



**The Kerala Minerals and Metals Ltd.**

(A Govt. of Kerala Undertaking)

(An ISO 9001, ISO 14001 & ISO 45001 Certified Company)

SANKARAMANGALAM, CHAVARA-691 583

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CIN-U14109KL1972SGC002399

TP/ENV/P&L  
11.12.2024

To,

M/s B.S. Krishnan Associates,  
Advocates,  
PB No 2469, Kailas, Warriam Rd,  
Pallimukku,  
Ernakulam,  
Kerala 682 016.

Sir,

Sub: Quarterly compliance report to the registry of Hon'ble NGT Southern Zone - reg.

Ref: Judgment of the NGT dt. 31.08.2017 on application nos 142 of 2013 (SZ), applications nos 290 of 2013 (SZ) and application nos 453 of 2013 (SZ)- Directions from NGT - reg.

This letter has reference to the above Judgments of Hon'ble NGT Court. As directed as per the above judgment, we are hereby sending the latest status updates of the compliance on the directions viz. Point No. 1 to 6 (covered from page No 119 to 157) in the Hon'ble NGT Judgment for your kind verification and onward submission to the registry of Hon'ble NGT.

Thanking You,  
Yours Faithfully,

**FOR THE KERALA MINERALS AND METALS LIMITED**

  
**MANAGING DIRECTOR**




## Quarterly report to NGT

### Status of compliance of the directions of the NGT as on 30.11.2024.

#	Direction from NGT	Status of Compliance
1	<p>i. Prepare the design for both short term and long-term measures suggested by NEERI through competent and expert developers/contractors with suitable time frame for completion and presenting the design to the KSPCB for its approval/further direction, within three months from the date of Judgment (31.08.2017).</p> <p>ii. Implementation of the measures after receipt of approval from the KSPCB within the time frame proposed for completion.</p>	<ul style="list-style-type: none"><li>• M/s KITCO prepared the DPR for short term measures and submitted to KSPCB for approval on 20.07.2018.</li><li>• Approval obtained from KSPCB for short term measures DPR on 07.01.2019.</li><li>• <b>Points stands Complied.</b></li></ul> <p><b><u>Short term Measures</u></b></p> <p><b><u>Garland Drain</u></b></p> <ul style="list-style-type: none"><li>• Completed construction of garland drain around new ETP.</li><li>• Completed construction of garland drain around old IOP/ETP pond, as per site conditions.</li><li>• Construction of garland drain around new IOP is in progress. Target completion- June 2025.</li></ul> <p><b><u>Land Remediation of Test Patch area(1R) inside KMML -</u></b></p> <ul style="list-style-type: none"><li>• M/s FEDO, Kochi, was appointed as the project management consultancy.</li><li>• Three parties quoted for the E-tender towards work execution.</li><li>• E-tender evaluation completed, and work order issued to M/s P.T. Jayapal.</li><li>• Execution of the work started by the first week of April 2024.</li><li>• Sprinkling of lime solution was completed by August 2024 and leachate collection done at site &amp; completed the test process. The leachate quantity was low due to site conditions.</li><li>• M/s FEDO, Kochi (Project Management Consultants), submitted a test patch trial report on 12.11.2024. In the report they summarized that "<i>The remediation method did not improve the pH of</i></li></ul>

  
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HOD (ENV) & AGM (E/I)



  
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ground water. As the pH of water did not improve, it can be deduced that the soil pH also did not improve. Hence the proposed methodology of land remediation is not to be applied extensively without further study”.

- To adopt remediation activities using specific technologies from the global front and as part of further study on the way forward action to remediate the land, KMML has taken immediate actions to invite a global expression of interest (EOI) to identify suitable & competent bidders who can support their latest technology in the field for remediation.
- KMML invited a **“Global Expression of Interest (EOI) for the identification of competent bidders to implement remediation of contaminated land with acidity”** on 03.12.2024. The last date for the submission of EOI offer is 17.01.2025.

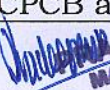
**Solid waste management in KMML (Insitu/Exsitu storage).**

- As an alternative/effective method, the containment of iron oxide in Geotubes was proposed by KMML.
- The new technology involves dewatering and storage of solid waste using GEOTUBES which was presented to KSPCB in the meeting held on 10.12.2018. This was proposed to be done as trail.
- Work can be started only with the technical concurrence of CPCB/ KSPCB. KSPCB directed the same for CPCB approval.
- Letter dated 18.03.2024 was forwarded to Govt. of Kerala, seeking support to KMML by intervening with CPCB for their approval.

