Standard TOR

TOR for Common Effluent Treatment Plant (CETP)	
ToR for EIA studies in respect of proposed CETP may include, but not limited to the following:	
1	Executive summary of the project – giving a prima facie idea of the objectives of the proposal, use of resources, justification, etc. In addition, it should provide a compilation of EIA report, including EMP and the post-project monitoring plan in brief.
Project description:	
2	Justification for selecting the proposed product and unit size.
3	Land requirement for the project including its break up for various purposes, its availability and optimization.
4	Details of proposed layout clearly demarcating various units/industries within the plant.
5	Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs and outputs (material and energy balance).
6	Details of the industries for which CETP facility is proposed including raw materials used and products manufactured.
7	Expected quantity of wastewater from each industry and justification for selecting the proposed capacity of the treatment plant/modules.
8	Characteristics of effluent and proposed segregation of streams, if any, from individual member industries.
9	Details of mode of effluent collection system either by tankers and/or pipeline, etc., or proposed trouble-shooting mechanism.
10	Monitoring protocol in case of collection of effluent through pipeline and/or tankers.
11	Details on physical, chemical and biological characteristics of the combined effluent and its concentrations and the basis for the same.
12	Details of equalization tank at least for 24 hrs; and guard ponds for holding treated wastewater or continuous monitoring facilities, if any.
13	Details of the proposed treatment schemes supported by the treatability studies including source separation of streams for specific mode of collection and treatment

	either at individual industry or at CETP (based on economic and operational ease considerations).
14	Built-in flexibility provisions to deal with quantitative and qualitative fluctuations.
15	Organizational setup for collection of pretreated effluents, treatment and disposal of the treated effluents, etc. and deployment of qualified/skilled man power.
16	Details of O&M for maximum utilization of the designed capacity of the plant.
17	Proposed monitoring protocol for stage-wise quality control w.r.t. various characteristics and maintenance schedules followed for all rotating equipment including lubricating/oil fill, operational chemicals and laboratory chemicals.
18	For any sensitive environmental parameters such as heavy metals, fluorides, etc., details on improved material of construction of tanks and other equipments such as corrosion resistance, allowance, etc.
19	Details of power consumption and stand-by arrangements like the diesel generator (DG) sets, dual fuel (gas and oil) for uninterrupted operation of treatment plant.
20	Details of laboratory, workshop, database, library, waste exchange centers, etc. in CETP.
21	Availability of the land for proposed treatment for ultimate capacity and to accommodate required greenbelt development.
22	Details of the proposed methods of water conservation and recharging.
23	Management plan for solid/hazardous waste generation, storage, utilization and disposal.
24	Detailed plan of treated wastewater disposal/ reuse/ utilization / management.
25	Detailed plan of treated wastewater disposal/ reuse/ utilization / management.
26	In case of expansion of existing industries, remediation measures adopted to restore the environmental quality if the groundwater, soil, crop, air, etc., are affected and a detailed compliance to the prior environmental clearance/consent conditions.
27	Details on equity by the member industries/non refundable membership fee to ensure continuity of membership and financial model, etc.
Description of the environment:	
28	The study area shall be up to a distance of 5 km from the boundary of the proposed site and all along the collection network/route map of tanker movement, treated wastewater carrying pipe-line and the receiving environment at the point of disposal.

