EXECUTIVE SUMMARY

OF

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT (EIA) &

ENVIRONMENTAL MANAGEMENT PLAN

OF

PROPOSED ESTABLISHMENT OF
NEW DISTILLERY UNIT: 50.0 KLD (MOLASSES BASED) AND
CO - GEN POWER: 3.0 MW
OF

M/S UTTAM SUGAR MILLS LIMITED,
UNIT: DISTILLERY
VILLAGE – KHUNDI, LIBBERHERI, TEHSIL: ROORKEE,
DISTRICT: HARIDWAR (UK)

मेसर्स उत्तम शुगर मिल्स लिमिटेड

इकाई – आसवानी
ग्राम : खुन्दी, लिब्बरहेड़ी, तहसील : रूड़की,
जिला : हरिद्वार (उत्तराखण्ड)

द्वारा

आसवानी कि स्थापना छमता ५०.० के . एल. डी.
(मोलासेस आधारित)
तथा
सह ऊर्जा प्लांट छमता – ३.० मेगावाट
संबंधी

पर्यावरणीय अधिप्रभाव मूल्यांकन आख्या
का

" सारांश"

EXECUTIVE SUMMARY

1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

The M/s Uttam Sugar Mills Limited is proposing 50.0 KLPD Molasses based Distillery along with 3.0 MW of Co-Generation Power Plant within existing premies of sugar unit at Village: Khundi, Tehsil: Roorkee, District - Haridwar, Uttarakhand.

1.2 PROPOSED PROJECT DETAILS and Project Proponent

Uttam Sugar Mills, Libberheri, Uttrakhand a unit of Uttam Sugar Mills Ltd is located in district Haridwar of Uttrakhand. The factory is most ideally located with respect to the availability of raw material, water, skilled and unskilled manpower and infrastructure facilities.

The Central Government has taken various steps like better pricing of ethanol, interest subvention, approval of bio-fuel policy and reduction in GST rates.

Due to favorable policy towards Ethanol by the Central Govt., the company has decided to establish the 50 KLPD Molasses based Distillery Plant at our Libberheri Unit (where our sugar plant is situated) along with spent wash incineration Boiler of 24 tones capacity. The investment in this project is

expected to be Rs. 65.00 Crore.

In view of the availability of molasses from sugar plant at Libberheri and other sugar plants of the group located nearby, it is a suitable location for installation of an alcohol plant to meet the demand of the automobile fuel sector. Blending of Ethanol with petrol is being encouraged by the Indian Government to reduce the country's dependence on high priced imported crude oil.

Ethanol is manufactured from molasses in three steps. First molasses is fermented to produce fermented wash, followed by distillation of fermented wash to produce rectified spirit and finally rectified spirit is dehydrated into ethanol, using molecular sieve system. Molecular sieve system is better than the conventional distillation system as it consumes less steam as compared to the latter.

Now Uttam Sugar Mills Limited is proposing 50.0 KLPD Molasses based Distillery along with 3.0 MW of Co-Generation Power Plant at adjacent to Uttam Sugar Mills Limited, (Distillery Division), Village: Khundi, Tehsil: Roorkee, District - Haridwar, Uttarakhand.

Sufficient area will be made available for the green belt and Effluent Treatment Facilities as it plans for zero discharge. A good network of internal as well as main approach roads is already available as the site is within existing sugar premises. Salient feature of the project given in **Table 1.1**.

Table 1.1

SALIENT FEATURES OF THE PROJECT

Sr No	Particulars	Details
1	Nature and Size of Project	Proposed 50.0 KLPD Molasses Based Distillery along with Co gen power – 3.0 MW .
2	Category of the Project	As per EIA Notification dated 14th Sep., 2006 as amended from time to time; the project falls in Category 'A', Project or Activity - 5(g).
3	**Locations Details**	
	Village	Khundi
	Block	Narsen
	Tehsil	Roorkee
	District	Haridwar
	State	Uttarakhand
	Latitude	29° 44'35.38"N
	Longitude	77°51'24.35"E
	Topo sheet No	53G/13 and 53G/14
4	**Area Details**	
	Total Plant Area	Total land for proposed Distillery – 3.4726 Hectare
	Greenbelt / Plantation Area	~33% of the project area will be covered under green belt plantation of 1.146 Hectare.
5	**Environmental Setting Details (with approximate aerial distance & direction from plant site)**	
	Nearest Village	Khundi – 1.5 Km
	Nearest Town & City	Manglaur – 5.10 Km in North.

		Gurukul Narsen – 4.40 km in South. Roorkee – 12.36 km in North.
	Nearest National Highway / State Highway	SH - 59 (18.74 km in west direction) NH - 58 (0.2 km in west direction)
	Nearest Railway station	Laksar Railway Station (15.76 km in east direction) Landhaura Railway Station (11.52 km in North East direction)
	Nearest Airport	Jolly Grant Airport, Dehradun. (~ 58.46 km in NE direction)
	National Parks, Reserved Forests (RF)/ Protected Forests (PF), Wildlife Sanctuaries, Biosphere Reserves, Tiger/ Elephant Reserves, Wildlife, Corridors etc. within 10 km radius	No National Park, Wild Life Sanctuary, Biosphere Reserve, Tiger / Elephant Reserve, Wildlife Corridors, Reserved Forests (RF) / Protected Forests (PF) etc. falls within 10 km radius of the plant site.
	River / Water Body (within 10 km radius)	River Solani River – 3.74 km in East Direction River Ganga – 24.86 Km in East Direction
6	**Cost Details**	
	Total Project Cost	6500.0 Lakhs
	Cost for Environment Management Plan	Capital Cost: Rs. 3125.0 Lakh or 31.25 Cr Recurring cost : Rs 500 Lakhs or 5.0 Crores /Annum
7	**Basic Requirements for the project**	
	Fresh Water Requirement	**Industrial Use:** 280.0 KLD (@ 5.6 KL/KL of Product) **Domestic Use:** 20.0 KLD Source – Ground water through Tube well (02 No Proposed)
	Power Requirement	1775 KWH

		Source – Co Generation Power Plant
	Man Power Requirement	200 (Source:- Unskilled / Semi-Skilled - Local Area; Skilled- Local & Outside)
8	**Product Mix**	Ethanol /Rectified Spirit
9	**Working Days**	365.0 Days

1.3 PROJECT JUSTIFICATION

1.3.1 THE NATIONAL POLICY ON BIOFUELS

The Ministry of Petroleum and Natural Gas (MoPNG) issued a notification in September 2002 fomandatory blending of 5 per cent ethanol in nine major sugar- producing states and four union territories from 2003. In 2003, the Report of the Committee on Development of Bio fuel, under the auspices of the Planning Commission, recommended a phase-wise implementation programme to blend bio fuels with petrol and diesel. However, due to a supply shortage from 2004 to 2005, the ethanol-blending mandate was made optional in October 2004, but it resumed in twenty states in October 2006. In October 2007, the Government of India made it mandatory to blend 5 per cent ethanol in petrol across the country, with the exception of J&K, the Northeast and island territories. In 2008, the Government of India announced its National Biofuel Policy, mandating a phase-wise implementation of the programme of ethanol blending in petrol in various states. The blending level of bio-ethanol at 5 per cent with petrol was made mandatory from October 2008, leading to a target of 20 per cent blending of bio-ethanol by 2017. This was taken up by the oil marketing companies (OMCs) in twenty states and four union territories.

