QUESTIONNAIRE FOR ENVIRONMENTAL APPRAISAL

(INDUSTRY SECTOR PROJECTS)

Note 1 :	All information given in the form of annexures should be part of this file itself. Annexures as separate files will not be accepted.
Note 2 :	Please enter x in appropriate box where answer is Yes/No

I. General Information

A. Name of the Project :

1. Existing project/proposed project/ expansion project/modernization project :

2. If Existing/expansion/ modernization project, whether environmental clearance has been obtained :

B. Plant Capacity (TPA) :

C. Location

Village	Tehsil	District	State

D. Geographical Information

1. Latitude
2. Longitude
3. Elevation above Mean Sea Level (metres)
4. Total Area envisaged for setting up of project (in ha.)
5. Nature of terrain (hilly, valley, plains, Coastal plains etc.)

6. Nature of Soil (sandy, clayey, sandy loam etc.).

7. Permeability (cm/sec)

E. Alternate sites considered

1. _____

2. _____

3. _____

4. _____

F. Reasons for selecting the proposed site based on comparative evaluation of environmental considerations

II. Environmental Setting

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A. Current land usage of the proposed project site Area (in hectares) .

1. Notified Industrial Area/Estate

2. Agricultural

Irrigated

Unirrigated

3. Homestead

4. Forest

5. Grazing

6. Fallow

7. Marshy

8. Mangroves

9. Others (Pl. specify)

Total

B. Please indicate area earmarked for each of the following (in ha.)

1. Plant Facilities
2. Ash Disposal
3. Storage (Fuel)
4. Storage (Water)
5. Storage (Hazardous Waste)
6. Storage (Hazardous Chemicals)
7. Storage (Others)
8. Approach Road(s)
9. Township
10. Green Belt
11. Others (Please specify)

Total

C. Is the proposed site located in a low-lying area ?

Yes No

If yes,

1. Level before filling (above MSL, in metres) _____
2. Level after filling (above MSL in metres)_____

Quantity of Fill Material required (in cum.)	Source

D. Proximity to sea/water bodies :

	Sea	Other Water bodies like River/creek/la ke etc. (Please specify)
Distance of site* boundary (in m)		
Distance of plant facilities (in m)		

*** From highest flood line/high tide line**

E. Whether any of the following exist within 7 km. of the periphery of the project site. If so, please indicate aerial distance and the name of the eco-system as given under the Table.

S.No.		Name	Area falling within 7 km periphery of project (ha.)	Aerial Distance (in km.)
1	National Park/Wildlife Sanctuary			
2	Tiger Reserve/Elephant Reserve / Turtle Nesting Ground			
3	Core Zone of Biosphere Reserve			
4	Habitat for migratory birds			
5	Lakes/Reservoir/Dams			
6	Stream/Rivers			
7	Estuary/Sea			
8	Mangroves			
9	Mountains/Hills			
10	Notified Archaeological sites			
11	Any other Archaeological			

	sites			
12 13	Industries/Thermal Power Plants Defence Installation			
14	Airports			
15	Railway Lines*			
16	National / State Highways*			

*** 0.5 km from Railway lines/National / State Highway should be maintained.**

F. Description of the flora/vegetation within 7 km under following headings.

1. Agricultural crops : _____
2. Commercial crops : _____
3. Plantation : _____
4. Natural Vegetation/Forest Type :-_____
5. Grass Lands : _____
6. Endangered species : _____
7. Endemic species : _____
8. Others (Please Specify) : -_____

G. Description of fauna (non-domesticated) within 7 km under following headings.

1. Total listing of faunal elements
2. Endemic fauna species
3. Endangered Species
4. Migratory species
5. Route of migratory species of birds and mammals
6. Details of aquatic fauna (if applicable)