29	Location of the project site and nearest habitats with distances from the project site to be demarcated on a toposheet (1: 50000 scale).
30	Land-use based on satellite imagery including location specific sensitivities such as national parks / wildlife sanctuary, villages, industries, etc. for the study area.
31	Demography details of all the villages falling within the study area.
32	Topography details of the project area.
33	The baseline data to be collected from the study area w.r.t. different components of environment viz. air, noise, water, land, and biology and socio-economic.
34	Geological features and geo-hydrological status of the study area.
35	Surface water quality of nearby water sources and other surface drains.
36	Details on ground water quality.
37	Details on water quality parameters such as pH, Temperature (^{o}C), Oil and grease, Cyanide* (as CN), Ammoniacal nitrogen* (as N), Phenolic compounds* (as C_6H_5OH), Hexavalent Chromium*, Total chromium*, Copper*, Nickel*, Lead*, Arsenic*, Mercury*, Cadmium*, Selenium*, Fluoride*, Boron*, Radioactive materials*, Alfa emitters*, Hc/ml,Beta emitters*, Hc/ml*, etc. (* - as applicable).
38	Details on existing ambient air quality and expected, stack and fugitive emissions for PM10, PM2.5, SO2*, NOx*, VOCs*, carbon oxides (CO and CO2) etc., and evaluation of the adequacy of the proposed pollution control devices to meet standards for point sources and to meet AAQ standards. (* - As applicable)
39	The air quality contours may be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any and wind roses.
40	Details on noise levels at sensitive/commercial receptors.
41	Site-specific micro-meteorological data including mixing height.
42	One season site-specific data excluding monsoon season.
43	Proposed baseline monitoring network for the consideration and approval of the Competent Authority.
44	Ecological status (terrestrial and aquatic) of the study area such as habitat type and quality, species, diversity, rarity, fragmentation, ecological linkage, age, abundance, etc.
45	If any incompatible land-use attributes fall within a 5 km radius of the project boundary, proponent shall describe the sensitivity (distance, area and significance) and propose the additional points based on significance for review and acceptance by the

	EAC/SEAC. Incompatible land-use attributes include:
	a. Public water supply areas from rivers/surface water bodies, from ground water
	b. Scenic areas/tourism areas/hill resorts
	c. Religious places, pilgrim centers that attract over 10 lakh pilgrims a year
	d. Protected tribal settlements (notified tribal areas where industrial activity is not permitted)
	e. Monuments of national significance, World Heritage Sites
	f. Cyclone, Tsunami-prone areas (based on last 25 years)
	g. Airport areas
	h. Any other feature as specified by the State or local government and other features as locally applicable, including prime agricultural lands, pastures, migratory corridors, etc.
46	If ecologically sensitive attributes fall within a 5 km radius of the project boundary, proponent shall describe the sensitivity (distance, area and significance) and propose the additional points based on significance for review and acceptance by the SEAC. Ecological sensitive attributes include:
	a. National parks
	b. Wild life sanctuaries, Game reserve
	c. Tiger reserve/elephant reserve/turtle nesting ground
	d. Mangrove area
	e. Wetlands
	f. Reserved and Protected forests, etc.
	g. Any other closed/protected area under the Wild Life (Protection) Act, 1972, any other area locally applicable
47	If the location falls in a valley, studies on specific issues connected to the natural resources management.
48	Environmental parameters – Temperature, sea level pressure, wind speed, mean relative humidity, visibility, salinity, density, rainfall, fog, frequency and intensity of cyclones, sediment transport, seismic characteristics, fresh water influx.
Anticipated environmental impacts and mitigation measures:	
49	Anticipated generic environmental impacts due to this project may be evaluated for significance and based on corresponding likely impacts Valued Environmental

	Components (VECs) may be identified. Baseline studies may be conducted for all the concerned VECs and likely impacts will have to be assessed for their magnitude in order to identify mitigation measures.
50	Impact prediction tools used for the appropriate assessment of environmental impacts.
51	While identifying the likely impacts, also include the following for analysis of significance and required mitigation measures:
	a. Impacts due to transportation of raw materials and end products on the surrounding environment
	b. Impacts on surface water, soil and groundwater
	c. Impacts due to air pollution
	d. Impacts due to odour pollution
	e. Impacts due to noise
	f. Impacts due to fugitive emissions
	g. Impact on health of workers due to proposed project activities
	h. Impact on the disposal mode-specific receiving environment
52	Proposed odour control measures
53	Action plan for the greenbelt development – species, width of plantations, planning schedule, etc., in accordance to CPCB published guidelines.
54	In case of likely impact from the proposed project on the surrounding reserve forests, Plan for the conservation of wild fauna in consultation with the State Forest Department.
55	Mitigation measures - for source control and treatment.
56	Details in case, if the effluent conveyance system uses pipe lines, details regarding minimum (one day) storage tank with mixing facility to keep it in aerobic conditions at source industry and mechanism to ensure compliance with prescribed standards at this storage tank.
57	Details regarding soil and groundwater impacts and regular monitoring protocols suggested for ensuring no significant impacts, besides preventive measures.
58	Impacts due to laying of pipe lines for effluent collection and for the disposal of the treated wastewaters.
59	Capital quantity of dredging material, disposal and its impact on aquatic life.
60	Details on fisheries study which are conducted w.r.t. benthos and

