivedi, Senior Geologist | nmet-tcc@gov.in | 9419244294 | NMET |
| 15 | Shri Subhash Kumar, Senior Geologist | nmet-mines@gov.in | 9868302624 | NMET |
| 16 | Shri K. K. Kaushik, HOD, (Exploration) | gm-exploration@mecl.co.in | | MECL, Nagpur |
| 17 | Shri V. K. Srivastava, GM (Exploration) | gmexpl.cmpdi@coalindia.in | 8987788782 | CMPDI |
| 18 | Dr. R. P. Singh, Manager (Geology) | gm.exploration.cmpdil@gmail.com | 8987789047 | CMPDI |
| 19 | Smt. Anjali Nagarkar | director@mahadgm.gov.in | | DGM, Maharashtra |
| 20 | Shri Shankar Kumar Sinha | director-mines@jharkhandmail.gov.in | | DGM, Jharkhand |
| 21 | Shri Alok Prakash Jain, Suptdg. Geol. Jaipur | supgeo.jaipur@rajasthan.gov.in | 9413301260 | DGM, Rajasthan |
| 22 | Sh. S. N. Dodiya, Addl. Director (Geol), Udaipur | adgudaipur.mg@rajasthan.gov.in | 9314737417 | DGM, Rajasthan |
| 23 | Sh. N. P. Singh, Suptdg. Geol. Bhilwara | Supgeo.bhilwara@rajasthan.gov.in | 8290211477 | DGM, Rajasthan |
| 24 | Sh. G. S. Nirwan, Suptdg. Geol. Bikaner | Supgeo.bikaner@rajasthan.gov.in | 9460923965 | DGM, Rajasthan |
| 25 | Shri S. V. Dhopeshwar | info.mpsmc@mp.gov.in | | DGM, Madhya Pradesh |
| 26 | Director, DGM, Karnataka | | | DGM, Karnataka |
| 27 | Director, DGM, Odisha | | | DGM, Odisha |

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Estimated cost Reconnaissance Survey [G4] for coal in Pawanchora Central Block, Wardh Valley Coalfield, District: Chandrapur, Maharashtra