III. Meteorological Parameters

A. Seasonal – Monitoring Data (continuous monitoring for one full season except monsoon should be carried out)

1. Temperature (in ^{0}C)

(a) Maximum_____ (b) Minimum_____ (c) Mean_____

2. Rain fall (in mm) _____

(a) Maximum_____ (b) Minimum_____ (c)Mean_____

3. Mean value of humidity (in %)

4. Inversion occurrence

(a) In percentage (b) Height in meters

5. Seasonal Wind-rose pattern (16 points on compass scale)

6. Hourly Mean Meteorological data (based on one full season data collected at site required as input for air quality modeling)

Hour	Low/Medium Cloud amount (in OCTAS)	Wind Speed in (Km/h)	Predominant wind direction	Ambient air temperature (in deg K)	Hourly stability	Mixing depth (in m)
1.						
2. 3.						
…..						
……						
23.						
24.						

Attach additional sheet as required.

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IV. Ambient Air Quality Data

[Frequency of Monitoring should be as per guidelines of CPCB and monitoring should cover one full season (excluding monsoon)]

A. Season and period for which monitoring has been carried out

B. Frequency of sampling

C. Number of samples collected at each site.

Date, Time & Location	Wind direction & Speed	24 hourly Concentration as monitored (in µg/m3.) SPM, RPM, SO2,Nox,CO	Permissible Standard(As per EPA/SPCB consent)	Remarks (Name of the instrument and sensitivity)

D. 24 hourly concentrations (in µg/m3)

Pollutant(s)	Maximum	Minimum	Mean	98%
SPM				
RPM				
SO2				
NOx CO				

E. Specific air pollution issues in the project area.

V. Manufacturing Process details

A. Raw materials (including process chemicals, catalysts, & additives).

List of raw materials to be used at all stages of manufacture	'Physical and chemical nature of raw material	'Quantity (tonnes/month) full production capacity	Source of materials	Means of transportation (Source to storage site) with justification

B. Brief description of the process :

C. Details of process technology know how/collaboration :

D. Production profile (tonnes/year)

Name of Products, Byproducts and Intermediate Products	Existing	Proposed activity (new/modernization/expansion)	Total
A. Main Products 1. 2.			
B. By-Products 1. 2. C. Intermediate Products 1. 2.			

D. Means of transportation of raw material and final products

Means of Transport	Raw material (in TPA)	Final Product (in TPA)
1. Road		
2. Rail		
3. Pipeline		
4. Others, Please specify		

VI. Water

A. Water Requirement (cum/day)

Purpose	Avg. Demand	Peak Demand	Source	Type Treated / untreated/Fresh/ Recycled	Remarks
1. Project (i) Process (ii) Cooling water (iii) DM water (iv) Dust Suppression (v) Drinking (vi) Green Belt (vii) Fire Service (viii) Others 2. Township (i) Green Belt (ii) Drinking (iii) Others (Please specify) TOTAL					

B. Source of Raw Water Supply

S.No.	Source	Cu.m./hr	Cu.m./day
1	Sea		
2	River		
3	Groundwater		
4	Other surface water bodies (Please specify)		

C. Lean Season flow in case of surface water source (cusecs/cumecs)

D. Groundwater (a) Recharge Rate/Withdrawal rate

1. Ground water level (metres)

(i) Premonsoon

(ii) Postmonsoon

(to be obtained from Central/State Ground water authorities)

E. Competing Users of the Water Source :

S.No.	Usage	Present Consumption (cu.m/day)		Addition Proposed as per local plan		Total	
		Surface	Ground	Surface	Ground	Surface	Ground
1	Irrigation						
2	Industry						
3	Drinking						
4	Others (Please specify)						
	Total						

F. Physico- chemical analysis of Raw Water at intake point

G. Physico- chemical analysis of treated water to be used in project/township.

H. Waste Water Management

1. Description of waste water treatment plan with flow chart

2. Characteristics of discharge stream(s) before and after treatment

Item	Characteristics	
	Before	After

3. Daily discharge (m^3/day) from different sources

(a) Plant operation	
(b) Workshop	
(c) D.M. Plant effluent	
(d) Domestic	
(e) Other (specify)	
Total	