Demand for and supply of ethanol in India

There are three main uses of ethanol in India. Of the total available ethanol, the maximum – about 45 per cent – is used to produce potable liquor, about 40 per cent is used in the alcohol-based chemical industry (as a solvent in synthesis of other organic chemicals) and the rest is used for blending with petrol and other purposes. The demand for ethanol has been continually increasing on account of the growth of user industries and use of ethanol as a fuel in the country. However, the production and availability of ethanol has largely lagged behind.

1.3.2 OBJECTIVE OF THE STUDY

The overall objective of any EIA studies is to identify and assess the adverse and beneficial impacts of the project in the planning stage itself, so that necessary mitigation measures to prevent or minimize these adverse impacts could be planned early and cost effectively. In view of this objective, the scope of EIA study broadly includes-

I. Introduction along with scope of EIA studies (Chapter-1).
II. Project description including process, resource required and products formed along with sources of pollution and built in mitigation measures with respect to wastewater, gaseous emissions and solid wastes (Chapter-2).
III. Existing baseline status of the relevant environmental parameters in the specified study area through primary and secondary source. The environmental parameters include meteorology, air, water, land, soil, noise, and ecology and socio economics (Chapter-3).
IV. Anticipated environmental impacts of the proposed project on environment and measures for mitigation of the predicted adverse impacts, air pollution dispersion modeling studies (Chapter-4).
V. Analysis of Alternate Site and Technology (Chapter-5)
VI. Environmental Monitoring Programs (Chapter-6)
VII. Additional Studies including Risk Assessment, DMP, Emergency Action Plan (Chapter-7).
VIII. Project Benefits (Chapter-8).
IX. Environment management Plan, Mitigation measure, Rainwater Harvesting and Green Belt development (Chapter – 9)
X. Recommendation (Chapter- 10)
XI. Disclosure of Consultant (Chapter – 11).

1.4 Project Cost

The total capital investment would be of Rs**. 6500.0 Lakhs**. Capital Cost of Effluent Treatment (Multi effect evaporation, incineration boiler and secondary effluent treatment plant) is **Rs. 3125.0 Lakhs** and Recurring Cost effluent treatment plant is **Rs. 500 Lakhs / Annum.** The project would be formulated in such a fashion and manner so that the utmost care of Safety Norms & Environment Protection shall be taken care of.

1.5 Project Location

The proposed distillery project site is located within existing sugar premises at Village: Khundi, Tehsil: Roorkee, District - Haridwar, Uttarakhand. Administrative location map shown in the **Fig: 1.1**. For EIA Study 10.0 km radial study area is covered and the same is shown on SOI Topo sheets 53G/13 and 53G/14 in the map below **Fig: 1.2**.

Latitude and Longitude of the site at four corners and in the centre given below:

Corners	Directions	Latitude and Longitude
1st	North	Lat : 29°44'43.24" N, Long: 77°51'21.85" E
2nd	South	Lat : 29°44'32.60" N, Long: 77°51'25.73" E
3rd	West	Lat : 29°44'40.39" N, Long: 77°51'19.83" E
4th	North East	Lat : 29°44'41.44" N, Long: 77°51'25.32" E
	Centre	Lat : 29°44'38.58" N, Long: 77°51'22.94" E