| S. No | Item Work | Item no in Soc | Unit | Rates as per SoC of NMET | Rate (Rs) | Qty. | Amount (Rs) | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1. Outsource Component | | | | | | | | |
| I- Field operations (Outsourcing) | | | | | | | | |
| A | DRILLING | | | | | | | |
| 1 | Drilling (As per MoC Rate 2020-21) | 2.2.1.1b | m | MoC Rate | 5,619 | 4,700 | 2,64,09,300 | Copy of MoC approved Rate is required |
| B | GEOPHYSICAL STUDIES | | | | | | | |
| 1 | Borehole Geophysical logging (As per MoC Rate 2020-21) | MoC Rate FY 2020-21 | m | Refer Note 5 below | 697 | 4,700 | 32,75,900 | Copy of MoC approved Rate is required |
| | | | | | | Cost of Outsourcing | 2,96,85,200 | reimbursement of outsource component will be made as per Para 3 of NMET-SoC |
| 2. In-House Component | | | | | | | | |
| I- Field Work | | | | | | | | |
| A | GEOLOGICAL WORK | | | | | | | |
| (i) | Geological Party days- Field (Other Geological work/studies) - 1 Geologist | 1.5.1a | Day | 11,000 | 11,000 | 90 | 9,90,000 | |
| (ii) | Geological Party days-HQ ( Data processing & Report Preparation)- 1 Geologist | 1.5.1a | Day | 9,000 | 9,000 | 45 | 4,05,000 | |
| B | GEOPHYSICAL STUDIES | | | | | Sub Total- A | 13,95,000 | |
| (i) | Geophysicist Party days-Field ( Field Work & Monitoring)- 1 Geophysicist | 3.19 | Day | 11,000 | 11,000 | 10 | 1,10,000 | |
| (ii) | Geophysicist days-HQ ( Data processing & Report Preparation)- 1 Geophysicist | 3.19 | Day | 9,000 | 9,000 | 7 | 63,000 | |
| | | | | | | Sub Total- B | 1,73,000 | |
| II- Laboratory Studies | | | | | | Field Work Total (A+B) | 15,68,000 | |
| 1 | Band By Band Analysis | | | | | | | |
| a | Ash+Moisture | 4.2.6 | per sample | 700 | 700 | 125 | 87,500 | |
| b | House Keeping | 4.2.1 | per sample | 115 | 115 | 125 | 14,375 | |
| 2 | Overall analysis | | | | | | | |
| a | Proximate analysis | 4.2.7 | per sample | 935 | 935 | 50 | 46,750 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| b | Moisture at 60% RH & 40C | 4.2.8 | per sample | 1,010 | 1,010 | 50 | 50,500 | |
| c | GCV | 4.2.11 | per sample | 1505 | 1,505 | 50 | 75,250 | |
| d | Sample preparation & House Keeping | 4.2.3 | per sample | 795 | 795 | 50 | 39,750 | |
| 3 | **Special Test** | | | | | | | |
| a | Ultimate analysis | 4.2.17 | per sample | 9,945 | 9,945 | 20 | 1,98,900 | |
| b | Total Sulphur | 4.2.14 | per sample | 1,900 | 1,900 | 20 | 38,000 | |
| c | Distribution of Sulpher | 4.2.15 | per sample | 3,695 | 3,695 | 20 | 73,900 | |
| d | HGI including sample preparation | 4.2.18 | per sample | 3,805 | 3,805 | 20 | 76,100 | |
| e | AFT (Ash Fusion Temperature) | 4.2.20 | per sample | 2,745 | 2,745 | 20 | 54,900 | |
| f | Ash analysis | 4.2.25 | per sample | 325 | 325 | 20 | 6,500 | |
| 4 | **Petrographic analysis** | | | | | | | |
| a | Pellet preparation | 4.3.14a | per sample | 1160 | 1160 | 6 | 6,960 | |
| b | Maceral Analysis (with photomicrography) | 4.3.14e | per sample | 25,000 | 25,000 | 6 | 1,50,000 | |
| c | Microlithotype Analysis (with photomicrography) | 4.3.14g | per sample | 25000 | 25000 | 6 | 1,50,000 | |
| d | Mean Ro% | 4.3.14j | per sample | 16,345 | 16,345 | 6 | 98,070 | |
| | | | | | | **Laboratory Studies Total** | **11,67,455** | |
| **III. Miscellaneous Charges (Departmental)** | | | | | | | | |
| a | Core Preservation (1 borehole) | 5.3 | Per m | 1,590 | 1,590 | 1,000 | 15,90,000 | This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities |
| b | DGPS Survey of boundary, borehole points (5 boreholes & 10 boundary point) | 1.6.2 | per point | 19,200 | 19,200 | 5 | 96,000 | |
| c | Land crop compensation | 5.6 | Per bh | 20,000 | 20,000 | 0 | 0 | Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities |
| d | Preparation of Exploration Proposal | 5.1 | lump sum | 3,80,000 | 3,80,000 | 1 | 3,80,000 | EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while cleaning the proposal. |
| e | Peer review | | | | | | | |
| f | Outsourcing process cost | 2.3 | lump sum | 10,000<br>5,00,000 | 10,000<br>5,00,000 | 1<br>1 | 10,000<br>5,00,000 | will be reimbursed when copy of signed agreement/tender for outsource component will be submitted. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| g | Operational charges for CMPDI | Point 3 (iii)of SOC | | 15,00,000 | 15,00,000/- | 1 | 15,00,000 | will be reimbursed as per point 3 of NMET-SoC after recalculation when actual cost of outsourcing component will be provided. |
| | | | | | | Miscellaneous Charges Total | 40,76,000 | |
| 3 - Total Cost for outsource and in-House component (1 & 2) | | | | | | Total cost for in-House component (I to III) | 68,11,455 | |
| | | | | | | | 3,64,96,655 | |
| | Geological Report preparation (3% of work value) | 5.2 | | For project exceeding Rs. 300 Lakh - to A minimum Rs. 9 lakh or 3% of the value of work whichever is more subject to a max. amount of Rs. 20 lakh | | | 1094900 | EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET. |
| | | | | | | Total Cost of the project without GST | 3,75,91,555 | |
| | | | | | | Provision for GST (@18%) | 67,66,480 | GST will be reimburse as per actual and as per notified prescribed rate |
| | | | | | | Total Cost of the project with GST | 4,43,58,034 | Say Rs. 443.58 Lakh |

Note - If any part mentioned in the in-house component is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. For in-house component of the project, a Certificate from the NEA regarding non outsourcing of any component/project is required.

