

**CHAPTER**

**5**



# Monitoring of Environmental Parameters by Project Proponents

## 5.1 Introduction

Environmental Clearance (EC) is issued to Project Proponents (PPs) subject to general and specific conditions as per EIA Notification, 2006. MoEF&CC has set up Regional Offices (ROs) across the country to monitor the compliance of EC conditions. After EC is issued, it is the duty of PP to implement the project and follow the compliance of the EC conditions. Environmental Impact Assessment (EIA)/Environment Management Plan (EMP) reports and EC conditions provide tools for monitoring various environmental parameters by PPs themselves. The audit findings on monitoring of environmental parameters by PPs are discussed in this chapter.

## 5.2 Non setting up of separate Monitoring Cell with adequate manpower

EIA/EMP reports provided for a full-fledged Environmental Monitoring Cell with necessary infrastructure comprising experienced and qualified personnel, to be developed at proposed project by every PP for environmental performance and monitoring of environmental quality. Conditions to this effect are either contained in the EC or committed in EIA report.

In the selected 352 projects, information in respect of only 274 projects was received and position could not be assessed in remaining 88 projects, due to non-availability of records.

Of these 274 projects, we found that 176 projects were in adherence to conditions laid out in EC/EIA report about setting up of a separate monitoring Cell. Observations related to remaining 98 (36 *per cent*) projects are as under:

- a. **Absence of specific conditions for setting up of monitoring cell:** A total of 47 projects had no specific condition in their respective ECs or EIA reports about setting up of a separate monitoring cell with necessary infrastructure. In absence of any mandate stipulated in EC or EIA report on project proponent for setting up a monitoring cell, adherence to environmental parameters committed by PP could not be possibly monitored. In case of Assam, Himachal Pradesh, Mizoram, Sikkim and Daman & Diu, none of the sampled projects had the condition of creating a monitoring cell.
- b. **Non setting up of monitoring cell:** In 40 projects, it was observed that though EC/EIA report mandated setting up a separate monitoring cell with sufficient infrastructure, PPs failed to adhere to these conditions, as no such cell was found to have been established. These 40 projects were primarily found to be in States

of Karnataka, Uttar Pradesh, Haryana, Punjab, Jharkhand, Bihar, Gujarat and Uttarakhand.

- c. Incomplete adherence to conditions of EC:** In 11 projects, even though a separate monitoring cell was created, in terms of deployment of manpower against the commitment, achievement was only partial.

Non-establishment of monitoring cells, laboratory facility and inadequate deployment of manpower by PPs indicates that PPs were not serious about monitoring the environmental parameters as stipulated in EC. In absence of necessary manpower for monitoring, it could not have been possible to continuously monitor the impact of the project on various environmental parameters such as air quality, surface and ground water quality, noise and soil quality.

MoEF&CC proposed (October 2016) that the post of Environmental Officer in projects would be included as statutory requirement under the Environment Protection Act to improve compliance relating to environment monitoring.

### 5.3 Shortfall in installation and non-functionality of monitoring systems

As per the conditions of the EC and also commitments made in the EIA reports, every proponent was to install sufficient infrastructure to monitor the quality of air, surface and ground water, noise, effluent treatment and certain other committed infrastructure.

Of the 352 sampled projects, we received information on 277 projects on installation of equipment and their operational status. We noticed that only 50 projects (18 *per cent*) were in broad compliance to mandated conditions. 176 projects did not have any specific provision in the EC for installation of necessary monitoring equipment. Absence of even a provision in EC for installing monitoring stations diluted their liability towards environmental commitments.

In the remaining 51 projects, as against the EC provisions, a shortfall ranging from 20 to 100 *per cent* was observed in installation of necessary infrastructure. There were 39 projects (76 *per cent*) where shortfall in installation was 100 *per cent*. Most of these projects, where shortfall was 100 *per cent* were found in Gujarat (12), West Bengal (7), Rajasthan (4) and Odisha (5).

