



GOVERNMENT OF KERALA

Environment B Department

No-Env/B2/128/2020

02/11/2020, Thiruvananthapuram

From

principal Secretary to Government

To

The Registrar
National Green Tribunal
Faridkot House, Copernicus Marg,
Near India Gate, New Delhi 110001

Sir,

Sub: O.A No.134/2020 Action taken report forwarding of -reg

Ref: Order dated 23/07/2020 of the National Green Tribunal, New Delhi
in O.A 134/2020

I am to invite your attention to the reference cited and to forward herewith action taken report on the order in OA134/2020 with regard to the State of Kerala for further necessary action

Yours Faithfully,

SHEEBA B
JOINT SECRETARY

For principal Secretary to Government.

- Copy to 1) Mr. Nishe Rajen Shonker, Standing Council
National Green Tribunal, New Delhi
2) Environment Monitoring Cell

Action Taken by the State Government based on the order dated 23.07.2020 in OA No. 134/2020

Followed by the news on the styrene gas leak occurred in the plant of M/s. L.G Polymer India LTD., Visakhapatnam on 07.05.2020, Kerala State Pollution Control Board made a press release published in the leading news papers and the Board's website <https://www.keralapsc.nic.in> under the head 'Notifications' on 09.05.2020 on safety precautions to be taken before resuming operation of industries. The press release states that "all the chemical and other industries handling toxic chemicals/materials then under shut down, due to lock down shall resume their operation only after taking necessary safety/pollution control measures and the industries which presently in operation also shall be vigilant in maintaining their safety/pollution control measures." As per letter dated 01.07.2020 CPCB had given certain instructions to be complied with by the industries and SPCB. Copy of the letter of CPCB and the NGT order (hearing dated 23.07.2020) in G.A No. 134/2020 were forwarded to Kerala State Pollution Control Board's field level offices for urgent necessary action.

As per the report of the District offices of Kerala State Pollution Control Board, a minor incident of gas leakage was occurred in Kerala. It was from M/s The Travancore Cochin Chemicals Limited, Eloor reported on 31.05.2020 without any casualties. As per the company's report the leak was noted from sight glass of HCL synthesis unit no. 3 of the unit, which was in service. The leak persisted even after tightening. Hence, the shift engineer shut down the unit No.3 and lighted another unit No.6. The company received complaint from FACT regarding Chlorine leak. The company informed that they had immediately checked the stacks scrubber and unit's condition and no abnormalities were found. All pollution control measures were in line at the time of leak.

Another fire hazard incident occurred was in M/s Hindustan Latex Limited, Peroorkada, Thiruvananthapuram on 12.06.2020. It was not due to any chemical or gas leakage. The fire hazard incident broke out in the rubber waste stored in the factory premises and lasted only a half an hour and was extinguished immediately.No casualties were reported.

Other than the above, no other incidents like that happened in Vishakapatnam or non-

compliance came to the notice of the Board.

Moreover, in order to handle chemical accident hazards there is a crisis group in all Districts. The District Collector is the Chairman of this group and the Department of Factories and Boilers is the Convener. The State PCB is a member of the group and it looks into the pollution aspects of the industries. All the Major Accident Hazard (MAH) installations in Kerala shall have onsite and offsite emergency plans. Department of Factories and Boilers is conducting mock drills in these industries and the State PCB also participated in that. Periodical inspections are being conducted by the Kerala State Pollution Control Board in the industries and the pollution control measures adopted by them are being verified. All the Major Accident Hazard (MAH) installations in Kerala shall obtain license of Department of Factories and Boilers.

Consequent to the chemical accident happened at LG Polymers, Visakhapatnam, Factories & Boilers Department have issued guidelines (Cir. No. 6 dated 07.05.2020) to all factories regarding the steps to be taken while commencing the operation or process after lock down period. Similarly directions to the department officers were also issued vide Circular No.7 dated 15.05.2020.

Also in compliance to the judgments of Hon'ble National Green Tribunal in O.A No. 22/2020 and O.A No 134/2020, another set of guidelines have been issued vide Circular No. 9/2020 dated 17.09.2020 for the strict compliance by the hazardous factory managements and verification by the departmental officers (Copy enclosed).



No. G4/2407/2020/F&B.