1) Above rate of drilling, GPL, Chemical, Physicomechanical are budgeted rates.

2) There are numerous items in chemical anlysis. The CIMFR rates will be applied for actual payment.

3) For Physicomechanical studies, a lumpsum provision has been made. Actual may vary as per requirement. MoC approved rates will apply.

4)For Drilling & Geophysical the approved rates of MoC for FY 2020-21 has been taken other rates are as per approved SoC rates.

5) GPL rates is Rs 697/- per meter of minimum 8 parameters, the break up is as follow

| | Probe | MoC Rate 2020-21 (in Rs) |
|---|---|---|
| 1 | Base Log | 162 |
| 2 | Dual Density | 110 |
| 3 | Natural Gamma | 96 |
| 4 | Caliper | 20 |
| 5 | SPR | 41 |
| 6 | Sonic | 131 |
| 7 | Deviation | 96 |
| 8 | Resistivity | 41 |
| | Total | 697 |

6) Lumpsum amount of Rs. 10,000 has been considered for Peer Review

Annexure-2B

Time Schedule Reconnaissance Survey [G4 stage] for coal in Pawanchora Central Block, Wardh Valley Coalfield, District: Chandrapur, Maharashtra

| S. No | Activities | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Tendering | Months | | | | | | | | | | | | | |
| 2 | Mobilising | Months | | | | | | | | | | | | | |
| 3 | Drilling | Days | | | | | | | | | | | | | |
| 4 | Borehole Geophysical logging | Days | | | | | | | | | | | | | |
| 5 | Geologist Party days, Field (1 Party) | Days | | | | | | | | | | | | | |
| 6 | Geophysicist Party days, Field (1 Party) | Nos. | | | | | | | | | | | | | |
| 7 | Laboratory Studies (Band By Band) | Nos. | | | | | | | | | | | | | |
| 8 | Laboratory Studies (Overall) | Nos. | | | | | | | | | | | | | |
| 9 | Laboratory Studies (Special &, Petrography ) | Days | | | | | | | | | | | | | |
| 10 | Geologist Party days, HQ (1 Party) | Days | | | | | | | | | | | | | |
| 11 | Geophysicist Party days, HQ (1 Party) | Months | | | | | | | | | | | | | |
| 12 | 3 D Modiling | Months | | | | | | | | | | | | | |
| 13 | Report Writing & Peer Review | | | | | | | | | | | | | | |
| | Note. Please add activities accordingly and timelime (months) | | | | | | | | | | | | | | |
| | *Total Time Period of Completion of Project-* | *12 months from Sanction of Project* | | | | | | | | | | | | | |

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Annexure-3A

Estimated cost for General Exploration (G2) of Coal in South of Damuda Block, Raniganj Coalfield, District- Dhanbad, Jharkhand
(Block area- 2.94 Sq. Km)