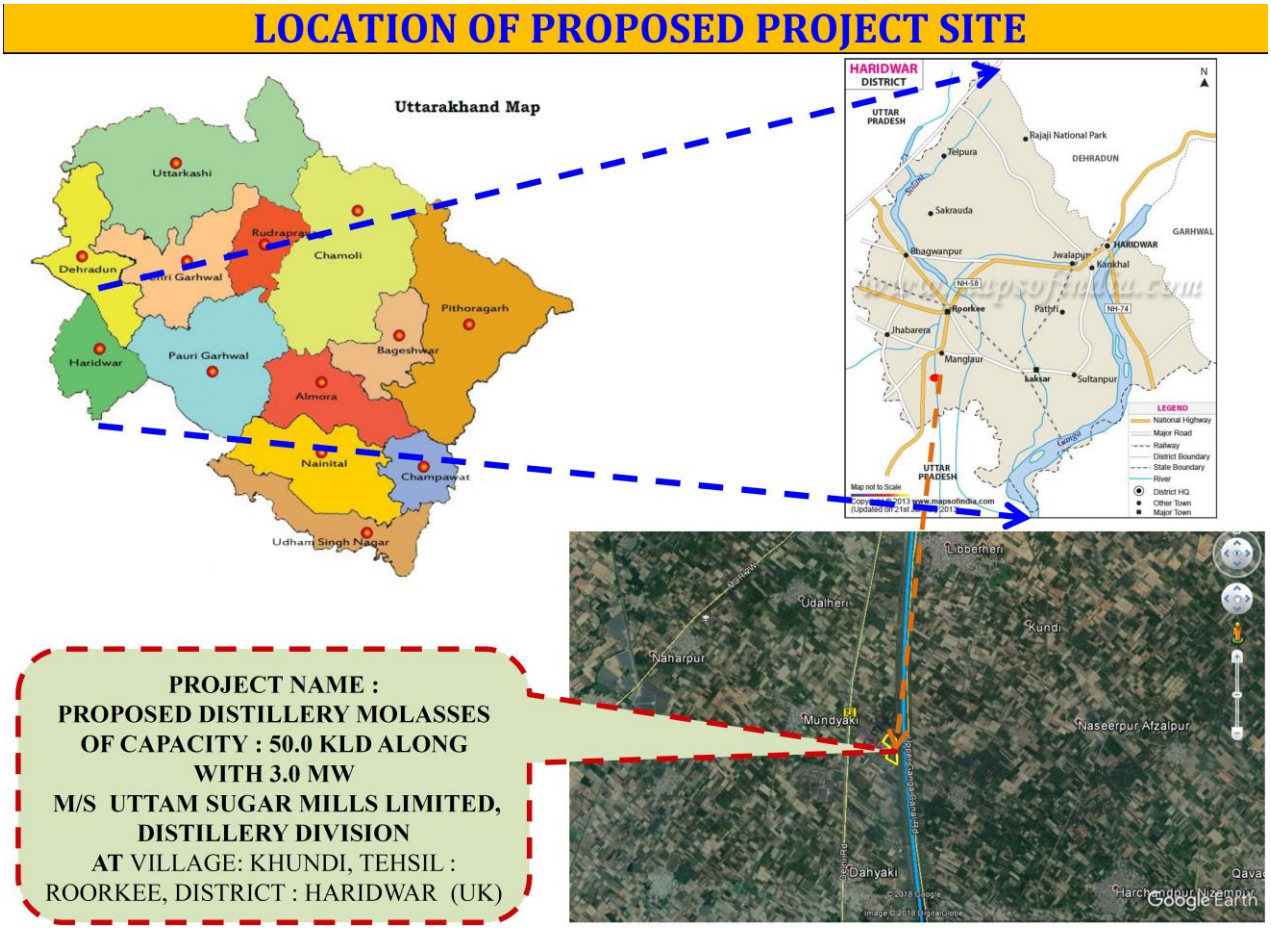


Fig ; 1.1, Location map of the proposed distillery project

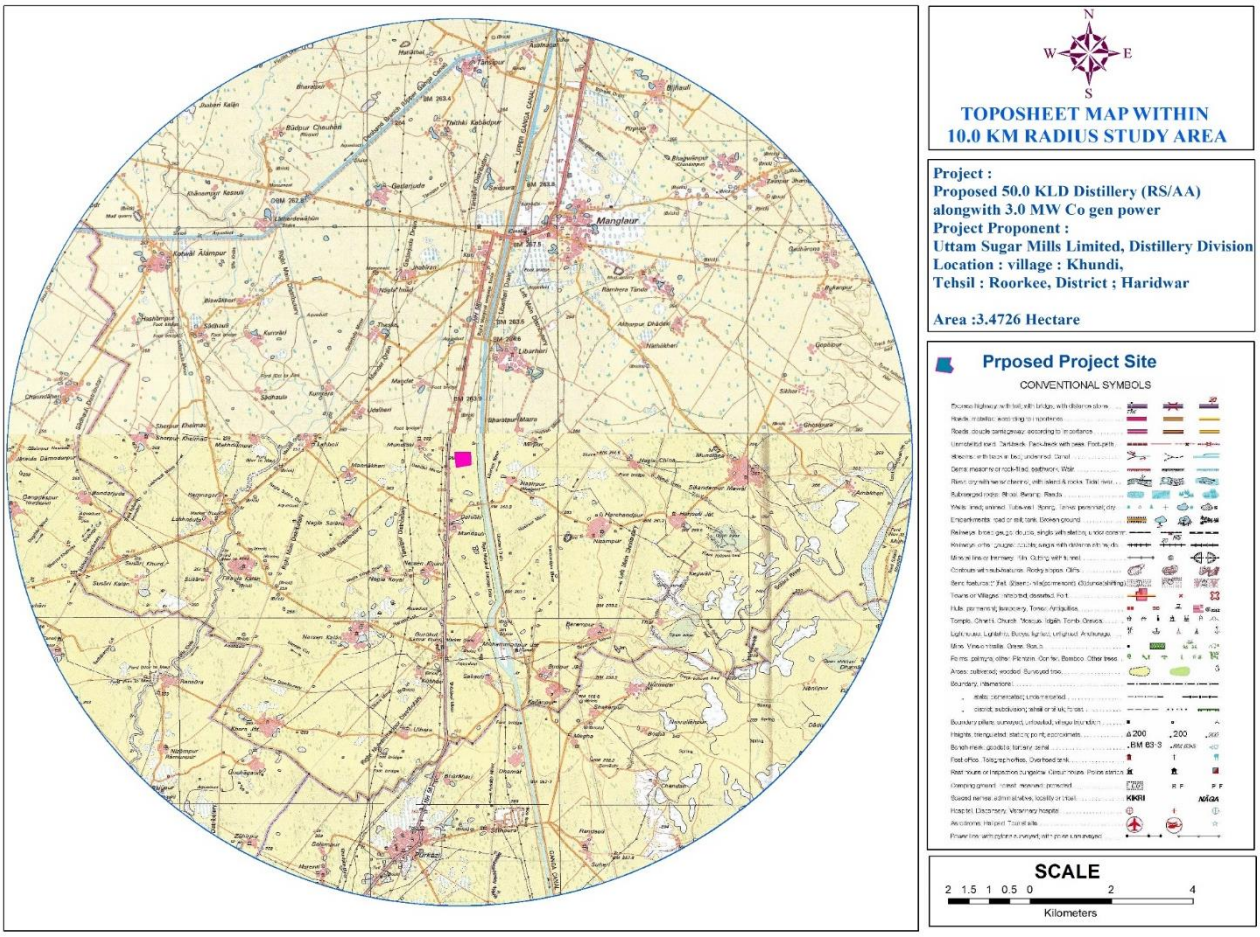


Fig1.2, Topo sheet map of the proposed project within 10.0 km

1.6 PROCESS DESCRIPTION AND SOURCES OF POLLUTION

1.6.1 Process Description

Technology and Process Description

Alcohol production mainly involves three main Processes;

A. Fermentation
B. Distillation
C. Dehydration

The process of alcohol manufacturing involve various sections are;

I. Molasses Storage and Handling Section
II. Fermentation Section
III. Distillation for Production of rectified spirit and molecular sieve for production of absolute alcohol.
IV. RS/AA receiver and Storage Section

V. Effluent treatment plant comprising Evaporation plant and incineration for Spent wash treatment and other effluent (Condensates, Spent lees etc) will be treated in Condensate Polishing Unit.