"Surakshabhavan"
Directorate of Factories & Boilers
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Date: 07.05.2020

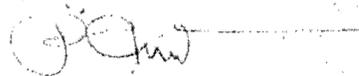
CIRCULAR NO. 06/2020

In view of the prevailing situation of COVID-19 across the world and in Kerala and based on the Lock Down declared by the Government, certain directives were already given to all factories coming under the purview of Indian Factories Act, 1948 and The Kerala Factories Rules, 1957. Now considering the situation of toxic gas release from a closed factory in Andhrapradesh, the following points shall be taken care of while restarting of chemical plants/process plants or as a general start up precautions for all factories after prolonged closure, especially in the present lock down scenario.

1. All factory buildings shall be properly ventilated before admitting any personnel. This should be checked and verified by a designated Safety Officer or in his absence by competent senior personnel of the factory. -
2. Ensure that operators involved in the startup procedure are supervised and supported by experienced technically trained personnel during startup and they are sufficiently trained on the control system that they will be operating.
3. Proper PPE shall be ensured for workers engaged in the initial cleaning and start up process to address leakage/presence of toxic gases.
4. Identify all potential hazards due to lock down and based on that Safe Operating Procedure (SOP) shall be prepared and shall be strictly followed.
5. All closed storage tanks - floating roof, fixed roof and underground storage tanks shall be checked for toxic gases and accumulated pressure due to formation of gases before hooking up to process lines. -
6. Proper working of all safety relevant systems including Pressure gauges, Level gauges, Safety valves, Pressure relief valve etc. of all Underground storage tanks; Overhead storage tanks, Reaction vessels, and Pipelines shall be ensured and Calibration if required shall be conducted before startup operations.

7. Process pipe lines shall be safely flushed for clearing toxic fumes and vapours be neutralized, (which may have accumulated) and all lines shall be leak tested before taking into use.
8. Ensure proper working of all detection systems including sensors for toxic gases and flammable gases.
9. All type of work permit systems shall be strictly followed.
10. Ensure electrical cables and electrical equipments are in good working condition and free of defects. Also make sure the functioning of all circuit breakers like ELCB, MCB etc.
11. Do not bypass critical safety devices while trouble shooting during start up
12. All movable machinery/equipment must be de-energised or disengaged and locked out during cleaning, servicing, adjusting or setting-up operations.
13. All lifting machineries and lifting tackles shall be checked before operation.
14. Ensure proper working of all emergency systems before starting up of plant.
15. Ensure adherence to all relevant start up procedure and Work instructions during startup.
16. Wherever possible emergency services shall be kept on standby or Onsite emergency plan to be activated for meeting unforeseen situation, during cleaning/startup of plant.

The above instructions are not exhaustive in nature; any additional precautions as may be necessary should be adopted by the factory management for safe startup of the factories after prolonged shutdown. All factory management are directed to submit a detailed start up plan to the concerned inspector for verification prior to commencement of operation of the plant.



DIRECTOR OF FACTORIES AND BOILERS

No.G4/2407/2020/F&B

"SURAKSHA BHAVAN"
OFFICE OF THE DIRECTOR OFFACTORIES
AND BOILERS,
KUMARAPURAM, MEDICAL COLLEGE P.O
THIRUVANANTHAPURAM -11,
PHONE: 0471 2441597
Email: director.fab@kerala.gov.in
Dated : 15.05.2020

CIRCULAR NO. 07/2020

Sub:- Corona Virus Disease 2019 (COVID-19) – Post Lockdown period -
directions to the department officers - reg

Read:- 1.Guidlines No. 1/137/2020- dated: 09.05.2020 of Member Secretary,
NDMA, New Delhi
2. Order of National Green Tribunal in OA 73/2020 dated: 08.05.2020.
3. Circular No. 06/2020 dated: 07.05.2020 of the Director of Factories
& Boilers, Kerala.

With reference to above and consequent to recent major accidents occurred in certain states of India like the same happened in LG Polymers, Visakhapatnam and Neyveli Lignite Corporation, Tamil Nadu etc, all officers are directed to ensure the following instructions in case of all and particularly in the case of Dangerous, Hazardous and Major Accident Hazardous factories which are currently under partial shutdown or are yet to commence the operation under the restrictions imposed by the Lock down prevailing currently the state in the wake of COVID-19 pandemic.