| S. No | Item Work | Item no in Soc | Unit | Rates as per SoC of NMET | Rate (Rs) | Qty. | Amount (Rs) | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 - Outsource Component | | | | | | | | |
| I- Field operations (Outsourcing) | | | | | | | | |
| A | DRILLING | | | | | | | |
| 1 | Drilling (As per MoC Rate 2020-21) | 2.2.1.1b | m | MoC Rate | 5,619 | 11,390 | 6,40,00,410 | Copy of MoC approved Rate is required |
| B | GEOPHYSICAL STUDIES | | | | | | | |
| 1 | Borehole Geophysical logging (As per MoC Rate 2020-21) | MoC Rate FY 2020-21 | m | Refer Note 5 below | 697 | 11,390 | 79,38,830 | Copy of MoC approved Rate is required |
| | | | | | | Cost of Outsourcing | 7,19,39,240 | reimbursement of outsource component will be made as per Para 3 of NMET-SoC |
| 2. In-House Component | | | | | | | | |
| I- Field Work | | | | | | | | |
| A | GEOLOGICAL WORK | | | | | | | |
| 2a | Geological Party days-Field (Other Geological work/studies)- 1 Geologist | 1.5.1a | Day | 11,000 | 11,000 | 150 | 16,50,000 | |
| 2b | Geological Party days-HQ (Data processing & Report Preparation)- 1 Geologist | 1.5.1a | Day | 9,000 | 9,000 | 60 | 5,40,000 | |
| | | | | | | Sub Total- A | 21,90,000 | |
| B | GEOPHYSICAL STUDIES | | | | | | | |
| 2a | Geophysicist Party days-Field (Field Work & Monitoring)- 1 Geophysicist | 3.19 | Day | 11,000 | 11,000 | 20 | 2,20,000 | |
| 2b | Geophysicist days-HQ (Data processing & Report Preparation)- 1 Geophysicist | 3.19 | Day | 9,000 | 9,000 | 10 | 90,000 | |
| | | | | | | Sub Total- B | 3,10,000 | |
| | | | | | | Field Work Total (A+B) | 25,00,000 | |
| II-Laboratory Studies | | | | | | | | |
| 1 | Band By Band Analysis | | | | | | | |
| a | Ash+Moisture | 4.2.6 | per sample | 700 | 700 | 3,000 | 21,00,000 | |
| b | House Keeping | 4.2.1 | per sample | 115 | 115 | 3,000 | 3,45,000 | |
| 2 | Overall analysis | | | | | | | |
| a | Proximate analysis | 4.2.7 | per sample | 935 | 935 | 640 | 5,98,400 | |
| b | Moisture at 60% RH & 40C | 4.2.8 | per sample | 1,010 | 1,010 | 640 | 6,46,400 | |
| c | GCV | 4.2.11 | per sample | 1,505 | 1,505 | 640 | 9,63,200 | |
| d | Sample preparation & House Keeping | 4.2.3 | per sample | 795 | 795 | 640 | 5,08,800 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | Special Test | | | | | | | |
| a | Ultimate analysis | 4.2.17 | per sample | 9,945 | 9,945 | 64 | 6,36,480 | |
| b | Total Sulphur | 4.2.14 | per sample | 1,900 | 1,900 | 64 | 1,,21,600 | |
| c | Distribution of Sulpher | 4.2.15 | per sample | 3,695 | 3,695 | 64 | 2,36480 | |
| d | Phosphorus | 4.2.21 | per sample | 2,480 | 2,480 | 64 | 1,58,720 | |
| e | HGI including sample preparation | 4.2.18 | per sample | 3,805 | 3,805 | 64 | 2,43,520 | |
| f | AFT (Ash Fusion Temperature) | 4.2.20 | per sample | 2,745 | 2,745 | 64 | 1,75,680 | |
| g | Ash analysis | 4.2.25 | per sample | 325 | 325 | 64 | 20,800 | |
| h | Ash sample preparation 800°C from coke for analysis | 4.2.5 | per sample | 875 | 875 | 36 | 31,500 | |
| i | Roga Index(Instead of caking Index) | 4.2.22 | per sample | 5,365 | 5,365 | 36 | 1,93,140 | |