Letter dated 11.07.2024 has been sent to CPCB as a follow up action.

  
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- A letter dated 11.07.2024 has been sent by KMML to CPCB for an appointment to discuss the matter of approval. CPCB is yet to respond.
- E-mail sent to CPCB on 12.07.2024 with the above letter as attachment dt.11.07.2024.
- E-mail sent to CPCB on 12.09.2024 intimating the directive of Hon'ble NGT court hearing dated 16.08.2024 and requested CPCB to allow approval as there is need to complete the activities in a time lined manner.
- **KMML is awaiting CPCB approval for the trial dewatering and storage of iron oxide using Geotubes from elevated Iron Oxide Pond. A follow up letter is also forwarded on 06.12.2024.**
- **Target- 10 months from order placement and its acceptance.**
- Meanwhile, alternatively, to utilize the stockpiled iron oxide and ETP sludge in the ponds for value addition, KMML had invited global expression of interests for setting up plant on Design, Build, Finance, Own and Operate basis. Offers were received and later formalized the process with tendering activities.
- The successful bidder for both IO and ETP sludge value addition is M/s. Tetrabic, Hyderabad.
- Government of Kerala had accorded its approval to place formal orders on the above party by allowing 5 acres of KMML land on lease basis to set up the plant.
- G.O has been issued on 09.11.2024 and drafting of the agreements is in process. Order will be placed shortly.
- **Target- 18 months from order acceptance.**
- With this project execution, it is expected that the stockpiled mass in the ponds would be consumed in

  
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three years time from the date of commercial production & the ponds would be emptied.


**Long Term Measure**

**ARP Technology Modification**

- KMML floated global tender in July-19, due to one bid it was decided to retender.
- KMML invited global re-tender and opened in September 2019 for Acid Regeneration Plant Technology Modification and only one party quoted. Viz. M/S. Indrox Global Pvt. Ltd., New Delhi.
- Tender was closed in December 2019 and after evaluation of the proposal, the file was put up to 243<sup>rd</sup> Board Meeting of the company held on 21.05.2020, for approval.
- As approved by the Board, the file was put to the Government on 01.06.2020 for getting final sanction.
- As per the direction given by Government of Kerala, Retendering done during June 2021.
- Global retender was invited from Technology providers for the process modification of existing Acid Regeneration Plant on 10.06.2021
- The offer submitted by M/s INDROX GLOBAL PVT LTD was evaluated and approved in the 250<sup>th</sup> Board Meeting of the Company held on 15.01.2022 and submitted for the Government approval.
- A meeting was convened under the chairmanship of Hon'ble Minister for Industries, Law & Coir on 09.06.2022 and in the meeting, it was decided to work out the cost reasonableness & submit report to Government of Kerala.
- Accordingly FEDO, Kochi, had done the cost analysis study and the report got submitted to

  
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		<p>Government of Kerala for approval to place order.</p> <ul style="list-style-type: none"> <li>• The Govt has accorded administrative approval for the work on 26.05.2024.</li> <li>• <b>LOI placed on the party dated 04.06.2024.</b></li> <li>• After the KMML Board meeting approval, a revised work order was issued to the party on 18.11.2024 and the party accepted the work order on 21.11.2024.</li> <li>• <b>Target completion – May- 2026 (18 months from the date of acceptance of work order).</b></li> </ul>
2 & 3	<p>There is no necessity for transporting the waste from KMML to KEIL at Kochi, since the wastes are non-hazardous in nature as studied and reported by NEERI as per the HWMH rules.</p>	<p>Disposal of iron oxide to Ms/ KEIL was discontinued from 07.08.2014. The iron oxide generated and stored inside KMML premises could be effectively utilized for the value addition. However, from 16.08.2024 and as per KSPCB approved action plan, KMML is disposing Iron oxide to KEIL (online generated quantity) and is being done as part of plant operations. No iron oxide is getting accumulated now. The accumulated IO will be utilized for value addition and its proposal is in the final ordering stage.</p>
4	<p>The material produced by KMML is non radioactive in nature as per the report of AERB. However, KMML shall scrupulously implement those recommendations of the AERB for storage of tailings of mineral separation.</p>	<p>The sand tailings generated at the Mineral Separation unit is disposed/ stored only as per the direction of AERB. The point stands complied.</p>
5	<p>i. KMML is directed to prepare an appropriate scientific scheme for remediation of contaminated soil or ground water as recommended by NEERI through an expert/contractor with specific time frame and submit the same to the KSPCB for approval, within three months from the date of Judgment (31.08.2017) and complete the necessary project within the time frame specified.</p>	<p><b><u>Land Remediation of Test Patch area (1R) inside KMML</u></b></p> <ul style="list-style-type: none"> <li>• After repeated tenders, we couldn't get suitable bid. Hence it was decided to take trial initially with the help of PMC M/s FEDO and the items supplied and installed by a contractor.</li> <li>• Three parties quoted for the e-tender, for supply and installation of the facilities.</li> </ul>