1. All Inspectors of Factories and Boilers and Additional Inspectors of Factories are directed to ensure that the Factory managements are complying with the directive issued under Circular 06/2020 Dt: 07.05.2020.
2. All Inspectors of Factories and Boilers shall verify the start-up procedure submitted by the management of Hazardous, Dangerous and MAH Factories and give necessary directions to the management after critically evaluating the same with respect to safety and conducting necessary inspections/discussions (electronic media) if required.
3. All Inspectors of Factories and Boilers are directed to ensure that every factory falling in the Hazardous category, especially MAH Factories shall possess an updated Onsite Emergency Plan (OSEP) and should give necessary directions

to the management of such factories to implement or activate the emergency response procedure mentioned in the OSEP or DMP before commencement of manufacturing process by the factory.

4. All Inspectors of Factories and Boilers who are member Secretaries of the District Crisis Group are directed to get in touch with the concerned District Collectors and activate the Emergency response Procedure specifying in the Offsite Emergency plan in coordination with District Crisis Group concerned before the commencement of operation/process by the Major Accident Hazardous Factories located in the district.
5. All Inspectors of Factories and Boilers, Additional Inspector of Factories and Chemical Inspectors are directed to issue necessary safety instructions or directions at their own level in addition to the guidelines issued in the circular 6/2020 based on the hazards involved in the respective manufacturing process before commencement of operation/process by such factory managements within their jurisdictions.
6. All Joint Directors are directed to give necessary advice to Inspector of Factories and Boilers, Additional Inspector of Factories and Officers of Safety Cell to and also to inspect the Factories along with them if necessary within their jurisdictions in order to ensure the safe commencement of operations/process in all type of factories after the lockdown period which will be decided by the Central Government or State Government.

(Sd/-)
Director of Factories and Boilers

To

1. All Joint Director of Factories & Boilers
2. All Inspector of Factories & Boilers, Gr. I & Gr. II
3. All Additional Inspector of Factories

No.G4/4605/2020/F&B

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E-Mail: directorate.fab@kerala.gov.in
Dated: 17/09/2020

CIRCULAR NO. 09/2020

Based on the report of the Central Government expert committee investigating the accident at LG Polymers Visakhapatnam and in compliance to the judgements of Hon'ble NGT in O.A No.22/2020 dated 08.06.2020 & O.A No.134/2020 dated 23.07.2020, the following guidelines are issued to the factory managements and department officers for strict compliance.

Guidelines to the factory managements coming under the purview of Hazardous process and Kerala Factories (MAH Control) Rules, 2005.

1. Hazard identification and evaluation in a local community, Preparation of Guiding Principles for Accident Prevention, Preparedness and Response for onsite and offsite emergency plans has to be reviewed and submitted.
2. A detailed study of the risk assessment and disaster management studies to be carried out by the industry.
3. Installation of the automatic siren when any parameter goes out of control. The siren needs to be done within and outside the industry so that the villages around are alarmed about the same.
4. Emergency ambulance services to be arranged in the industry premises along with an experienced doctor.
5. Awareness campaigns in the villages around the industry to make them aware of the measures to be taken in case of any accident/ damage from the industry to the area around the industry.

6. Readymade PPE to be placed at the emergency points in case of an accident.
7. Separate safety manual to be prepared for each equipment along with the accidental-management plan.
8. Documents of periodic inspection by Department of Factories and Boilers to assess the safety measures are to be maintained by the industry and it should be produced at the time of inspection by authorised officers.
9. The Company should conduct local public awareness campaigns about Do's/Don'ts during emergency.
10. Hazard and Operability Study (HAZOP) and its compliance shall be made compulsory for all Hazardous process factory/unit wherever there is processing/storage of hazardous chemicals listed in Kerala Factories (MAH) Control Rules, 2005.
11. The industry should carry out external and internal safety audit and the the recommendations of the audit shall be meticulously complied within a reasonable timeframe as per rules.
12. Industries handling hazardous chemicals shall compulsorily appoint a senior level safety officer with prescribed technical qualifications and experience. There should be a safety officer available in each shift viz., a safety officer should be available in the factory in 24 hours in the factory. The safety officer shall full fill the qualifications prescribed in Kerala Factories Rules, 1957.
13. All employees and people in the vicinity of the industry shall be made aware of the MSDS of hazardous chemicals.
14. The MSDS of the chemicals which has potential to create Offsite emergency should be displayed at the factory gate and on the website of the company and should also be informed during the Offsite emergency mock drill.