| j | Swelling Index | 4.2.23 | per sample | 2,745 | 2,745 | 36 | 98,820 | |
| k | LTGK coke type | 4.2.24 | per sample | 4550 | 4,550 | 36 | 1,63,800 | |
| 4 | Petrographic analysis | | | | | | | |
| a | Pellet preparation | 4.3.14a | per sample | 1,,160 | 1,160 | 36 | 41,760 | |
| b | Maceral Analysis (with photomicrography) | 4.3.14e | per sample | 25,000 | 25,000 | 36 | 9,00,000 | |
| c | Microlithotype Analysis (with photomicrography) | 4.3.14g | per sample | 25,000 | 25,000 | 36 | 9,,00,000 | |
| d | Determination of Rank (VRO random %) | 4.3.14i | per sample | 16,345 | 16,345 | 36 | 5,88,420 | |
| e | Determination of Rank (VRO Min % and Max.) | 4.3.14h | per sample | 21,025 | 21,025 | 36 | 7,56,900 | |
| f | Washabilty Studies (Seam having thickness of more than 5m i.e 7 seam in 1 bh) | 4.13 | per sample | 1,27,775 | 1,27,775 | 7 | 8,94,425 | |
| | | | | | | Laboratory Studies Total | 1,13,23,845 | |
| III. Miscellaneous Charges (Departmental) | | | | | | | | |
| a | Core Preservation (1 borehole) | 5.3 | Per m | 1,590 | 1,590 | 1,230 | 19,55,700 | This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities |
| b | DGPS Survey of boundary, borehole points (11 boreholes & 15 boundary point) | 1.6.2 | per point | 19,200 | 19,200 | 26 | 4,99,200 | |
| c | Land crop compensation | 5.6 | Per bh | 20,000 | 20,000 | 11 | 2,20,000 | Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities |
| d | 3 D ore body modelling using Minex software | 5.4 | | 25,00,000 | 25,00,000 | 1 | 25,00,000 | will be reimbursed as per actual |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| e | Preparation of Exploration Proposal - | 5.1 | lump sum | 3,80,000 | 3,80,000 | 1 | 3,80,000 | EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal. |
| f | Peer review | | | 10,000 | 10,000 | 1 | 10,000 | |
| g | Outsourcing process cost | 2.3 | lump sum | 5,00,000 | 5,00,000 | 1 | 5,00,000 | will be reimbursed when copy of signed agreement/tender for outsource component will be submitted |
| h | Operational charges for CMPDI | Point 3 (iii)of SOC | | 15,00,000 | 15,00,000 | 1 | 15,00,000 | will be reimbursed as per point 3 of NMET-ScC after recalculation when actual cost of outsourcing component will be provided |
| | | | | | | Miscellaneous Charges Total | 75,64,900 | |
| | | | | | | Total cost for in-House component (I to III) | 2,13,88,745 | |
| | | | | | | Cost for outsource and in-House component (1 & 2) | 9,33,27,985 | |
| | Geological Report preparation (3% of work value) | 5.2 | | For project exceeding Rs. 300 Lakh - to A minimum Rs. 9 lakh or 3% of the value of work whichever is more subject to a max amount of Rs. 20 lakh | | | 20,00,000 | EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET |
| | | | | | | Cost of the project without GST | 9,53,27,985 | |
| | | | | | | Provision for GST (@18%) | 1,71,59,037 | GST will be reimburse as per actual and as per notified prescribed rate |
| | | | | | | Total Cost of the project with GST | 11,24,87,022 | Say Rs. 1124.87 Lakh |