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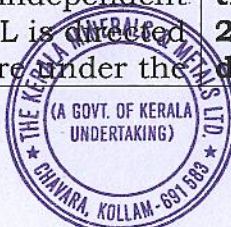


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	subject to the approval from KSPCB.	<ul style="list-style-type: none"> <li>• E-tender evaluation completed and work order issued to M/s P.T.Jayapal.</li> <li>• <b>Execution of the work started by the first week of April 2024.</b></li> <li>• Sprinkling of lime solution was completed by August 2024 and leachate collection done at site &amp; completed the process.</li> <li>• M/s FEDO, Kochi (Project Management Consultants), submitted a test patch trial report on 12.11.2024. In the report they summarized that <i>"The remediation method did not improve the pH of ground water. As the pH of water did not improve, it can be deduced that the soil pH also did not improve. Hence the proposed methodology of land remediation is not to be applied extensively without further study"</i>.</li> <li>• To adopt remediation activities using specific technologies from the global front and as part of further study on the way forward action to remediate the land, KMML has taken actions to invite a global expression of interest (EOI) to identify suitable &amp; competent bidders who can support their latest technology in the field.</li> <li>• KMML invited a <b>"Global Expression of Interest (EOI) for the identification of competent bidders to implement remediation of contaminated land with acidity"</b> on 03.12.2024. The last date for submission of EOI is 17.01.2025.</li> </ul>
	ii. KMML shall continue to supply adequate potable water to the people residing in and around its industrial premises until the projects of soil remediation and ground water remediation is completed fully.	<b>KMML is continuously supplying about 7 to 8 Lakhs liters/day drinking water of potable quality to the local residents and shall continue to supply as directed. The point stands complied.</b>
6	i. The soil/water remediation process as suggested by NEERI is the independent responsibility of KMML. KMML is directed to deposit a sum of Rs. 1 Crore under the	<b>DD for Rs. 1 Crore is remitted in the name of Chairman, KSPCB on 21.09.2017. KMML obeyed the direction of Hon'ble court.</b>


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<p>principle of "polluter pays" in favour of Chairman, KSPCB, who shall keep the said amount in a separate account named as "Environment relief fund for remediation of Chavara region due to pollution caused by KMML". The said amount to be managed by the Chief Secretary, Govt. of Kerala and Chairman, KSPCB and utilize the remediation and/or distribution to affected persons either as per the direction of NGT or as per the decision of the State Government.</p>	<p>As per Hon'ble NGT case in EA 07/2023 in OA 290/2023 a "Health status assessment of people residing around Kerala Minerals and Metals Ltd. Chavara, Kollam" study has been conducted by 'Department of Community Medicine Government Medical College, Thiruvananthapuram. The report is now available with Statutory and Government bodies, for their actions.</p>
<p>ii. KMML shall file their periodical compliance reports to the registry of NGT, Southern zone once in three months beginning with quarter ending on 30.11.2017 followed by quarter ending with 28.02.2018, 31.05.2018 and 31.08.2018 by the 10<sup>th</sup> of every succeeding month. KMML shall display the quarterly compliance report on their website also.</p>	<p>Quarterly report on status of compliance on the directions of NGT is being submitted to NGT and also displays the same in KMML website as directed.</p>

  
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