Non installation of monitoring systems indicated that PPs were not self-compliant through automatic monitoring and surveillance systems and thereby not serious in bringing transparency in their compliance to the environment conditions.

MoEF&CC in its reply (October 2016) recognized this issue and stated that continuous monitoring had been made mandatory for highly polluting categories of industry and that the air quality and stack emission data will also be displayed on public domain at permanent place near the main gate and in real time.

#### 5.4 Shortfall in monitoring of environmental parameters

Every PP was required to monitor various environmental parameters in respect of air, surface water, ground water, noise etc. in the core zone (main center of activity) and the buffer zone (nearby villages which has the potential to be affected) on regular intervals as per the commitment made in the EIA Report.

Of the 352 sampled projects, we received information in respect of 217 projects on the extent of testing and reporting of environmental parameters in respect of air, surface and ground water, soil, noise and stack emissions. We found that 146 projects (42 *per cent*) were in broad compliance to mandated conditions.

Out of remaining 71 projects, we observed the followings:

- a. 100 *per cent* shortfall in respect of air quality testing was observed in 21 projects and partial compliance was noted in case of 37 projects.
- b. For water quality testing, a total of 28 projects indicated 100 *per cent* shortfall, whereas 21 projects indicated partial compliance.
- c. For noise testing and reporting, a total of 21 projects indicated 100 *per cent* shortfall, whereas 18 projects indicated partial compliance.
- d. For stack emission testing, 14 projects indicated 100 *per cent* shortfall and five projects indicated partial compliances.
- e. 16 projects indicated 100 *per cent* shortfall in soil testing and reporting.

Air, water and noise are crucial environment indicators. Shortfall or absence of monitoring of these environmental parameters indicated that PPs had scant regard for ensuring the prevention of environmental pollution.

MoEF&CC in its reply (October 2016) stated that it had taken these issues as serious violation and had made it mandatory for online monitoring through installation of online monitoring systems with real time data transfer to SPCB and CPCB.

#### 5.5 Monitoring by Private agency/Third party

As per commitments made in EIA report or EC conditions, PPs need to involve third party for independent monitoring of various environmental parameters and benchmark those against the thresholds committed. Further, for quality monitoring, these third parties should be accredited with National Accreditation Board for Education and Training (NABET).

Out of 352 sampled projects, we received information on 270 projects on the status of monitoring of environmental parameters through private agencies and regular submission of such reports. Of these, 69 projects were found to be in broad compliance. The observations on remaining 201 projects are as under:

- a. **Non monitoring of environmental parameters by private agencies:** We observed that in 31 projects spread across 12 States/UTs (Andaman & Nicobar Islands, Bihar, Haryana, Karnataka, Tamil Nadu, Meghalaya, Delhi, Madhya

Pradesh, Jharkhand, Gujarat, Kerala and Sikkim), PPs did not engage any third party mechanism for monitoring.

- b. Non submission of monitoring report at regular intervals:** We observed that in eight projects spread across six States/UTs (Himachal Pradesh, Madhya Pradesh, Goa, Gujarat, Dadra & Nagar Haveli and Maharashtra), even though private agencies were monitoring the environmental parameters, their reports were not being submitted regularly. Thus, PPs did not ensure that monitoring by private agencies was done in the frequency prescribed in the EC conditions/EIA reports.
- c. Variations in monitoring data of private agency and Government agency:** We observed that in nine projects spread across four States/UTs (Punjab, Goa, Mizoram and Dadra & Nagar Haveli), there were variations in monitoring data submitted by private agency and Government agency, even though the data set pertained to same time period. Majority (five) of these cases were observed in Goa.

In Dadra & Nagar Haveli and Daman & Diu, on the basis of a complaint received, samples were re-tested and huge variation in reported data was observed. However, no action was taken against the private agency.

In view of the variations, soundness of monitoring of environmental parameters by the private agencies engaged by the PPs remained in doubt.