4. Quantity of water recycled

(a) (in %)	
(b) (in cum/day)	

5. Details of recycling mechanism

6. Mode of final discharge/disposal of treated effluent :

Mode	Length (in m.)	Quantity(in m^3/day)
(i) Open Channel		
(ii) Pipeline		
(iii) Others (Please specify)		
Total		

7. Point of final discharge :

Final Point	Quantity discharged (in m^3/day)
(i) Green belt within the plant/township	
(ii) Agricultural land	
(iii) Fallow Land (iv) Forest Land	
(v) River/Stream	
(vi) Lake	
(vii) Estuary	
(viii) Sea	
Total	

8. Lean season flow rate in case of discharge in a river/stream (cusecs)

9. Downstream users of water (in case of river, reservoir, lake(cusecs)

(a) Human

(b) Irrigation

(c) Industry

(d) Others (Pl. specify)

10. Analysis of river water 100 metres upstream of discharge point and 100 metres downstream of discharge point (except in rainy/monsoon season) along with details of aquatic life.

11. What is the predicted impact on water quality of the receiving body due to discharge ? (Briefly state the prediction tool adopted)

VII. Solid Waste Management

1. Details

S.No	Source	Qty(TPM)	Form (Sludge/Dry/Slurry etc.)	Composition
.1	Raw water treatment plant			
2	ETP			
3 4	Process Spent Catalyst			
5	Oily Sludge			
6	Others (Pl. Specify)			

B. If waste(s) contain any hazardous/toxic substance/radioactive materials or heavy metals, provide data and proposed precautionary measures.

C. What are the possibilities of recovery and recycling of wastes?

D. Possible users of Solid Waste (s).

E. Method of disposal of solid waste (s)

Method Qty(TPM)

1. Landfill
2. Incineration
3. Recovery
4. Downstream users

F. In case of landfill

1. Is solid waste amenable for landfill YES ☐ NO ☐

2. Dimensions of landfill ☐ ☐ ☐

3. Life of landfill ☐ years

4. Proposed precautionary and mitigative measures along with design features

G In case of incineration:

1. Details of incinerator

(i) Type

(ii) Size

(iii) Capacity

(iv) Fuel

2. Likely composition and quantum of emissions

S.No.	Composition	Quantity (in cu.m/hr)

VIII. Noise Pollution Control and Management

A. Source ☐

B. Level at Source (dB) ☐

C. Level at project boundary Capacity (dB) ☐

D. Abatement measures (give source-wise details) ☐

IX. Fuel/Energy Requirements

A. Total Power Requirement (MW)

	Project	Township	Other(pl.specify)	Total
Present (in existing)				
Proposed				
Total				

B.. Source of Power (MW)

Present	SEB/Grid	Captive power plant	DG Sets
Proposed Total			

C. Details of Fuel used

S.No.	Fuel	Daily Consumption(TPD)		Calorific value (Kcals/kg)	% Ash	% Sulphur
		Existing	Proposed			
1	Gas					
2	Naphtha					
3	HSD					
4	Fuel Oil					
5	Coal					
6	Lignite					
7	Other (Pl. specify)					

D. Source of Fuel (Distance in km)

1. Port
2. Mine
3. Refinery

4. Storage depot/Terminal

E. Mode of Transportation of fuel to site

1. Trucks (numbers/day) ☐
2. Pipeline(length in km.) ☐
3. Railway Wagons (numbers/day) ☐

X. Atmospheric Emissions

A. Flue gas characteristics(SPM, SO_2, NO_x, CO)

S.No.	Pollutant	Source of Emission	Emission rate (kg/hr)	Concentration in flue gas (g/m^3)
1 2	SPM RPM			
3	SO_2			
4	NOx			
5	CO			

B. Size distribution of SPM at the top of the stack

S.No.	Range	% by weight
1	Micron	
2	1-10 Micron	
3	10-20 Micron	
4	<20 Micron	

C. Stack emission Details (All the stacks attached to process units, Boilers, captive power plant, D.G. Sets, Incinerator both for existing and proposed activity).