1.7 Infrastructural Facilities and Raw Material Requirement

1.8 Land Requirement

The land requirement for the proposed 50.0 KLD distillery along with 3.0 MW captive power plant is approximately **3.4726 Hectare** amounting to an area of **34726.0** sqm. Out of **3.4726 Hectare** of total land, 1.146 Hectare (> 33% of total plot area) will be used for green belt development and rest for plant and machinery. Land use of the project site is given in Table: 1.2. The item –wise breakup of the land required for the plant and machinery of proposed distillery is tabulated in **Table 1.2. Titled "Item- wise split up of the land requirement".**

Table: 1.2.
Land Use Breakup within premises

Sr No	Land use	Area (sqm)	Area in %
1	Roof Top	8335.0	24
2	Green Belt	11459.0	33
3	Road and Paved	5904.0	17
4	Open area	9028.0	26
	Grand Total	**34726.0**	**100**

1.9 Raw Material Requirement

a) Molasses

Molasses will be the basic raw materials for making 50.0 KLPD Rectified Spirit/ Absolute Alcohol. The total requirement of raw material (Molasses) for the distillery will be 245 – 255 MT/ day (93075.0 MT/Annum). As the own adjacent sugar plant will crush about 11.25 lakh MT of sugarcane at the rate of 6250.0 MT/Day, molasses of around 50625.0 MT will be produced and will be utilized by the distillery unit, rest quantity 42450.0 MT will be procured from nearby sugar mills as the total molasses requirement is 93075.0 MT for optimum level of operation.

Hence the M/s Uttam Sugar Mills Limited, unit – Distillery can easily generate the required quantity of molasses and procured molasses from nearby sugar mills to operate plant for 365 days. Molasses storage tank provided in the proposed site for the capacity of 30.0

Days storage. Molasses tank diameter will be 25.0 meters and 7650 MT molasses will be stored

b) Chemical and Other Inputs:

1	Sulphuric Acid	40.0 kg/Day	30.0 days storage will be provided and raw material will be transported through Tankers.
2	Sodium Hydrooxide (Caustic)	6.0 Kg/Day	
3	Enzymes	4.0 kg/Day	
4	NH_2-CO– NH_3 (Nutrient : 46% N_2)	5.0 Kg/Day	
5	Antifoam Agent	65.0 Kg/Day	

c) Water requirement:

Total fresh water requirement for the proposed project 300.0 m3/day. Water requirement for first run would be 1493.0 m3/day, which will be reduced through recycling of 1193.0 m3/ day of treated water/ Condensates. Water requirement for the proposed project will be met from ground water. Permission for water abstraction is under process. Water balance is shown below:

WATER REQUIREMENT FOR THE PROJECT

S. No	Operations	Water required
1	**50.0 KLD** Molasses based Distillery and **3.0 MW** Power co-generation	**300.0 KLD** (Net fresh water requirement after recycling)

Source: *Pre-Feasibility Report*

2.1 Man Power

For the establishment of proposed distillery will be employed directly which include 80 persons semi-skilled, skilled personnel and approx.: 120 nos of contract unskilled person. Employment in unskilled category, preference will be given to local people. Selection of employ will be done by interview. Employment in skilled category will be done from outside if the skilled labour force is not available in local areas. Indirect employment generation will be 150.0 nos.

2.2 Fuel Requirement

SLOP along with bagasse will be used as fuel for incineration boiler (01 no. 24.0 TPH). Details regarding quantity of fuel required, their source along with distance & mode of transportation for proposed project are given in **Table – 1.3**. For the storage bagasse /biomass yard of area: 1800.0 Sqm will be provided. Fuel will be transported though covered trucks and through conveyer belt will be feeded to boiler.

Table – 1.3, Fuel Requirement

Fuel	Quantity	Source
SLOP (Slop will be used as fuel)	**150.0 KLD**	In – House, it is concentrate from MEE.
Bagasse / Biomass	**90.0 TPD** (used as supporting fuel with SLOP)	Procured from nearby sugar mills / rice mills road transport.

2.3 Air Pollution

The major sources of pollution are particulate matter from proposed establishment of distillery plant based on Molasses. The emissions of particulate matters from the stacks will be limited to 50 mg/Nm3. Stack is with height of 60.0 meters which is attached to boiler through proposed ESP. ESP will be used as pollution control equipment to reduce the emission of PM.

2.4 Waste Water Generation and Treatment

Spent wash generation in molasses based operation will be **375.0 KLD**.

Treatment: Spent wash from the bottom of distillation column will be concentrate in Multi effect evaporator of capacity 600.0 M3/Day. In MEE spent wash will be concentrate upto 60 Brix of total spent wash. Then concentrate spent wash or SLOP will be incinerated in SLOP fired boiler having capacity: 24.0 TPH. Condensate from the MEE will be further treated in Condensate polishing unit and will be recycled in different purposes.

2.5 Solid Waste Generation and Utilization

- The proposed Molasses based distillery would be based on "Zero Discharge".
- Ash from the boiler approx.: 27.0 MT/Day during operation will be used as manure.

- ❖ Used oil generated from machine, DG sets and turbine will be provided to authorized vendor for further disposal.
- ❖ Yeast sludge generated: 5.0 MT/Day will be used as manure.

2.6 Baseline Environmental Status

Primary baseline environmental monitoring studies were conducted during winter seasons from **1st December 2018 to 28th February 2019** and details are as follows:

Soil Environment

It has been observed that the pH of the soil quality ranged from 7.6 to 7.9 indicating that the soil is neutral in nature. The Electrical conductivity was observed to be in the range of 152.0 to 306 µs/cm, with maximum (306 µs/cm) observed at SQ8 and with the minimum (152 µs /cm) observed at SQ 7 during the study period.

Available Potash was observed to be in the range of 68.2 mg/kg to 89.3 mg/kg which is under more than sufficient category. The phosphorus values observed in sampling found to be in good amount.

Meteorological Data Generated at Site

The meteorological parameters were recorded on hourly basis during the study period near proposed plant site and comprises of parameters like wind speed, wind direction (from 0 to 360 degrees), temperature, relative humidity, atmospheric pressure, rainfall and cloud cover. The predominant wind directions during study period are from East, west and North west.

Air Quality

Ambient Air Quality Monitoring reveals that the Minimum & Maximum concentrations of PM_{10} and $PM_{2.5}$ for all the 8 AAQM stations were found between 62.2 to 87.3 µg/m3 and 40.4 to 56.8 µg/m3 respectively.

As far as the gaseous pollutants SO_2 and NO_x are concerned, the prescribed CPCB limit of 80.0 µg/m3 has never surpassed at any station. The Minimum & Maximum concentrations SO2 and NOx were found to be in range of 11.0 to 20.4 µg/m3 and 15.8 to 26.6 µg/m3 respectively. As per the analytical reports of the project site and the surrounding areas the

ambient air quality is well below the NAAQS limits, so to maintain the ambient air quality of the area, the latest/ modern APCM will be adopted.

