



MCL

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कार्यालय आदेश

विषय- ईंधन स्तर निगरानी प्रणाली (FLMS) का मानक संचालन प्रक्रिया (SOP)

Enclosed herewith is the Standard Operating Procedure (SOP) for the Fuel Level Monitoring System (FLMS) installed in Equipment/Heavy Earth Moving Machinery (HEMM) operating in Open Cast Projects / mines of Mahanadi Coalfields Limited.

Under the new IT initiative by MCL to digitalize the fuel systems of HEMMs across its OCPs, FLMS has been fitted into various equipment for day-to-day monitoring of fuel levels. Compliance with the enclosed SOP for all FLMS-related activities is mandatory.

This is issued with competent approval for information and compliance.

Enclosed - SOP for FLMS

भवदीय

Dhalkebari 16/7/25
महाप्रबंधक (उत्खनन) / विभागाध्यक्ष

एमसीएल, सम्बलपुर

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16/7/25

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Copy to :-

Director (Tech/Operation), MCL- For Kind Information.

Distribution:-

1. TS to CVO, MCL.
2. Area General Manager- All areas of MCL.
3. General Manager- CWS (IB Valley and Talcher).
4. Chief of Security, MCL.
5. Staff Officer (Excavation)- All areas of MCL.
6. Area Security Officer- All areas of MCL.
7. Project Engineer (Excavation)- All Open Cast Projects of MCL.
8. Depot Officer- All Open Cast Projects of MCL.
9. Office File.

Standard Operating Procedure (SOP) for Fuel Level Monitoring System (FLMS)

1.0 Preamble

- 1.1 HSD is a high value item based on consumption and is a major component of operational cost for production of coal. Even a small percentage of pilferage results in loss of high financial value. Hence there is a urgent requirement of monitoring of fuel.
- 1.2 As part of MCL's new IT-driven initiative to digitalize fuel systems on HEMMs across its OCPs, FLMS is now installed/to be installed on the equipment to permit real-time monitoring of fuel levels. Strict adherence to the SOP for all FLMS-related operations is mandatory.

2.0 Provision of Generated Fuel Alerts to Designated Recipients

Fuel Alerts generated through SMS during increase/decrease/tampering in fuel level of the Equipment will be provided to the following mentioned persons :-

- a. Project Officer of the respective project
- b. Project Manager of the respective project
- c. Project Engineer (Excavation) of the respective project.
- d. Concerned section in-charge of the equipment.
- e. Security in-charge of the respective project.
- f. Area Security In-charge of respective project/area.
- g. Any other person as desired by the Project/Area authority.

In addition to the aforementioned recipients, access to the FLMS web portal must also be granted to Control Room, Security Department- MCL HQ & Excavation Department, MCL HQ.

3.0 To Monitor the working of the FLMS

3.1 Formation of Area-Level Committee

At each area, a committee shall be constituted under the approval of the concerned Area General Manager to monitor the proper functioning of FLMS installed on equipment at the respective project site.

The committee shall comprise the following members:

- One representative from the **Technical Department**
- One representative from the **Security Department**
- One representative from another department, preferably from **Materials Management (MM) Department**.

In cases where any committee member is absent, a designated substitute shall be appointed to serve in their place.

3.2 Coordination with Project Engineer (Excavation)

The committee, in consultation with the Project Engineer (Excavation), shall continuously monitor the overall performance and smooth operation of the FLMS.

3.3 Reporting of Malfunctions

If the FLMS fitted in any equipment malfunction or fail to perform adequately, The Project Engineer (Excavation) must immediately report the issue in writing to the concerned firm or responsible party with an intimation to the committee.

3.4 Ensuring Prompt Restoration

The committee will monitor and ensure that the FLMS system is restored to fully functional status at the earliest possible .

3.5 Monthly Surprise Inspections

The committee shall conduct at least **one surprise inspection per month** to verify proper functioning of the FLMS. Detailed findings from each surprise check must be meticulously documented and recorded.

4.0 For alerts generated through the FLMS

4.1 Formation of Project-Level Committee

A committee shall be constituted at the project level, under the approval of the Concerned Project Officer, to act on alerts generated through the FLMS system.

The committee shall comprise the following members:

- Concerned section-in-charge of equipment.
- Security-Incharge of the project.
- One representative from another department, preferably from **Mining Department**

In cases where any committee member is absent, a designated substitute shall be appointed to serve in their place.

4.2 Immediate Alert Response

Any alerts whether received via SMS or accessed through the FLMS web portal must be investigated immediately at the spot by the committee.

4.3 Recording of Alert Details

Upon inspection, the committee shall document the detailed reasons of the alert in the bound book. The format to be used is provided in **Annexure "A"**.

4.4 Rectification and Escalation Procedure

If the alert generated through the web portal or SMS is due to error/malfunctioning in the FLMS system, it must be duly recorded and proper corrective action shall be initiated for the rectification of the same instantly. If it is found by the committee that the alerts generated are actually pilferage, the same must be communicated to the competent authority at the earliest and suitable action may be taken as per the rules of the company.

4.5 Ongoing System Integrity Checks

Project committee members shall conduct random inspections to verify the proper functioning of FLMS units installed on equipment on regular basis. This must be recorded properly and findings to be submitted to the **Concerned Project Engineer (Excavation)** .

5.0 General Guidelines

- A. If any work in the equipment is to be carried out for rectification of FLMS system, the same must be informed to the Project authorities and Area level committee beforehand in writing/mail.
- B. As sometimes alerts in FLMS system of the equipment is generated due to discharge of battery, the same must be recorded and action must be taken for replacement of battery.
- C. If any equipment comes under long breakdown and battery needs to be removed, the same must be communicated by the section-in charge to the concerned Project Engineer (Excavation) and Project Manager.
- D. For equipment which are under MARC, any work carried out by MARC holder that involves the disconnection of battery or any work which may affect the FLMS system, prior written permission from Project Engineer (Excavation) is to be taken and same should be recorded in a bound book by the concerned equipment in-charge.
- E. As the sensors of the FLMS system are fitted in diesel tank of the equipment, hence any work related which involves drain of diesel from diesel tank like diesel tank cleaning, welding work near diesel tank etc; a prior written approval from concerned Project Officer must be taken to carry out such work.
- F. Any tempering with the FLMS fitted in equipment like damage of FLMS cable, controller, sensors etc are found, the same must be reported to the project authority immediately and suitable action to be taken for rectification of fitted FLMS.
- G. The access to the alerts generated vide SMS or from respective website are also provided or to be provided at Control Room/Security Department, MCL HQ and Excavation Department- MCL HQ, hence all the action taken reports in respect to alerts generated must be sent to both the department.

"FLMS checklist enclosed as Annexure-B should also be maintained in the register."

Annexure - A

FLMS MONITORING REGISTER

Sl. No.	DATE of receipt of alerts	Equipment Type & Model	Equipment Sl. No.	Fuel alerts received Quantity (In Ltrs)	Received through (SMS/Website)	Action taken	Signature
1							
2							

FLMS CHECKLIST

S.N.	Description	Status/ Number
1	Total number of equipment on which FLMS is fitted	
2	Total number of equipment on which FLMS is activated/Commissioned	
3	Total number of equipment on which Commissioned FLMS is currently working	
4	Reason of Non-working of Commissioned FLMS units on equipment	