Plant section & units*	Stack No.	Height from ground level (m)	Internal Diameter (Top) (m)	Emission Rate (kg/hr) *	Temp. of Exhaust Gases (deg K)	Exit Velocity (m/sec)	Exhaust Gas			
							Temp	Density	Specific Heat	Volumetric Flow (m3)
	1st									
	2nd									
	3rd									
	4th									
	5th 6th									
	7th									
	& so on									

*Note: Please indicate the specific section to which the stack is attached. For e.g.: Process section, D.G. Set, Boiler, Power Plant, incinerator etc.

Emission rate (kg/hr.) for each pollutant (SPM, SO_2, NO_x etc. should be specified.

D. Details of fugitive emissions (Indicate the points of fugitive emissions and quantities estimated)

E. Predicted impact on air quality (as per CPCB Guidelines for conducting the air quality modelling)

XI. Pollution load statement (Applicable to Expansion and Modernization Projects only)

Parameter	Existing Plant	Proposed Expansion/Modernization	Total	Remarks
1. Land area (ha)				
2. Raw water (m3/day)				
3. Power (MW)				
4. Waste water (effluent generation) (m3/day)				
a. Process				
b. Domestic				
5. Air emissions (gms/hr.)				
a. SPM				
b. CO				
c. SO_2				
d. NOx				
e. Others (like HC, Cl_2, NH_3 etc.)				
6. Hazardous Chemical Storage (give item-wise)				
7. Solid waste (TPD)				
a. Non-Hazardous				
b. Hazardous				

XII. Storage of chemicals (inflammable/explosive/hazardous/toxic substances)

S. No	Name	Number of Storage's	Capacity (TPD)	Physical and Chemical Composition	Consumption (in TPD)	Maximum Quantity of storage at any point of time	Source of Supply	Means of transpor-tation

XIII. Occupational Health and Industrial Hygiene.

A. What are the major occupational health and safety hazards anticipated. (Explain briefly).

B. What provisions have been made/propose to be made to conform to health/safety requirements. (Explain briefly).

C. Details of personal protective equipment provided/to be provided to the workers.

D. Details of proposed measures for control of fugitive emission/odour nuisance from different sources.

E. Details of fire protection and safety measures envisaged to take care of fire and explosion hazards.

XIV. Pollution Control Aspects

A. Details of Pollution Control Systems :

S. No		Existing	Proposed to be installed
i) ii)	Air Water		
Iii) iv)	Noise Solid Waste		

B. Efficiency of each pollution control equipment/system installed.

1. Existing Units

S. No.	Name of the System Equipment	Design Efficiency %	Present Working efficiency %
1			
2			
3			

2. Proposed Project

S.No.	Name of the System Equipment	Design Efficiency %
1		
2		
3		

XV. Green Belt Plan

A. Total area of project/township (in ha.)

B. Area already afforested (for existing projects), in ha.

C. Area proposed to be afforested (in ha.)

D. Plant species proposed
   1. Indigenous
   2. Exotic

E. Width of green belt (minimum, in m.)
   1. Along plant boundary
   2. Roads and avenues within the plant
   3. Ash Dike
   4. Township
   5. Other-ornamental, garden spaces,
   6. Commercial plantations etc.

F. Trees planted & proposed

Nos.

1. Planted

2. Survival rate

3. List of species planted

4. Proposed

5. List of Species

XVI. Construction Phase Management Aspects

A. Estimated duration of construction in months

B. Number of persons to be employed for construction

1. Peak

2. Average

C. What provision has been made for the sewage treatment for the construction workers?

D. How the fuel (kerosene/wood, etc.) requirement of labour force will be met to avoid cutting of trees from the adjoining areas

E. Proposed Health care Measures with emphasis on protection from endemic diseases.

F. Educational and other social welfare measures proposed.

XVII. Human Settlement

S.No.	Aerial distance from the periphery of the site		
	Upto 500m from periphery	500m to 3000 m from the periphery	3000m to 7000m from the periphery
1 Population			
2 Number of Houses			
3 Present Occupational Pattern			