Water Quality

Water samples were collected from 8 sampling locations. These samples were taken as grab samples and were analyzed for various parameters to compare with the standards.

Ground Water Quality

The pH of the water samples collected ranges between pH 7.3 – 7.7. The Total Hardness recorded in between 220.0 to 344.0 mg/l in the sample. Total Dissolve Solid ranging from 437.4 – 753.4 mg/l.

Surface Water Quality

pH of the water samples collected ranges in between 7.2 to 7.7. The BOD recorded in pond mandauli is high, under permissible limit as per IS 2296 Class "E". Highest COD was observed in Pond mandauli of study area. The hardness of water samples in between 188.0 to 232.0 mg/litre. The highest hardness value was found in mandauli pond.

Noise Level Survey

The noise monitoring has been conducted for determination of noise levels at Eight locations in the study area. Noise monitoring results reveal ambient noise levels in all locations are well within the limits as per Ambient Noise standards.

Flora and Fauna Studies

A preliminary survey was made for determination of baseline details of flora. During field survey many plant of different species was recorded at proposed project site.

The study area did not record the presence of any critically threatened plant species. The records of Botanical Survey of India and Forest department also did not indicate presence of any endangered or rare and vulnerable plant species in this area.

2.7 IMPACT ASSESMENT

2.7.1 Impact during Construction Phase

Impact on Land Use

The land use of proposed distillery land is under un agricultural land. More than 33 % of total area will be develop as green belt and it will be maintained during the operation phase.

Impact on Soil

Vegetation on topsoil is to be removed prior to commencement of bulk earthwork. The construction activities will result in minimum loss of vegetation and topsoil in the plant area. Many plant present at the proposed site. Vegetation is less in the site to be developed and will be disturbed only in the bare minimum area required for construction. Apart from localized constructional impacts at the plant site, no significant adverse impact on the soil in the surrounding area is anticipated.

Impact on Air Quality

During construction phase, dust generation will be the main pollutant, which would generate from the site development activities and vehicular movement on the road. However, concentration of NOx and CO may also be slightly increased due to increased vehicular traffic movement. To mitigate these impacts, regular sprinkling of water will be done at the construction site. The approach roads will be black carpeted and vehicles will be kept in good order to minimize automobile exhaust.

However, the impact of such activities would be temporary and restricted to the construction phase and will be confined to the project boundary and is expected to be negligible outside the plant boundaries. Proper up keep and maintenance of vehicles, sprinkling of water on roads, providing sufficient vegetation etc are some of the measures that would greatly reduce the negative impacts during the construction phase.

Impact on Noise Levels

The major sources of noise during the construction phase are vehicular traffic, construction equipment like dozers, scrapers, concrete mixers, cranes, generators pumps, compressors, rock drills, pneumatic tools, saws, vibrators etc. The operation of this equipment will generate noise ranging between **55-69** dB (A). The noise produced during the construction will have significant impact on the existing ambient noise levels. The

major work will be carried out during the daytime. The construction equipment may have high noise levels, which can affect the personnel operating the machines. Use of proper personal protective equipment will mitigate any significant impact of the noise, generated by such equipment.

Demography and Socio-Economics

The non-workers constitute about 30.46 % of the total population in 10-km radius study area. Some of them will be available for employment in the proposed plant during construction activities. As the laborers are generally un-skilled, the locals would get opportunities for employment during construction activities.

2.7.2 Impacts during Operational Phase

Impact on Soil vis-à-vis Solid Waste

All the solid wastes generated in molasses based operation will be used as manure in crops, or in ancillary activities, hence, no impact of solid waste is envisaged on soil quality of the area.

Impact on Air Quality

Adequate stack heights have been provided to disperse gaseous emissions over a wider area. In order to control emissions of Particulates, adequate control equipment ESP will be install.

Prediction of impacts on air environment has been carried out by using Aermod 8.2 and the Short Term Peak incremental concentration for PM_{10}, $PM_{2.5}$ SOx & NOx is found to be 0.25, 0.163, 2.46 & 1.75 $\mu g/m^3$ within 1033 m, 973m, 789 m and 802 m respectively toward the east direction from the source. After the implementation of the proposed project, these concentrations are found to be well below the permissible NAAQS norms for rural/residential zone and Industrial/Mixed zone. Therefore, the proposed activity is not likely to have any significant adverse impact on the air environment.

Impact on Water Resources

Proposed distillery plant has estimated the water will be 300.0 M^3/Day. For Domestic 20.0 M^3/Day water will be required. The water will be sourced from ground water. As the area comes under “Safe” Area, hence no impact is envisaged on the water resources of the area.

Impact on water Quality

General water is essential for human, agriculture, industry and commercial use. The industrial activity shall have direct impact on the end users. The water environment broadly covers the following points for consideration of impact.

- Industrial operations, their effect on water quality and ground water potential of study area.
- Identifying potential sources of pollutants focusing specifically zero discharge of the wastewater.
- Impact of raw water usage.

The main source of water supply for the industrial operations will be from Ground water.

There is no waste water discharge in this process. Distillery is based on Zero Discharge. Domestic Waste Water Generation will 12.0 M^3/day will be disposed through soak pit and Septic Tank. Hence there is no disposal of waste water in this process so no impact on water quality of the area.

Impact on Noise Levels

The industry is located in rural area away from major human settlement. The adequate steps are proposed to control the noise. The proposed Distillery Plant will not result in any significant impact on noise environment. The minor increase in vehicular transportation due to increase material handling will not generate any significant excessive noise. Hence, there shall not be any significant negative impact on noise environment of the study area.

Impact on Ecology

The impact of air pollutants on vegetation due to the proposed project, is identified and quantified by using air dispersion modeling. The simulations have been done to evaluate PM10, SOx and NOx likely to be contributed by the proposed activities, the resultant concentrations for study period are within the limits as per National Ambient Air Quality Standards. Hence no impact on ecology of study area is identified.

2.8 Environment Management Plan

During construction, some of the vegetation in the plant premises is required to be cleared. The measures required to be undertaken to minimize the impact on the ecology are:

a. The felling of trees will be kept at minimum;

b. Proper Canteen, Sanitation and shelter facility will be provided to worker and truck driver during construction.
c. To control air pollution proper sprinkling of water shall be done.
d. The greenbelt having vegetation density of 1500 trees/ha shall be developed.

