



भारतसरकार / Government of India

श्रमएवंरोजगारमंत्रालय / Ministry of Labour & Employment

खानसुरक्षामहानिदेशालय / Directorate General of Mines Safety



No.

DGMS Technical Circular No. 03 of 2019

To

The Owner/Agent/Manager of Coal and Metalliferous Mines.

Subject: Guidelines for implementation of Safety Management Plan in mines.

- 1.0 The 9th Conference on Safety in Mines in the year 2000 laid the foundation for self-regulation in mines by promoting risk assessment to formulating and implementing Safety Management Plans (SMP). Since then, there has been a consistent thrust from this Directorate for this purpose by way of issuing several advisory DGMS circulars. However, post the recently notified Coal Mines Regulations, 2017 and the Oil Mines Regulation, 2017, the subject matter of SMP has been accorded a statutory berth with the onus to formulate and implement the same having been vested with the Owner, Agent and Manager. A similar provision has been proposed in the Metalliferous Mines Regulations, 1961 which is under amendment.
- 2.0 SMP is in two distinct parts namely, the formulation and the implementation. Consequent upon the notification of DGMS (Tech) S&T Circular No.5 of 2016, the formulation part of SMP in most large mines in both public and private sectors did witness a positive transformation under the active guidance from this Directorate, from a conceptual state to a document form with principal hazards getting identified along with their mitigating control plans in place.
- 3.0 However, the experience till date has revealed that all the formulated SMPs have thus far remained only on paper without any auditable documentation on mitigation of the identified principal hazards. Therefore, a technical workshop was organized by this Directorate on the 26th and 27th of November, 2019 at Ranchi to review the progress made and to strategizing implementation of SMP on an auditable mode. The deliberations of the workshop broadly revealed the following status report and shortcomings plaguing the mining companies in this regard.
 - a) By and large, mines have adopted risk assessments as their preferred vehicle for incorporating consultation in developing and reviewing safety management systems.
 - b) In a few cases only, the ownership of the SMP document at the level of Nominated Owner of the mine(s) was explicitly visible. In many cases, the involvement of the senior and corporate management was left to be assumed.
 - c) In some mines, risk assessment was merely as a statutory compliance action without much sensitivity being attached to seriously mitigating the principal hazards.
 - d) Initial teething troubles on team composition, number of meetings held, involvement of experts, etc., appear to have been reasonably settled. However, qualitatively, the constituted mine level teams appear unfavorably tilted against the contractual component wherever deployed.

- e) Invariably in all cases, the devised control plans and procedures were vague, without assigning specific responsibility by name and designation and very often with unrealistic time lines for mitigation.
- f) Risk ranking of hazards were often downgraded, without carrying out an objective assessment of existing controls.
- g) The terms 'audit' and 'review' in relation to SMP were loosely and arbitrarily being used without detailing the methodology thereof on an auditable scale. Infact, in some mines, review was stated to be on a fixed time interval irrespective and unmindful of the fact that mitigation time as mentioned in the control plans was much more than the review interval as was envisaged.
- h) In most cases, the facilitation extended by the corporate management of the mining companies towards enhancement of the techniques of perceiving danger, drawing appropriate control measures, sequential proceduring of measures to be adopted, apportioning responsibilities and realistic timelines for executing procedures, etc., was far from satisfactory.
- i) There was practically no visible sign of any training accorded to the mine level personnel to imbibe the vital ethics of scientifically managing an organization to bringing about the required cultural transformation for SMP to cement its due place in the corporate management policy.
- j) **Unfortunately, all the efforts till date appeared to have been made to merely formulating SMP and NOT implementing the same on an auditable scale. Not a single mine appeared to have completed even one full cycle of SMP from formulation to implementation on an auditable scale.**
- k) Despite the above, the quality of preparing SMP appeared to be upward looking meaning thereby that by repeated cycles of SMP with deployment of latest techniques could further sharpen the skills of the teams engaged on hazard identification.
- l) **Therefore, the entire exercise of preparation and implementation of SMP in mines still is left with huge scopes of improvement.**

4.0 In view of the above findings and to accelerating the introduction of the doctrine of self-regulation in mines through SMP, it would be prudent to continue the process in the right earnest, encompassing the following measures.

