

## Chapter 6 → Conclusions and Recommendations

### 6.1 Conclusions

It was observed that RB had issued guidelines and instructions on pollution control, waste management and energy conservation. It was also noticed that some progress had been made by workshops, sheds and production units on these issues. The important deficiencies noticed in environment management are elaborated below.

Statutory obligation of obtaining Consent to Establish (CTE) and Consent for Operation (CFO) from the State Pollution Control Boards was not complied by 88 *per cent* (CTE) and 68 *per cent* (CFO) of the workshops and sheds test checked. Weakness in the existing system of monitoring by RB resulted in shortfall in compliance with the conditions specified while granting consent. Monitoring of air quality in workshops and sheds along with the provision of pollution control equipment was inadequate. Pollution control equipment were also not kept in working condition. Standards prescribed for controlling noise pollution for DG sets were not adhered to.

Adequate measures were not adopted to treat the effluents before discharging them into the environment. Effluent treatment plants were either not installed or wherever installed, quality of discharge was not monitored. ETP sludge was improperly accumulated in open area without proper treatment or by disposing them through agencies authorized by the SPCBs/CPCB.

ISO Certification was obtained by only 22 *per cent* of the units test checked. Despite a series of instructions/guidelines from the RB for conservation of resources- both energy and water, the progress of their implementation was slow.

Regarding use of renewable sources of energy, IR has not formulated a detailed action plan for identification of exact locations for installing wind mill and solar plants. Efforts of workshops and sheds to generate electricity from the solar energy and conservation of water by making provision of water recycling plant and rain water harvesting were insignificant. At the present rate of progress, IR will be unable to achieve its 2020 vision of meeting 10 *per cent* of its energy requirements from renewable sources. In absence of any concrete action plan,

efforts of IR to conduct energy audit and implement their recommendations were also not adequate.

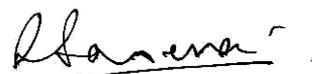
Deficiencies were observed in disposal of wastes generated in the workshops, sheds and production units. Statutory guidelines on maintenance and submission of records/returns and handling of hazardous wastes were followed only partially. Reuse of waste oil was observed only in a few workshops and sheds. None of the PUs reused waste oil.

The instructions laid down in the Indian Railways Medical Manual with regard to periodic inspections of the workshops, sheds and PUs by Medical Officers were not complied with even though health units were attached to 89 *per cent* of the workshops and sheds. While the number of accidents showed a decreasing trend, instances of fatalities and injuries were high in four zones.

## **6.2 Recommendations**

- *Mechanical Directorate of RB needs to establish a system of effective monitoring to ensure compliance with the statutory obligations relating to air, water and noise pollution in workshops, sheds and production units. Provision of control equipment and keeping them in working condition needs to be given due importance;*
- *Workshops, sheds and production units need to take effective steps for proper disposal of ETP sludge as per the guidelines issued by the SPCB/CPCB in order to prevent contamination of ground water;*
- *All workshops, sheds and production units need to frame a well defined target for implementing energy conservation measures. Electrical Directorate of RB needs to closely monitor the achievement of target and analyse the impact of shortfall in achieving target.*
- *A time bound action plan needs to be drawn for harnessing renewable energy such as wind and solar energy so as to achieve the 2020 vision of IR;*
- *Mechanical Directorate of RB need to effectively ensure that its instructions on setting up of Water Recycling Plants and Rain Water Harvesting structures are complied in a time bound manner;*

- *Mechanical Directorate and Stores Directorate of RB needs to establish a monitoring mechanism for strict observance of statutory provisions regarding proper accounting, handling and disposal of hazardous wastes;*
- *Health Directorate of RB needs to ensure maintenance of medical records of the workers of all workshops, sheds and production units.*



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