

Risk Assessment Study and Risk Mitigation Measures

As there is no increase in hazardous materials and chemicals associated in the proposed project, quantitative or qualitative risk assessment was not conducted. Occupational health hazards such as exposure to thermal stress and work-zone noise levels were studied.

Fire Hazards and Risk Mitigation Plan

The proposed project does not include any flammable materials such as petroleum products. The additional biomass solids (black liquor) will be fired in Recovery boiler to meet the additional steam requirement. The raw materials such as wood do not fall under fire hazard goods classification. There will not be any increase in coal consumption which is a combustible material. Small quantities of combustible materials such as lube oils will be used during construction phase, which will be received in sealed drums and will be stored in a designated area in the stores as per the National Building Codes. Hence no fire hazards are envisaged due to the proposed project. The existing fire safety systems are adequate and the same will be utilized for the proposed project.

Occupational Health and Noise Management Plan

Based on the noise details presented in Chapter 5 of this report, no major noise generating sources are associated with the proposed capacity enhancement project as OPM will be procuring/ augmenting the equipment with guaranteed noise levels less than 85 dBA at one (1) metre distance from the respective machines/equipment. Hence, the noise levels from the proposed project are insignificant and well within the standards prescribed by the CPCB. However, the following occupational noise management plan shall be adopted for the mill operations:

1. If noise level is above 85 dB(A) then the following procedures shall be adopted:
 - Employees will be informed about the noise environment and appropriate measures shall be taken to reduce exposure.
 - Appropriate PPE for ear protection will be made available with proper training
 - Hearing checks must be made available to employees exposed to noise levels in excess of 85 dB(A) over an 8-hour period
 - Although ear-plugs and ear-muff will be provided to the persons working in the Mill area, as a part of the good management practices, work rotation scheme will be adopted for the persons working in the high noise generating areas.

2. If noise levels near the machinery exceed 90 dB(A), then the following corrective procedure shall be adopted:

- Identify reasons for the excess noise and preventive measures shall be taken up
- Identify and clearly designate hearing conservation zones
- Using ear protection is mandatory and shall be supervised

Occupational Safety Management and Surveillance Programme

The Ministry of Labour and Employment, Government of India has a nodal organisation, viz. Directorate General Factory Advice Service and Labour Institutes (DGFASLI), in dealing with Occupational Safety and Health issues in Industries. The DGFASLI is the technical arm of the Ministry on matters connected with Occupational Health in the manufacturing and port sectors.

The Factories Act, 1948, provides for appointment of qualified Medical Practitioners and Certified Surgeons to examine young persons engaged in dangerous manufacturing processes and to ensure medical supervision in case of illness due to the nature of manufacturing processes. The Factories Act, 1948, also provides for notification of certain occupational diseases as listed in the Third Schedule of the Act. As per Section 90 of the Factories Act, 1948, the State Government is vested with the powers to appoint a Competent Person to conduct inquiry into the causes of any accident or notifiable diseases.

As discussed in Chapter 2, OPM has a full-fledged Occupational Health Centre within the mill premises. OHC is manned by two qualified doctors supported with paramedical staffs. The facilities available at OPM OHC are given below.

- OPD Facility, Indoor & round the Clock emergency care
- Total No. of Beds – 12 (Twelve)
- Male Medical Ward- 07 Nos
- Female Medical Ward -04 Nos
- Labour Room
- ICU Unit- 01 No
- Pathology Lab for all types of routine tests
- Pharmacy Section with all types of medicine for employees & Villagers
- Immunization Facility
- ECG Machine

➤ X – ray Machine

➤ Ambulance Facility round the clock

The medical tests undertaken as part of the occupational health surveillance program are presented in **Chapter 2**. As part of the routine and annual medical examinations on the persons working in the high noise generating areas, stress areas and dust exposure areas, a comprehensive surveillance programme may be adopted. Some of the good management practices are suggested in **Tables 1 and 2**.

Table -1 Suggested Frequency of Medical Examination under Occupational Health Surveillance Programme

Age (yrs)	Periodicity	Duration of exposure	Periodicity
< 30 yrs	Once in five years	< 10 yrs	Once in five years
31-40	Once in four years	10 to 20	Once in four years
41-50	Once in three years	21-30	Once in three years
> 51	Once a year	> 31	Once a year

Table -2 Suggested Medical Tests under Occupational Health Surveillance Programme

S. No.	Disorder	Tests to be conducted
1	Heart Diseases	ECG, Blood for Lipid Profile, Stress Test, 2D-Echo and other required Tests
2	Anemia	Hb%, TC, DC, ESR & Stool for Occult Blood, Ova and Cyst
3	Lung Diseases	Sputum, X-Ray Chest, Spirometry
4	Diabetes	Random Blood sugar, Urine sugar, if positive, BSL-Fasting/PPBS diabetic profile
5	Hypertension	Blood pressure reading; If required, renal profile + ECG and stress test.
6	Urine Examination	Routine and Microscopic
7	Hearing loss	Audiometric test, Audiological Interpretation

Medical records - A record-keeping system for holding the results of medical examinations and reports of symptoms is maintained as part of the health surveillance scheme. These are confidential medical records relating to individuals. As part of the health surveillance programme, employees should be informed of the confidential results of each assessment and of any implications of the findings, such as the likely effects of their continuing to work.