4.1 **Formulation of SMP:**

- a) Corporate management of mines shall initiate immediate necessary steps to enhancing and fine tuning the techniques of perceiving danger, drawing appropriate control measures with framing of sequential proceduring of measures to be adopted, apportioning responsibilities and realistic time lines for executing procedures, etc.
- b) Corporate management of mines shall hold structured training programmes on regular basis to sensitize the stakeholders (workmen/supervisors/managers) about their role in formulation and management of SMP.
- c) For now, the categorization and/or ranking of risks for hazard identification may be done by using any of the two methods as explained in DGMS (Tech) (S&T) Circular No. 05, dated 2nd April 2016 and DGMS (Tech) Circular (MAMID)/01 dated 10th March 2014. However, this is an area into which, the corporate managements could invest adequate resources to engaging appropriate agencies on a continuous scale for bettering various techniques of hazard identification on a scientifically justified basis.

- 4.2 **Implementation of SMP on an auditable mode:** For breaking the current static status of non-implementation of SMP on an auditable scale in mines, the following pre-requisites are to be carefully evaluated.
- 4.2.1 That, the formulated SMP is on an acceptable scale with various principal hazards having been identified by proper stake holding group(s) from the mine and with the assistance of experts in the field wherever necessary.
- 4.2.2 That, for each identified principal hazard, there are one or more mechanisms involved in the control plan, which are well detailed in respect of the control(s) and procedure(s).
- 4.2.3 That, for each procedure or a set of procedures, the name(s) and designation(s) of persons made responsible for execution of the procedure(s) on a unique or shared basis as the case may be, shall be clearly indicated (herein referred to as the 'person responsible').
- 4.2.4 That, for every procedure detailed as above, the envisaged time of completion shall **NOT** be shown in **DAYS BUT** only as a **CLEAR DATE**.
- 4.2.5 That, for the formulated SMP document, a unique number shall be allocated and mentioned at the top of each page for all future reference purposes. The formulated SMP document shall be suitably numbered on each page and also properly indexed item-wise. Care shall be taken to having an appropriate protocol for document numbering and indexing purposes.
- 4.2.6 That, the formulated SMP document so prepared shall be approved/accepted/vetted in writing at the level of the Nominated Owner of the mine.
- 4.2.7 That, the approved/accepted/vetted SMP document by the Nominated Owner in writing shall be suitably bound and a copy of the same shall be made out to every stake holder including 'persons responsible' in the control plans.
- 4.3 **Initial steps of implementation:** For the purpose of implementation, the time-line shall be deemed to commence from the date of approval/acceptance of the SMP document in writing by the Nominated Owner.
- 4.4 **Major steps of implementation of the approved/accepted/agreed SMP:**
- 4.4.1 For every **procedure in the control plan**, a **chronological order of mitigative actions** taken shall be created in a document form hereinafter referred to as the '**Workplan**'.
- 4.4.2 The created workplan is essentially a textual document containing one or more pages of various directions, instructions, etc., in writing as may be made at various levels of management hierarchy during the course of proceeding towards the logical conclusion of the completion of the procedure(s).
- 4.4.3 Every workplan shall be captioned on top of the cover page with a unique reference number. Below the captioned number, the particular procedure of the approved/ accepted/agreed SMP document for which this workplan is being made along with the page number and the indexed item number as shown thereat, shall be clearly mentioned as the subject of the workplan.
- 4.4.4 Below the subject, details of the 'person responsible' and the target date as contained in the approved/accepted/ agreed SMP document shall be mentioned.
- 4.4.5 After this, the 'person responsible' shall initiate in writing, the chronological steps as may be required of him to accomplishing the procedure, by referring the workplan to appropriate levels in the management hierarchy for decisions, sanctions, approvals, etc. From this point onwards, the workplan may take a journey through various levels of the management hierarchy in accordance with the notings contained thereat. At no point in time can anyone

participating in the journey of the workplan take any plea of missing the caption as mentioned above with a clear time line. **Therefore, all such involved levels in the journey are morally and officially bonded to the outcome of the procedure in respect of the time involved at individual levels and the delivery made.**