Note - If any part mentioned in the in-house component is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. For in-house component of the project, a Certificate from the NEA regarding non outsourcing of any component/project is required.

1) Above rate of drilling, GPL, Chemical, Physicomechanical are budgeted rates

2) There are numerous items in chemical anlysis. The CIMFR rates will be applied for actual payment.

3) For Physicomechanical studies, a lumpsum provision has been made. Actual may vary as per requirement. MoC approved rates will apply.

4)For Drilling & Geophysical the approved rates of MoC for FY 2020-21 has been taken other rates are as per approved SoC rates.

5) GPL rates is Rs 697/- per meter of minimum 8 parameters, the break up is as follow

| | Probe | MoC Rate 2020-21 (in Rs) |
|---|---|---|
| 1 | Base Log | 162 |
| 2 | Dual Density | 110 |
| 3 | Natural Gamma | 96 |
| 4 | Caliper | 20 |

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| | | |
|---|---|---|
| 5 | SPR | 41 |
| 6 | Sonic | 131 |
| 7 | Deviation | 96 |
| 8 | Resistivity | 41 |
| | Total | 697 |

6) Lumpsum rate of Rs. 25.00 Lakh has been considered for 3D Ore Body Modeling

7) Lumpsum amount of Rs. 10,000 has been considered for Peer Review

Annexure-3B

Time Schedule for General Exploration (G2) of Coal in South of Damuda Block, Raniganj Coalfield, District- Dhanbad, Jharkhand

| S. No | Activities | Months | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 17 | 18 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Outsourcing | Months | | | | | | | | | | | | | | | | | | |
| 2 | Mobilising | Months | | | | | | | | | | | | | | | | | | |
| 3 | Drilling | Months | | | | | | | | | | | | | | | | | | |
| 4 | Borehole Geophysical logging | Days | | | | | | | | | | | | | | | | | | |
| 5 | Geologist Party days, Field (1 Party) | Days | | | | | | | | | | | | | | | | | | |
| 6 | Geophysicist Party days, Field (1 Party) | Days | | | | | | | | | | | | | | | | | | |
| 7 | Laboratory Studies (Band By Band) | Nos. | | | | | | | | | | | | | | | | | | |
| 8 | Laboratory Studies (Overall) | Nos. | | | | | | | | | | | | | | | | | | |
| 9 | Laboratory Studies (Special) | Nos. | | | | | | | | | | | | | | | | | | |
| 10 | Laboratory Studies (Petrography & Wshability) | Nos. | | | | | | | | | | | | | | | | | | |
| 11 | Geologist Party days, HQ (1 Party) | Days | | | | | | | | | | | | | | | | | | |
| 12 | Geophysicist Party days, HQ (1 Party) | Days | | | | | | | | | | | | | | | | | | |
| 13 | 3 D Modiliing | Months | | | | | | | | | | | | | | | | | | |
| 14 | Report Writing & Peer Review | Months | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | Note: Please add activities accordingly and timelime (months) | | | | | | | | | | | | | | | | | | | |
| | *Total Time Period of Completion of Project-* | *18 months from Sanction of Project* | | | | | | | | | | | | | | | | | | |

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Annexure-4A

Estimated cost of project Preliminary Exploration (G3) for Coal in North of Parbelia Block, Raniganj Coalfield, District-Purulia, West Bengal
(Block area-2.61 sq. km)