2.8.1 Environment Management during Operation Phase

Air Pollution Management

Air Pollution Control Equipment - Proposed Distillery plant to reduce the emission of particulate matters ESP will be installed with maximum efficiency. ESP is connected with boiler through Duct. The particulate matter in stack will be limited to less than 50 µg/m3.

Noise Pollution Management

The greenbelt already developed around the boundary of the plant will attenuate the noise emitted by the various sources in the plant. Earplugs will be provided for the personnel working close to the noise generating units as a part of the safety policy. Apart from this, some of the design features provided to ensure low noise levels are as follows:

Provision of silencers will be made wherever possible;

a. The insulation provided for prevention of loss of heat and personnel safety will also act as noise reducers;
b. Necessary enclosures will also be provided on the working platforms/areas to provide local protection in high noise level areas;
c. The workers will be provided with ear plugs; and
d. Plantation in the zone between plant and township would attenuate noise in the residential area.

Water Pollution Management

Spent Wash Treatment Strategy:

Spent wash from the bottom of distillation column will be concentrate in Multi effect evaporator of capacity 600.0 M3/Day. In MEE spent wash will be concentrate upto 60 Brix of total spent wash. Then concentrate spent wash or SLOP will be incinerated in SLOP fired boiler having capacity: 24.0 TPH. Condensate from the MEE will be further treated in Condensate polishing unit and will be recycled in different purposes.

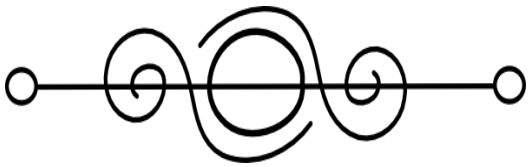
For Other Effluent: Other Effluent Contains MEE Condensate, Spent Lees, Floor Washing and Blow Downs. Other effluent will be treated in Condensate Polishing Unit (Secondary Effluent Treatment Plant) and after the treatment it will be recycled back in the process. There will be no wastewater discharge from the Distillery. Hence, there will not be any contamination of surface water bodies.

Solid Waste Management

- The proposed Molasses based distillery would be based on "Zero Discharge".
- Ash from the boiler approx.: 27.0 MT/Day during Molasses based operation will be used as manure.
- Used oil generated from machine, DG sets and turbine will be provided to authorized vendor for further disposal.

Greenbelt Development

Due care will be taken to ensure that a greenbelt is developed around the plant. All areas devoid of vegetation and having low density will be systematically and scientifically planted. Distillery will develop greenbelt in 33% of total area of distillery plant and shall maintain it.



मेसर्स उत्तम शुगर मिल्स लिमिटेड

इकाई – आसवानी

स्थापना पूर्व में स्थापित चीनी मिल में

ग्राम – खुन्दी, लिब्बरहेड़ी , तहसील : रूड़की,

जिला : हरिद्वार (उत्तराखण्ड)

द्वारा

आसवानी कि स्थापना छमता 50.0 के . एल. डी.

(मोलासेस आधारित)

तथा

सह ऊर्जा प्लांट छमता – 3.0 मेगावाट

संबंधी

पर्यावरणीय अधिप्रभाव मूल्यांकन आख्या

का

" सारांश"

द्वारा

मेसर्स उत्तम शुगर मिल्स लिमिटेड, इकाई : आसवानी

पर्यावरणीय अधिप्रभाव मूल्यांकन आख्या का सारांश

मेसर्स उत्तम शुगर मिल्स लिमिटेड, इकाई : आसवानी, की स्थापना पूर्व में स्थापित चीनी मिल में, ग्राम – खुन्डी, लिब्बेरहेड़ी, तहसील : रूड़की, जिला : हरिद्वार (उत्तराखण्ड) द्वारा 50.0 के. एल. डी आसवानी इकाई तथा 3.0 मेगा वाट सह ऊर्जा प्लांट की स्थापना किया जाना प्रस्तावित है ।

इस स्थापना प्रक्रिया द्वारा विभिन्न पर्यावरणीय घटकों जैसे मृदा गुणवत्ता, जल गुणवत्ता, वायु गुणवत्ता, ध्वनि तीव्रता, स्थानीय जनजीवन, स्थानीय जलवायु आदि पर पर्यावरणीय आधिप्रभाव अधिरोपित किया जाना स्वाभाविक है ।

इसके आंकलन हेतु विस्तृत अधिप्रभाव अध्यन किया गया है, जिसका अंतर्गत महत्वपूर्ण पर्यावरणीय घटकों कि वर्तमान स्थिति कि समीक्षा करते हुए क्षेत्रीय अध्ययन के माध्यम से स्थापना प्रक्रिया द्वारा भूमि, जल, वायु, ध्वनि, सामान्य जनजीवन आदि पर पड़ने वाले संभावित अधिप्रभाव को गणतीय विश्लेषण द्वारा अनुश्रवित किया गया है । इसके उपरांत इन समग्र अधिप्रभावों के प्रभावी निराकरण हेतु विभिन्न संस्तुतियों का निर्धारण किया गया है । इस प्रक्रिया में यह पाया गया है कि उद्योग द्वारा प्रस्तावित इकाई का पर्यावरण पर समग्र अधिप्रभाव सकारात्मक एवं धनात्मक आंकलित हुआ है, इसमें उद्योग उद्योग स्थापना के कारण औद्योगिकीकरण में वृद्धि, सामान्य जनजीवन के रहन सहन में सुधार , जीवोपयोगी सुविधाओं में वृद्धि के अतिरिक्त महत्वपूर्ण उपलब्धि उद्योग द्वारा प्रस्तावित है ।

इकाई का विवरण : प्रस्तावित उद्योग द्वारा आसवानी एवं सह ऊर्जा का उत्पादन करने हेतु उद्योग द्वारा पर्यावरण एवं जलवायु परिवर्तन मंत्रालय भारत सरकार को पर्यावरण संस्तुति हेतु प्रस्ताव दिया गया गया है ।