XVIII. Rehabilitation & Resettlement Plan (Wherever applicable)

A. Village(s) affected by the project:

S. No.	Village (Tribal/Others)	Population	Occupation	Average Income per annum

B. Population to be displaced

S.No	Name of Village	Population		
		Landoustees only	Homestead oustees only	Land and Homestead oustees

C. Salient features of Rehabilitation Plan.

(i) Site where the people are proposed to be resettled

(ii) Facilities proposed at the resettlement site

(iii) Compensation package

(iv) Agency/Authority responsible for their resettlement.

XIX. Expenditure on Environmental Measures

A. Capital cost of the project (as proposed to approved by the funding agency/financial Institutions

(Rs. Lakhs)

B. Cost of environmental protection measures (Rs. Lakhs)

S.No.		Recurring Cost per annum	Capital Cost
1	Air Pollution Control		
2	Water Pollution Control		
3	Noise Pollution Control		
4	Environment Monitoring and Management		
5	Reclamation borrow/mined area		
6	Occupational Health		
7	Green Belt		
8	Others (Pl. Specify)		
Total			

3. Details of organizational set up/cell for environmental management and monitoring.

4. Details of community welfare/peripheral development programmes envisaged/being undertaken by the project proponent :

XX. Public Hearing details :

A. Date of Advertisement:

B. Newspapers in which the advertisement appeared (with copies)

C. Date of Hearing

D. Panel Present

E. List of public present along with address and occupation

F. Summary/details of public hearing report

S.No.	Issues raised	Recommendation of panel	Response of Project Proponents
1			
2			
3			

The data and information given in this Performa are true to the best of my knowledge and belief

Date:

Place:

Signature of the Applicant with full name & address.

Given under the seal of organisation on behalf of whom the applicant is signing.

LIST OF DOCUMENTS TO BE ATTACHED WITH THE QUESTIONNAIRE

(Industry Sector Projects)

S.No	Documents to be Attached
1.	Topographic map of the site indicating contours (1:2500 scale)
2.	Topographic map covering 7 kms radius from the periphery of the site indicating main features
3.	Wind rose diagram of the site (Seasonal)
4.	Wind rose diagram of the site (Artificial)
5.	Site map indicating the positions of ambient air quality monitoring stations vis-à-vis wind direction
6.	Flow sheet of the process adopted indicating mass input/output, brief description of the process including technological and engineering details
7.	Alternative technologies considered along with details of criteria used for selecting the technology and results of evaluation
8.	Approval of ground water board/ irrigation department/ Municipality etc. for supply of water
9.	Mass balance for water used by the project in a flow chart
10.	Flow chart for waste water treatment with mass balance
11.	Site map indicating solid waste disposal facilities
12.	Approval of electricity connection and supply of electricity
13.	Lay out map of the plant showing the position of stacks for deciding the inter stack distance
14.	Site map indicating the storage facilities
15.	Approval of Chief controller of explosives for lay out and storage of hazardous substances
16.	Layout of green belt indicating width on all sides, trees, lawns and bushes
17.	Copy of advertisement issued in respect of public hearing
18.	No objection certificate from the pollution control board
19	In case of proposals for expansion copies of renewals of consent from SPCB / PCC
20.	In case of expansion proposal copy of approval of factory inspector
21.	Copy of the application submitted to the State Government for the forest clearance in case diversion of forest land is involved
22.	Comments/Observations/Recommendation of Chief Wildlife Warden in case wildlife habitat/ migration path exists within 25 kilometers of the project site
23.	Hydrogeological report in case ground water is to be used and/or the area is drought prone or the waste water is likely to be discharged on land
24.	Environmental Audit report for the previous two years in case of expansion of existing undertaking
25.	In case the proposal involves installations in coastal zone, copy of the application forwarded by the State Government