- d. Absence of comparable reports from private/Government agencies:** We observed that in 158 projects, comparison of data in different reports of Government and private agencies was not possible because of the fact that reports from private agencies and Government agencies did not pertain to same time period.
- e. Non accredited agencies:** We observed that in four projects in Bihar and Gujarat, non-accredited private agencies or laboratories were assigned the task of environmental monitoring, which was against the general EC conditions. The reliability of data submitted by these agencies could not be ascertained in audit.

In Dadra & Nagar Haveli, **M/s Unistar Environment and Research Laboratory, Vapi** was the private agency for testing of environmental parameters and it submitted test reports of the samples taken on 16 February 2015, which were within permissible levels. Pollution Control Committee conducted surprise check of water samples on 20 February 2015 and the test was re-conducted. The report indicated much higher levels of environmental parameter. No action was taken against **M/s Unistar** for the huge variation on the tested results within a span of 5 days.

In a project in Goa, wide variation in the environmental parameters like  $\text{NO}_x$ <sup>24</sup>, PM10 and PM2.5<sup>25</sup> were noticed in the independent sample test results of Goa SPCB as compared to the report submitted by PP.

<sup>24</sup> NO<sub>x</sub> is a term used to describe a mixture of nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>).

<sup>25</sup> PM10 and PM2.5 are particles fractions of particulates in air of size less than 10 µm and 2.5 µm respectively.

Failure of PPs to engage private agencies for carrying out monitoring of environmental parameters and ensure that the same was conducted at the prescribed frequency and reports submitted timely was in contravention to EC conditions. Variation in monitoring data of private agency and Government agency and absence of comparable reports raises question on quality of monitoring data gathered by PPs. Further, monitoring by non-accredited agencies was a serious violation of EC conditions.

MoEF&CC in its reply (October 2016) stated that it had recognized the importance of moving away from regulatory monitoring to self-monitoring and had developed a protocol for the same.

### **5.6 Non display of the environmental parameters**

As per the conditions stipulated in the EC, the critical parameters of the Ambient Air such as NO<sub>x</sub>, PM10 and PM2.5 within the impact zone and within the buffer zone was to be monitored periodically. Further, the quality of the discharged water was also required to be monitored. The monitored data was to be exhibited on a display board at the project site at a suitable location in public domain.

Of the 352 sampled projects, we received information related to 265 projects on whether monitored data was displayed in public domain. The condition was not stipulated in 135 cases. In 130 cases in which the condition was stipulated we observed non-compliance in 28 cases spread across 13 States/UTs (Assam, Bihar, Goa, Gujarat, Haryana, Jammu & Kashmir, Kerala, Madhya Pradesh, Manipur, Meghalaya, Mizoram, Tamil Nadu and Uttarakhand).

MoEF&CC stated (October 2016) that this lacuna of non-inclusion of the condition in EC had now been rectified. Further display of data was said to be integrated with online monitoring system.

### **5.7 Conclusion**

Environmental Impact Assessment (EIA) /Environment Management Plan (EMP) reports and EC conditions provide tools for compliance of various environmental parameters by PPs. In spite of the conditions mentioned in the EC, the PPs showed poor monitoring of environmental parameters. There was lack of compliance with regard to deployment of sufficient manpower, installation of necessary infrastructure and engagement of third party agencies for independent monitoring. The information regarding the environmental data was also not displayed at the project sites.

## **5.8 Recommendations**

We recommend that,

- i. MoEF&CC may consider bringing suitable condition by mentioning the name and number of post/posts to be engaged by the proponent for implementation and monitoring of environmental parameters.

(Paragraph 5.2)

- ii. MoEF&CC may consider bringing the mandatory EC conditions on installation of monitoring stations and frequency of monitoring of various environmental parameters in respect of air, surface water, ground water, noise, etc.

(Paragraphs 5.3 and 5.4)

- iii. MoEF&CC may, in consultation with SPCBs, introduce a system of surprise check by the SPCBs at premise of PPs to verify the third party testing of environmental parameters.

(Paragraph 5.5)