| S. No | Item Work | Item no in Soc | Unit | Rates as per SoC of NMET | Rate (Rs) | Qty. | Amount (Rs.) | Remarks |
|---|---|---|---|---|---|---|---|---|
| I- Field operations | | | | | | | | |
| A | DRILLING | | | | | | | |
| 1 | Drilling (As per MoC Rate 2020-21) | 2.2.1.1b | m | MoC Rate | 5619 | 2,900 | 1,62,95,100 | Copy of MoC approved Rate is required |
| B | GEOPHYSICAL STUDIES | | | | | | | |
| 1 | Borehole Geophysical logging (As per MoC Rate 2020-21) | MoC Rate FY 2020-21 | m | Refer Note 4 below | 697 | 2,900 | 20,21,300 | Copy of MoC approved Rate is required |
| | | | | | | Sub Total- A | 1,83,16,400 | |
| II- Field Studies | | | | | | | | |
| A | GEOLOGICAL WORK | | | | | | | |
| A1 | Geological Party days-Field (Mapping, Field work) | 1.5.1b | Day | 11,000 | 11,000 | 60 | 6,60,000 | |
| A2 | Geological Party days-HQ | 1.5.1b | Day | 9,000 | 9,000 | 30 | 2,70,,000 | |
| B | GEOPHYSICAL STUDIES | | | | | | | |
| B1 | Geophysicist Party days-Field (Bh Logging) | 3.19 | Day | 11,000 | 11,000 | 7 | 77,000 | |
| B2 | Geophysicist Party days-HQ | 3.19 | Day | 9,000 | 9,000 | 5 | 45,000 | |
| | | | | | | Sub Total- B | 10,52,000 | |
| III-Laboratory Studies | | | | | | | | |
| 1 | Band By Band Analysis | | | | | | | |
| a | Ash+Moisture | 4.2.6 | per sample | 700 | 700 | 350 | 2,45,000 | |
| b | House Keeping | 4.2.1 | per sample | 115 | 115 | 350 | 40,250 | |
| 2 | Overall analysis | | | | | | | |
| a | Proximate analysis | 4.2.7 | per sample | 935 | 935 | 42 | 39,270 | |
| b | Moisture at 60% RH & 40C | 4.2.8 | per sample | 1,010 | 1,010 | 42 | 42,420 | |
| c | GCV | 4.2.11 | per sample | 1,505 | 1,505 | 42 | 63,210 | |
| d | Sample preparation & House Keeping | 4.2.3 | per sample | 795 | 795 | 42 | 33,390 | |
| 3 | Special Test | | | | | | | |
| a | Ultimate analysis | 4.2.17 | per sample | 9,945 | 9,945 | 12 | 1,19,340 | |
| b | Total Sulphur | 4.2.14 | per sample | 1,900 | 1,900 | 12 | 22,800 | |
| c | Distribution of Sulphur | 4.2.15 | per sample | 3,695 | 3,695 | 12 | 44,340 | |
| d | Phosphorus | 4.2.21 | per sample | 2,480 | 2,480 | 12 | 29,760 | |
| e | HGI including sample preparation | 4.2.18 | per sample | 3,805 | 3,805 | 12 | 45,660 | |
| f | AFT (Ash Fusion Temperature) | 4.2.20 | per sample | 2,745 | 2,745 | 12 | 32,940 | |
| g | Ash analysis | 4.2.25 | per sample | 325 | 325 | 12 | 3,900 | |
| h | Ash sample preparation 800°C from coke for analysis | 4.2.5 | per sample | 875 | 875 | 12 | 10,500 | |
| i | Roga Index(Instead of caking Index) | 4.2.22 | per sample | 5365 | 5365 | 12 | 64,380 | |
| j | Swelling Index | 4.2.23 | per sample | 2745 | 2745 | 12 | 32,940 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| k | LTGK coke type | | | | | | | |
| 4 | **Petrographic analysis** | 4.2.24 | per sample | 4550 | 4550 | 12 | 54,600 | |
| a | Pellet preparation | 4.3.14a | per sample | 1160 | 1160 | 12 | 13,920 | |
| b | Maceral Analysis (with photomicrography) | 4.3.14e | per sample | 25,000 | 25,000 | 12 | 3,00,000 | |
| c | Microlithotype Analysis (with photomicrography) | 4.3.14g | per sample | 25,000 | 25,000 | 12 | 3,00,000 | |
| d | Determination of Rank (VRO random %) | 4.3.14i | per sample | 16,345 | 16,345 | 12 | 1,96,140 | |
| e | Determination of Rank (VRO Min. % and Max.) | 4.3.14h | per sample | 21,025 | 21,025 | 12 | 2,52,300 | |
| | | | | | | **Sub Total- C** | **19,87,060** | |
| **IV. Miscellaneous Charges** | | | | | | | | |
| a | Core Preservation (1 borehole) | 5.3 | Per m | 1590 | 1590 | 900 | 14,31,000 | This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities |
| b | DGPS Survey of boundary, borehole points (4 boreholes & 7 boundary point) | 1.6.2 | per point | 19,200 | 19,200 | 11 | 2,11,200 | |
| c | Land crop compensation | 5.6 | Per bh | 20,000 | 20,000 | 4 | 80,000 | Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities |
| d | Preparation of Exploration Proposal | 5.1 | lump sum | 3,80,000 | 3,80,000 | 1 | 3,80,000 | EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal |
| e | Peer review | | | 10,000 | 10,000 | 1 | 10,000 | |
| | | | | | | **Sub Total- D** | **21,12,200** | |
| | | | | | | **Total (A+B+C+D)** | **2,34,67,660** | |
| V | Geological Report preparation (3% of work value) | 5.2 | | For project exceeding Rs. 150 lakh but less than Rs. 300 Lakh - to A minimum Rs. 7.5 lakh or 3% of the value of work whichever is more | | | 7,50,000 | EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET. |
| VI | | | | | | **Total cost of the project without GST** | **2,42,17,660** | |
| | | | | | | Provision for GST (@18%) | 43,59,179 | GST will be reimburse as per actual and as per notified prescribed rate |
| | | | | | | **Total Cost of the project with GST** | **2,85,76,839** | **Say Rs. 285.77 Lakh** |

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Note- If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.