- 4.4.6 The final outcome of the workplan shall be the statement of completion of the procedure by the 'person responsible', **presented in writing to the authority which can accept the outcome as such or order appropriate modifications, etc., in writing.**
- 4.4.7 After completion of the procedure as acknowledged by the accepting authority in writing in the workplan, a mention to this effect shall be made in the control plan of the approved/accepted/agreed SMP clearly indicating the date of completion and the reference number of the workplan.
- 4.4.8 The workplan so made shall be **preserved for audit/examination**, at a later date.
- 4.4.9 Likewise, **similar sets of workplans** shall be **prepared in respect of all other procedures in the control plan of approved/accepted/agreed SMP for each identified principal hazard and appropriate entries to this effect as mentioned at para 4.4.7** are made in the approved/accepted/agreed SMP document.
- 4.4.10 **After all workplans as above** are completed for all the identified principal hazards and appropriate entries made in the approved/accepted/agreed SMP document, the **first cycle of the journey of SMP may be considered as ready for audit.**
- 4.4.11 Complete internal audit of the SMP shall then be **taken-up initially by the ISO of the company** by constituting a team appropriately for the purpose. **The scope of the audit shall include both formulation and implementation of SMP, along with examination of all supporting documents, workplans, etc.** After satisfactory internal audit, any external audit may also be conducted as may be deemed fit by the management.
- 4.4.12 **If not accepted by the audit team**, various queries as may be raised by the audit team shall have to be addressed accordingly within a justified time frame as may be fixed by the audit team, to enabling re-audit.
- 4.4.13 On satisfactory completion of audit, **the SMP may be classified as having completed one complete cycle.** The audit team shall accordingly certify in writing, affixing signatures with date of the audit team members.
- 4.4.14 The management shall then commence review of the SMP in the second cycle in which, the earlier identified hazards are generally not expected to get repeated.
- 4.4.15 All such audited and certified SMP shall be **carefully preserved for future references, scrutiny, etc.**
- 5.0 **Outcome of each cycle of SMP:** After each cycle, the following vital information will be available for critical review and further process refinement in the subsequent cycles.
- 5.1 Mismatch, if any, on the assessment of time for completion of various procedures at the time of formulation of control plans, with the actual time taken.
- 5.2 Areas of any generic procedures as may have been decided while formulating SMP, to be appropriately improved with finer detailing.
- 5.3 Apportioning of responsibilities to appropriate person(s) for easier and effective completion of the allocated procedure(s) in the control plan of the SMP.

5.4 Adequate scope of better understanding of the intricacies of various mining processes, thereby, enhancing managerial/supervisory/functioning skills amongst various stake holders.


6.0 **Conclusions:**

6.1 With repeated cycles of SMP accomplished in serious earnest, various mining systems/processes/work procedures will automatically get refined to better both process safety and efficiency while also proactively empowering all stake holders.

6.2 **However, the true essence of SMP will be realized only by appropriately digitizing the entire SMP implementation methodology as mentioned above, leading to radical transformation and irreversible betterment of the safety status and various mining systems/processes/work procedures in place in mines.**

7.0 Therefore, all Owners, Agents and Managers of coal and metalliferous mines are requested to

- a) use the aforementioned guidelines to ensure that SMP is carried out meaningfully at the mines for overall enhancement of safety in mines,
- b) take steps to removing various shortcomings as mentioned above and to qualitatively improving the required skills for SMP formulation,
- c) introduce appropriate digital/IT mechanisms for SMP implementation,
- d) submit a return as per the enclosed format, on the 1st day after each quarter of calendar year in respect of the progress made into mitigating the identified principal hazards, to the respective Regional Inspector of Mines, and
- e) monitor the progress made in implementation of SMP in mines on a measureable scale in appropriate internal forums including the meetings of the Board of Directors of the company.


23/12/15

(R. Subramanian)
Director General of Mines Safety(Off.)

Encl: As above.

**STATUS REPORT ON PROGRESS MADE INTO MITIGATION OF ALL THE IDENTIFIED
PRINCIPAL HAZARDS.**

- 1.0 Name of the Mine:
- 2.0 Name of the Owner:
- 3.0 Name of the Agent:
- 4.0 Name of the Manager:
- 5.0 Status report for the quarter ending on : (date)

No.	List of Principal Hazard identified.	Mitigation date as per formulated SMP.	Details of auditable work plans made for mitigation.	Actual date of completion as per workplan.	Remarks, if any.
1.					
2.					
3.					
4.					

(Signature with date of the Manager)

(Signature with date of the Agent)

(Signature with date of the Owner)