प्रोजेक्ट विवरण

क्र . सा .	इकाई विवरण	जानकारी
१	आसवानी क्षमता	50.0 किलो. लीटर प्रतिदिन
२	सह ऊर्जा	3.0 मेगा वाट
३.	ईधन की खपत	बैगास : 90.0 टन प्रतिदिन स्लोप : 150.0 टन प्रतिदिन स्लोप के साथ बैगास को सह ईधन के रूप में प्रयोग में लाया जाता है ।
४	कच्चे मॉल की खपत	मोलासिस : 245 - 255 टन प्रतिदिन
५.	जल की खपत	300.0 के. एल . डी औद्योगिक खपत : 280.0 के. एल. डी घरेलू खपत : 20.0 के. एल. डी
६.	उत्प्रवाह कि मात्रा	शून्य
७.	ऐश जनरेशन	फ्लाई ऐश : 27.0 टन प्रतिदिन
7	फेर्मेंटर स्लज	5.0 टन प्रतिदिन
8	सी पी यू स्लज	1.0 टन प्रतिदिन
९	बायलर	24.0 टन प्रति घंटा
१०.	वायु प्रदूषण नियंत्रण संयंत्र	ई. एस. पी. प्रस्तावित
११.	चिमनी की ऊंचाई	60.0 मीटर भूतल से
१२.	ऊर्जा कि मात्रा	1775.0 किलोवाट / घंटा

१३.	स्टीम की मात्रा	18.0 टन प्रतिघंटा

इस पर्यावरणीय अधिप्रभाव मूल्यांकन आख्या के महत्वपूर्ण बिन्दुओं को परस्पर संबंधी मैट्रिक्स के माध्यम से निर्धारित किया गया हैं जो संलग्न है ।

उद्योग द्वारा प्रतावित स्थल के आस पास के १०.० किमी परिधि में पर्यावरण के विभिन्न घटकों कि जाँच कि गयी है जो निम्नवत है : -

१.० वायु परिवेश पर प्रभाव तथा निराकरण :

उद्योग के सञ्चालन के पश्चात् वायु प्रदूषण होने कि संभावना है जिसके निराकरण हेतु उद्योग ने जो प्रस्ताव दिए है वो प्रेषित हैं ।

१.१ वायु प्रदूषण के स्रोत मुख्यता निम्न हैं : -

१. कच्चे मॉल बैगास के रख रखाव व हथालन द्वारा ।

२. चिमनी से उत्सर्जन होने वाले धुएं द्वारा ।

३. बायलर द्वारा उत्पन्न फ्लाई ऐश के एकत्रण तथा निस्तारण द्वारा ।

प्रमुख वायु प्रदूषण घटकों में मुख्यता पार्टिकुलेट मैटर, सल्फर डाई आक्साइड और आक्साइड ऑफ़ नाइट्रोजन है । उक्त प्रदूषण घटकों को प्रदूषण नियंत्रण बोर्ड के मानकों के अनुरूप रखने हेतु उद्योग द्वारा निम्न प्रस्ताव प्रेषित है ।

१.२ वायु प्रदूषण निराकरण :

१. कच्चे माल के हथालन में विशेष रूप से सावधानी बरती जायेगी ।

२. ऊर्जा उत्पादन प्रक्रिया के दौरान होने वाले वायु प्रदूषण की रोकथाम हेतु उच्च क्षमता के ई. एस. पी. कि स्थापना की जायेगी तथा उत्सर्जित वायु में घटकों कि मात्रा प्रदूषण नियंत्रण बोर्ड के अनुसार रखी जायेगी ।

वर्तमान में आस पास के वायु परिवेशीय अध्यन कराया गया है जो निम्न हैं : -

घटक	प्राप्त रिजल्ट
पी . एम . 10	62.9 - 87.3 माइक्रो ग्राम प्रति घनमीटर
पी . एम . 2.5	40.4 – 56.8 माइक्रो ग्राम प्रति घनमीटर
सल्फर डाइ आक्साइड	11.0 – 20.4 माइक्रो ग्राम प्रति घनमीटर
नाइट्रस आक्साइड	15.8 – 26.6 माइक्रो ग्राम प्रति घनमीटर

वर्तमान में किये गये जाँच में सभी घटक बोर्ड मानकों के अनुरूप है । उद्योग लगने के पश्चात भी किसी प्रकार के वायु प्रदूषण होने के संभावना नहीं है ।

२.० जलीय पर्यावरण :

उद्योग के सञ्चालन के दौरान 300.0 घनमीटर प्रति दिन जल कि आवश्कता होगी जो कि ट्यूब वेल द्वारा जमीन से निकला जायेगा ।

पर्यावरण अधिप्रभाव मूल्यांकन के दौरान आस पास के गाँव में लगभग ८ स्थानों के नमूनें एकत्रित किये गये तथा विश्लेषण कराया गया तथा पाया गया कि जल में पाये जाने वाले मुख्य घटक जैसा कि पी. एच., कठोरता, क्लोराइड, इत्यादि बोर्ड के मानको के अनुरूप पाए गये हैं ।

सभी स्थानों पर जल पीने योग्य है, साथ ही साथ आस – पास के नदियों कि भी गुणवत्ता कि जाँच कि गयी है जो कि मानकों के अनुरूप पाई गयी ।

उत्प्रवाह तथा शुद्धिकरण :

- उद्योग की आसवानी इकाई जीरो एफ्लूएंट लिक्विड डिस्चार्ज सिस्टम पर आधारित है ।
- उद्योग के संचालन में मोलासेस बेस्ड ऑपरेशन के दौरान लगभग 375.0 घन मीटर प्रति दिन स्पेंट वाश जनित होगा जिसको मल्टी इफैक्ट एवैपोरेटर द्वारा सांद्रित करके, मल्टी इफैक्ट एवैपोरेटर से प्राप्त सांद्रण को 24.0 टन प्रति घंटे के बायलर में ईधन के रूप में प्रयोग किया जायेगा ।
- प्रक्रिया द्वारा जनित अन्य उत्प्रवाहों (स्पेंट लीस , बायलर ब्लो डाउन , एम् ई ई कन्डशेट, कूलिंग टावर ब्लो डाउन एवं फ्लोर वाशिंग) कों द्वितीयक शुद्धिकरण संयंत्र (कन्डशेट पोलिशिंग यूनिट) द्वारा शुद्धिकरण के पश्चात प्रक्रिया में पुनः उपयोग में लाया जायेगा। अतः उद्योग द्वारा कोई भी उत्प्रवाह निस्तारित नहीं किया जायेगा ।

३.० ठोस अपशिष्ट

उद्योग संचालन के समय उद्योग से निम्न लिखित ठोस जनित होंगे : -

अपशिष्ट की मात्रा तथा स्रोत :

- फ्लाई ऐश 27.0 टन प्रति दिन, ई. एस. पी. तथा बायलर बॉटम से जनित होगा ।
- फेर्मेंटर स्लज – 5.0 टन प्रति दिन ।

निराकरण :