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15. The hazardous industry should have an Onsite Emergency Plan with full details including the equipment and chemicals required in the event of an emergency.
16. The industry shall identify Process Safety Competency-based training needs and shall develop training modules and the training to be imparted till the competency levels are improved.
17. The hazardous industry must undertake competency mapping for all the operating and maintenance staff. The gaps in incompetency should not be tolerated in respect of hazardous chemical industries at all.
18. Vapour Detectors shall be provided at the boundary of the factory also, to indicate in DCS the vapour escape outside the factory premises.
19. The industry shall provide the vapour/gas detectors at unloading point, near all the vents, downwind, upwind directions and factory boundary, and the same shall be connected to the Control room with alert facility. In the case of exceedance, SMS alert shall be sent to the Plant Safety Officer, Plant Head, local Police Station and Fire Station, District Collector Control Room, Local office of Factories & Boilers Department, KSPCB etc.
20. Process safety management, a systematic & comprehensive approach towards various aspects of chemical safety with 19 elements, shall be made mandatory for all factories which are covered by Kerala Factories (MAH) Rules, 2005.

Guidelines to Industries located close to Residential areas/habitations

21. Store Hazardous Chemicals in small tanks, below 500 KL and bulk Hazardous Chemical storage facilities may be shifted far from habitations.
22. There shall be constant monitoring of onsite and offsite emergency plans in respect of such hazardous industries located close to the residential areas.

There shall be regular conduct of the mock drill in the premises of the industries every six months and outside the industrial premises in the community every year.

23. The following steps may be taken up for an early identification of any eventuality:

a. Adequate number of sensors attached with hooter system to identify the release of toxic / hazardous gases which are harmful to the human beings and property from the industry shall be installed not only inside the industry but also outside the industry within the identified impact zone, based on consequence modelling study.

b. The sensitivity of the above sensors shall be to the level of respective OSHA standards.

c. The sensor activation should alert the following offices:

i. Local Police Stations.

ii. Nearest Fire Station.

iii. SDRF cell at Collectorate.

iv. The Inspector of Factories

v. The Regional Office, Pollution Control Board.

d. The local crisis group should be active and review every accident/incident to gain knowledge and expertise.

Recommendations to be implemented by Departmental officers

1) Periodic inspection by the officers of the department to assess the safety measures and documents maintained by the industry. If failed, necessary action shall be initiated against the industry.

2) Statutory Safety Audit by the Act and Rules shall be ensured.

- 3) The administrative failures such as not implementing the recommendations of factory inspectors in time (based on inspection reports), failure of replacing the old storage tanks and having no safety measures for temperature recordings, no safety audit reports are to be further investigated.
- 4) Since safety aspects are part of their mandate, an independent audit is required in the light of many accidents reported due to failure of safety measures and lack of training. Hazardous factory inspection by Regional Safety Cell may be conducted in the form of a safety audit and also compliance to be monitored by Joint Directors.
- 5) In order to prevent accidents, a District Crisis Group (DCG) needs to be established under the chairmanship of District Collector. This group has to meet every 45 days to review the safety and hazard issues of each and every industry. Similarly, State Crisis Group (SCG) needs to be established under Chief Secretary. This committee should meet every 3 months and review the onsite/offsite District emergency plan prepared by DCG and suggest the measures to be taken to minimize the accidents. Both DCG and SCG should make plans to create awareness among the people living in the surrounding area of the industry about chemical hazards and measures to be taken for accidents.
- 6) It is suggested that each officer shall take responsibility in implementing the Chemical Disasters Management, protocol -(March 2009 publication) and NIHIDC remedial measures and submit Action taken Report.
- 7) Responsibility Matrices for Disaster Risk Mitigation as per National Disaster Management Plan (May 2016) has to be taken up and assess the implementation schedule by each officers.


Director of Factories & Boilers