Note- 1) Above rate of drilling, GPL, Chemical, Physicomechanical are budgeted rates.

2) There are numerous items in chemical anlysis. The CIMFR rates will be applied for actual payment.

3)For Drilling & Geophysical the approved rates of MoC for FY 2020-21 has been taken other rates are as per approved SoC rates.

4) GPL rates is Rs.697/- per meter of minimum 8 parameters, the break up is as follow.

| | Probe | Rate 2020-21 (in Rs) |
|---|---|---|
| 1 | Base Log | 162 |
| 2 | Dual Density | 110 |
| 3 | Natural Gamma | 96 |
| 4 | Caliper | 20 |
| 5 | SPR | 41 |
| 6 | Sonic | 131 |
| 7 | Deviation | 96 |
| 8 | Resistivity | 41 |
| | Total | 697 |

5) Lumpsum amount of Rs. 10,000 has been considered for Peer Review.

6) Rate of Magnetic Survey- 100 points in a line km , 382 per staion , Hence 382x 100 i. e Rs.38,200 per line km

Annexure-4B

Time Schedule for Preliminary Exploration (G3) for Coal in North of Parbelia Block, Raniganj Coalfield, District-Purulia, West Bengal

| S. No | Activities | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Tendering | Months | | | | | | | | | | | | | |
| 2 | Mobilising | Months | | | | | | | | | | | | | |
| 3 | Drilling | Days | | | | | | | | | | | | | |
| 4 | Borehole Geophysical logging | Days | | | | | | | | | | | | | |
| 5 | Geologist Party days, Field (1 Party) | Days | | | | | | | | | | | | | |
| 6 | Geophysicist Party days, Field (1 Party) | Nos. | | | | | | | | | | | | | |
| 7 | Laboratory Studies (Band By Band) | Nos. | | | | | | | | | | | | | |
| 8 | Laboratory Studies (Overall) | Nos. | | | | | | | | | | | | | |
| 9 | Laboratory Studies (Special &, Petrography ) | Days | | | | | | | | | | | | | |
| 10 | Geologist Party days, HQ (1 Party) | | | | | | | | | | | | | | |
| 11 | Geophysicist Party days, HQ (1 Party) | Months | | | | | | | | | | | | | |
| 12 | 3 D Modiling | Months | | | | | | | | | | | | | |
| 13 | Report Writing & Peer Review | | | | | | | | | | | | | | |
| | Note: Please add activities accordingly and timelime (months) | | | | | | | | | | | | | | |
| | *Total Time Period of Completion of Project-* | *12 months from Sanction of Project* | | | | | | | | | | | | | |



16/07/21

Annexure-5

List of the ongoing projects discussed in 31st TCC meeting for timeline extension and recommended for EC approval

| S. No. | Block/Project | Implementing Agency | Actual Schedule date of completion | Revised/ approved Scheduled Timeline | Required timeline extension (upto) | Status of Exploration work/Geological Report |
|---|---|---|---|---|---|---|
| 1 | Preliminary exploration (G3) for manganese in Dunguripalli Block, District- Bolangir, Odisha. | MECL | 26/07/2020 | 31/03/2021 17th EC meeting | 31/05/2021 | Geological report submitted |
| 2 | General exploration (G2) for magnesite in Selu Block, District- Udaipur, Rajasthan. | MECL | 06/05/2021 | 06/05/2021 | 30/09/2021 | Geological report submitted for peer review |
| 3 | Preliminary exploration (G3) for Iron Ore in Silpunji Block in Jamda-Koira Valley, District- West Singhbhum, Jharkhand. | MECL | 26/05/2020 | 26/05/2020 | 31/07/2021 | Geological report submitted for peer review |
| 4 | General exploration (G2) for copper in Baraganda Block, District- Giridih, Jharkhand. | MECL | 26/02/2020 | 26/02/2020 | 31/07/2021 | Geological report submitted |
| 5 | Reconnaissance Survey for limestone in Sangmania Block for limestone, District- Satna, Madhya Pradesh. | DGM, MP | 26/11/2020 | 26/11/2020 | 30/09/2021 | Work in progress |

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