(१) बायलर द्वारा जनित ऐश को खाद के रूप में उपयोग में लाया जायेगा ।

(२) फेर्मेंटर स्लज को खाद बनाने में उपयोग में लाया जायेगा ।

४.० ध्वनि गुणवत्ता :

उद्योग के आस पास परिवेशीय ध्वनि का आंकलन कराया गया है जो पूर्ण रूप से मानकों के अनुरूप है। उद्योग द्वारा परिवेशीय वायु तथा ध्वनि के नियंत्रण हेतु ग्रीन बेल्ट के स्थापना हेतु प्रस्ताव दिया गया।

५.० पारिस्थितिकी पर्यावरण :

प्रस्तावित उद्योग के परिक्षेत्र में वनस्पति एवं पशु वर्ग की किसी भी प्रकार की कोई संवेदनशील प्रजाति नहीं है तथा उद्योग स्थापना के फल स्वरुप इस पर कोई विपरीत अधिप्रभाव नहीं होगा ।

६.० सामाजिक एवं आर्थिक परिवेश पर प्रभाव :

उद्योग की स्थापना प्रक्रिया के फलस्वरूप सामान्य जन जीवन पर अधिप्रभाव पड़ना स्वाभाविक है। औद्योगिकीकरण में प्रगति के फलस्वरुप, आस – पास के क्षेत्रों में रोजगार के अवसरों में वृद्धि, सामान्य जनउपयोगी वस्तुओं कि उप्लब्धता, शैक्षिक, स्वास्थ एवं रहन सहन के स्तर में समानुपाती परिवर्तन होना स्वाभिक है ।

७.० पर्यावरण अधिप्रभाव मूल्यांकन बिंदु :

- औद्योगिक स्थापना से भू प्रयोग पैटर्न परिवर्तन संभावित है ।
- प्राप्त जल वायु आंकड़े के अधार पर क्षेत्रीय मौसमी आंकड़े विचलित नहीं है ।
- प्रक्रिया के उपरांत प्रस्तावित स्थापना के द्वारा जलीय वातावरण पर विपरीत प्रभाव नहीं होगा जिसका मुख्य कारण शून्य उत्प्रवाह निस्तारण कि स्थिति है ।

- वायु गुणवत्ता के अनुश्रवित आकड़ों गुणता का मानको के अनुरूप होना इंगित करते हैं तथा उद्योग से जनित अतिरिक्त उत्सर्जन का प्रभावी नियंत्रण ऊच्च क्षमता के वायु प्रदूषण नियंत्रण संयंत्र के माध्यम से किया जायेगा जिससे परिवेशीय वायु गुणवत्ता मानकों के अनुरूप संरक्षित रहेगी ।
- ध्वनि तीव्रता का प्रभावी निराकरण प्राविधानित है तथा जनित ठोस अपशिष्ट से पर्यावरण पर विपरीत प्रभाव नहीं पड़ेगा ।
- औद्योगिक स्थापना से स्थानीय वनस्पति तथा पशु वर्ग प्रजाति पर कोई संवेदनशील अधिप्रभाव जनित नहीं होगा ।
- स्थानीय जनसामान्य में औद्योगिक स्थापना के फलस्वरूप शिक्षा, रोजगार, तथा स्वास्थ्य के क्षेत्र में सकारात्मक परिवर्तन संभावित है ।

८.० संस्तुतियां :

उद्योग कि स्थापना प्रक्रिया हेतु योजना विकसित किये जाने हेतु निम्नलिखित संस्तुतियां निर्धारित है जिनके क्रियान्वन के पश्चात प्रभावी नियंत्रण व्यवस्था विकसित की जा सकती है ।

(क) स्थापना प्रक्रिया में स्थल क्लीयरिंग चरण में एस्कवेशन, लेवेलिंग तथा ट्रांसपोर्टेशन के दौरान जनित कणीय पदार्थों के उत्सर्जन नियंत्रण हेतु जल स्प्रे प्रक्रिया अपनाई जा सकती है ।

(ख) स्थापना प्रक्रिया में कार्यरत कार्मिकों हेतु समुचित पेयजल तथा घरेलू उत्प्रवाह के निस्तारण का पर प्रभावी प्रबंध किया जाना उचित है जिससे आस –पास के वातावरण पर इसके कारन नियंत्रित प्रभाव पड़े ।

(ग) समस्त निर्माण तथा अधिस्थापना संबंधी कार्यों का संचालन एस प्रकार से सुनिश्चित किया जाये किसी भी प्रकार के जनित उत्प्रवाह का प्रभावी निराकरण किया जा सके । इस दौरान वाहन के आवागमन को समुचित रूप से नियंत्रित किया जाये जिससे न्यूनतम उत्सर्जन हो । आयल स्पिलेज का समुचित निस्तारण किया जाये । अन्य ठोस अपशिष्टों का उचित निराकरण किया जाये, स्थापना के दौरान ध्वनि तीव्रता को इस प्रकार नियंत्रित किया जाये जिससे आवासीय क्षेत्र के निकट ध्वनि तीव्रता का स्तर ७५ डेसिबेल सुनिश्चित किया जा सके ।

(घ) औद्योगिक संचालन में जल का प्रयोग नियंत्रित किया जाये तथा फ्लोर वाशिंग , कुलिंग से जनित उत्प्रवाह को पुनः प्रयोग किया जाये । उत्प्रवाह लीकेज को कलेक्शन पिट का प्रावधान करते हुए नियंत्रित किया जाये । प्रक्रिया में पुनः प्रयुक्त किये जाने का प्रयास किया जाये ।

(ड) उद्योग द्वारा प्रक्रिया में जल का प्रयोग एवं संरक्षण का प्रभावी नियंत्रण हेतु उत्प्रवाह मापी यन्त्र का प्रावधान स्रोत बिंदुओ तथा संवाहन बिंदुओ पर सुनिश्चित किया जाये जिससे जल का प्रयोग को नियमित आधार पर अनुश्रवित किया जा सके ।

(ज) उद्योग द्वारा संचालन के द्वारा विभिन्न पर्यावरण घटकों के प्रभावी नियंत्रण हेतु प्रबंधतंत्र स्तर पर रेटिंग सिस्टम का प्राविधान किया जाये ।

निष्कर्ष : -

पर्यावरण से सम्बंधित प्रस्तावों का पूर्ण रूप से अनुपालन किया जायेगा तथा प्रस्तावित उद्योग से किसी भी दशा में पर्यावरण पर प्रतिकूल प्रभाव नहीं पड़ेगा ।

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