	marine organic material and coastal fisheries.
61	Details of storm water collection network and utilization plan, etc.
62	Proposed measures for occupational safety and health of the workers.
Analysis of alternative resources and technologies:	
63	Comparison of alternate sites considered and the reasons for selecting the proposed site. Conformity of the site with the prescribed guidelines in terms of CRZ, river, highways, railways, etc.
64	Drainage area and alterations, if any due to the project.
65	Details on improved technologies.
Environmental monitoring program:	
66	Monitoring programme for pollution control at source.
67	Monitoring pollutants at receiving environment for the appropriate notified parameters – air quality, groundwater, surface water, gas quality, etc. during operational phase of the project.
68	Specific programme to monitor safety and health protection of workers
69	Appropriate monitoring network has to be designed and proposed, to assess the possible residual impacts on VECs.
70	Details of in-house monitoring capabilities and the recognized agencies if proposed for conducting monitoring.
Additional studies:	
71	Details on risk assessment and damage control during different phases of the project and proposed safeguard measures.

<u>Above points shall be adequately addressed in the EIA report at corresponding chapters, in addition to the contents given in the reporting structure as below</u>:

Sr.No	**EIA Structure**	**Contents**
1	Introduction	Purpose of the report
		Identification of project & project proponent
		Brief description of nature, size, location of the project and its importance to the country, region
		Scope of the study – details of regulatory scoping carried out

2	Project Description	Condensed description of those aspects of the project (based on project feasibility study), likely to cause environmental effects. Details should be provided to give clear picture of the following:
		Type of project
		Need for the project
		Location (maps showing general location, specific location, project boundary & project site layout)
		Size or magnitude of operation (incl. Associated activities required by / for the project)
		Proposed schedule for approval and implementation
		Technology and process description
		Project description including drawings showing project layout, components of project etc. Schematic representations of feasibility drawings which give information important for EIA purpose
		Description of mitigation measures incorporated into the project to meet environmental standards, environmental operating conditions, or other EIA requirements (as required by the scope)
		Assessment of New & untested technology for the risk of technological failure
3	Description of the Environment	Study area, period, components & methodology
		Establishment of baseline for VECs, as identified in the scope
		Base maps of all environmental components
4	Anticipated Impacts and Mitigation Measures	Details of Investigated Environmental impacts due to project location, possible accidents, project design, project construction, regular operations, final decommissioning or rehabilitation of a completed project

		Measures for minimizing and / or offsetting adverse impacts identified
		Irreversible and irretrievable commitments of environmental components
		Assessment of significance of impacts (Criteria for determining significance, Assigning significance)
		Mitigation measures
5	Analysis of Alternatives (Technology and Site)	In case, the scoping exercise results in need for alternatives:
		Description of each alternative
		Summary of adverse impacts of each alternative
		Mitigation measures proposed for each alternative and selection of alternative
6	Environmental Monitoring Program	Technical aspects of monitoring the effectiveness of mitigation measures.
7	Additional Studies	Risk assessment
8	Project Benefits	Improvements in physical infrastructure
		Improvements in social infrastructure
		Employment potential –skilled; semi-skilled and unskilled
		Other tangible benefits
9	Environmental Cost Benefit Analysis	If recommended at the scoping stage
10	EMP	Description of the administrative aspects that ensures proper implementation of mitigative measures and their effectiveness monitored, after approval of the EIA
11	Summary & Conclusion (This will constitute the summary of the EIA report)	Overall justification for implementation of the project. Explanation of how, adverse effects have been mitigated.
12	Disclosure of Consultants engaged	Name of the consultants engaged with their brief resume and nature of consultancy engaged.