

Item No.150.03: Questionnaire for appraisal of projects by SEAC

In order to bring uniformity and to streamline the process in dealing with the environmental clearance cases of building & construction projects under item 8 (a) of the Schedule appended to EIA notification, 2006, a need has been felt that some standard documents/questionnaire should be prepared which can be referred to at the time of appraising the proposal. Hence, this questionnaire.

The questionnaire has been prepared keeping in mind the thrust areas to be focused upon as per requirements of OMs dated 19.06.2013, 10.11.2015, notification dated 29.04.2016 and section-A of the EIA guidance manual, 2010 of MoEF for category 8 (a) Building & Construction projects. It is hoped that this questionnaire will also be helpful in avoiding duplicacy / repetition of various issues and at the same time will ensure that important issues do not get overlooked, while appraising the project proposal.

Sr. No.	Description	Detail of presentation
A. Declaration about engaging consultant(s)		
1.	Disclosure of consultation/ engaged. lab	The engaged consultant shall have accreditation with QCI/NABET as per the notification dated 03.03.2016. This section shall include the name of the consultant engaged with their brief and nature of consultancy rendered. The consultant shall include the copy of accreditation certificate and data provided by other organizations / laboratories including their status of approvals etc.
2.	In case of authorized representative who attends the meeting.	As per OM dated 25.02.2010 clarifying the participation of project proponent during EAC meetings, only authorized representative of project proponent who should be a reasonably Senior Officer/Executive duly authorized in writing can participate in the EAC meetings on behalf of project proponent. In case, a consultant is to be nominated as an authorized

		representative, it should be through an irrevocable power of attorney duly executed and formally registered with Sub Registrar concerned
B. Documentary requirements as per check list		
1.	Proof of ownership of land & credible document showing status of land acquisition w.r.t. project site as prescribed in OM dated 07.10.2014 issued by MoEF.	Copy of latest Jamabandi (not more than one month old) and agreement document be presented.
2.	Layout plan duly approved by the competent authority / conceptual plan of the project.	Be presented and discussed.
3.	<p>1. Complete details of following by making it an integral part of the conceptual plan/ drawing/layout map: -</p> <ul style="list-style-type: none"> i) Location of STP; ii) Solid waste storage area. iii) Green belt iv) Parking space v) RWH and water recharge pits vi) Firefighting equipment layout vii) First aid room viii) Location of Tubewells ix) DG Sets and Transformers x) Any other utilities <p>2. Drawing showing plumbing systems for use of fresh, treated and hot water.</p>	Be presented and discussed.
4.	Statutory permissions	Permission of Competent Authority for;

		<p>a) Water and Sewerage connection A letter from concerned Local Body/Authority giving details about existing status of sewer connectivity and availability of water supply in the area and acceptance of Local Body for taking the quantity of sewage to be generated by the proposed project and providing the water supply. Existing position of public sewer and water supply line duly marked on the lay out map/plan.</p> <p>b) Collection of Solid waste</p> <p>c) Wildlife Sanctuary & National Park location within 10 kms be specified & if any such entity exists, copy of acknowledgement alongwith set of application filed for obtaining NBWL permission be presented.</p> <p>d) Status of permission under Forest (Conservation) Act, 1980 be presented, if required. If any use of forest land including approach to the project site from the road is involved then permission is required & copy of acknowledgement alongwith set of applications filed for obtaining permission be presented.</p>
5.	Construction schedule (PERT/CPM Chart)	To be presented.
6.	<p>Undertaking(s) for ;</p> <p>a) Constitution of Environment Monitoring Cell</p> <p>b) Use of ready mix concrete or use of fly ash during construction.</p> <p>c) To provide Fire Fighting System</p> <p>d) To provide wind breaking curtains and water sprinkling system to minimize dust emissions</p>	To be presented.

	during construction phase. e) To provide adequate safety measures for the construction workers during the construction phase.	
7.	Copy of Memorandum of Article & Association / partnership deed / undertaking of sole proprietorship / list of Directors and names of other persons responsible for managing the day-to-day affairs of the project.	To be presented.
8.	For expansion projects	<p>(i) Compliance report of earlier granted environmental clearance conditions verified by Northern Regional Office of Ministry of Environment, Forests & Climate Change, Chandigarh.</p> <p>(ii) All the columns in the application form may be got filled in three parallel columns i.e. Existing, Proposed and Total.</p> <p>(iii) In case of increase in no. of storeys, Structural Safety/ Stability Certificate may be required from the Approved Engineer.</p> <p>(iv) The existing building plan may be got super imposed with the proposed building plan and be marked in different colors.</p> <p>(v) Specify the adequacy of internal water supply system, sewer line and STP for the proposed expansion/revision.</p>
C. Technical Appraisal		
1.	Brief description of the project in terms of location & surroundings	<ul style="list-style-type: none"> • Description of the project and site selection as to whether it is in consonance with the Master Plan of the area. • Detailed 1km radius map with all the details of surroundings which should include major topographical features such as:

		<ul style="list-style-type: none"> I. Habitat locations II. Major construction i.e. roads, railways, pipelines, drainage etc. III. Industries especially in red category. IV. Any water body <ul style="list-style-type: none"> • Land use map of the study area in 1:10,000 scale based on high resolution satellite imagery delineating the forest, agricultural land, water bodies, settlements, and other cultural features • Manpower requirement of various categories such as skilled, semi-skilled, unskilled, technicians, Engineers & Managers during the construction phase be presented and discussed. Details of compliances of Acts related to employees service, welfare measures as per provisions of Govt. of India Acts such as Minimum Wages Act, Contract Labour Act, Interstate Migrant Workmen Act, Building & other Constructions Workers Act and Building & other Construction Workers Welfare Cess Act, be presented & discussed.
2.	Environmental Impacts on Project land and its surrounding development and vice-versa.	<p>Identify quantitatively & describe the item wise activities during construction & operation phase.</p> <p>Quantification/ characterization of likely impacts and mitigation measures thereof be presented as per the following sections.</p>
3.	Land environment	<p>Existing status of baseline conditions of land use be determined by studying the changes in the land use pattern in the past 10 years by collecting data from secondary sources such as land record, agricultural census and census records. The soil characteristics in project area, which could affect the dominant land use afforestation potential need to be studied and presented. The physical & chemical properties of the soil are to be analysed and presented as given in table-3.1 & 3.2.</p>

4.	Biological environment	Baseline data from the field observations and secondary sources for various terrestrial and aquatic system be generated and presented. Wildlife sanctuaries and national parks location within 10 kms radius from the project boundary be identified and presented.
5.	<p>Water Environment</p> <p>(i) Ground water potential of the site and likely impacts of the project.</p> <p>(ii) Water balance Chart with a view to promote waste water treatment, recycle, reuse and water conservation.</p>	<p>(i) Groundwater / surface water in the study area to be monitored and monitoring reports be analyzed, interpreted and discussed. Table 3.3, 3.4, 3.5 & 3.6.</p> <p>(ii) (a) Groundwater abstraction and complete water balance chart for the three seasons i.e. summer, monsoon & winter alongwith calculations be presented and discussed. It should also include wet weather flow.</p> <p>(b) Rainwater recharge/harvesting details with calculations and basis of calculations. The rainwater harvesting plan should be in accordance with the notification dated 29.04.2016.</p>
6.	<p>Waste Water Treatment and its details including target standards.</p>	Details be presented alongwith latest technology available viz-a-viz being adopted. Details of the disposal arrangements i.e. land requirement & likely impact on the soil. Existing soil monitoring reports be discussed.
7.	Alterations in the natural slope and drainage pattern and their environmental impacts on the surroundings.	<p>(i) Topographical map of the area showing Contour map on 1:10000 scale for the study area showing the various proposed break-up of the land & drainage pattern in the area be drawn.</p> <p>(ii) Quantification of the storm water to be managed be presented & discussed.</p> <p>(iii) Complete storm water Management Plan should be presented which should meet with the requirement of notification dated 29.04.2016.</p>
8.	Solid Waste Management during	(i) Present data available on solid waste generated in the study area including

	construction and post construction phases.	<p>quantities of waste-hazardous, bio-medical & non-hazardous be collected & presented.</p> <p>(ii) Details of the category-wise quantification, collection, segregation, transportation, storage, treatment & disposal arrangements.</p> <p>(iii) Chute system should be proposed for collection of solid waste</p> <p>(iv) Mechanical composter for bio-degradable waste.</p> <p>(v) Separate bins for wet & dry solid waste should be proposed.</p> <p>(vi) Proposal for management of e-waste, C&D waste, recyclable waste, hazardous waste, bio-medical waste be also presented & discussed.</p>
9.	Air Quality and Noise Levels; likely impacts of the project during construction and operational phases.	<p>(i) Location of ambient air & noise monitoring stations be shown, analyzed, interpreted & justified with regard to major emitters in the buffer zone.</p> <p>(ii) Air quality & noise quality monitoring reports to be analyzed, interpreted & discussed. Table 3.7, 3.8 & 3.9.</p> <p>(iii) Activities w.r.t. air & noise pollution during construction & operation phase be identified, quantified and their impacts on the surroundings.</p> <p>(iv) Mitigation measures to be adopted be presented.</p>
10.	Green Belt/Green cover and the Landscape Plan.	Green belt should meet with the requirements of notification dated 29.04.2016. The species of trees should be as per SEIAA list.
11.	Energy requirements with a view to minimize	Details of the energy conservation to be presented which should meet with the

	power consumption and promote use of renewal energy sources.	requirements of notification dated 29.04.2016 except the solar water heater system which should be replaced with solar power generation utilizing at least 30% roof top area. Important recommendations of ECBC code and NBC Code on energy conservation be presented and discussed.
12.	Traffic Circulation System and connectivity with a view to ensure adequate parking, conflict free movements, Energy efficient Public Transport.	Existing traffic scenario in the area including main approach road be studied and analysis of study report be presented. A complete traffic management plan including traffic circulation system & connectivity with a view to ensure adequate parking, conflict free movements, energy efficient public transport etc. be presented & discussed.
13.	Disaster/Risk Assessment and Management Plan,	Details be presented.
14.	Socio Economic Impacts of the project and CSR.	<p>Details be presented, which should include baseline data on the socio-economic environment in the study area and should focus on the issues not limited to but including demographic structure, economic activity, education, literacy profile, land use & infrastructure resources.</p> <p>Corporate Social Responsibility indicating various activities to be undertaken, provisions of funds for the same, the period for which the same is to be implemented and the person(s) responsible for the implementation of the same.</p>
15.	Environment Monitoring Programme	<p>1. Environment monitoring programme shall include the following:</p> <ul style="list-style-type: none"> • Summary matrix of environmental monitoring covering location of monitoring stations, frequency of sampling, method of sampling analysis and data evaluation during construction & operational stages.

		<ul style="list-style-type: none"> • Requirement of monitoring facility. • Frequency of air monitoring, static background dust sampling at project boundary. • Changes w.r.t. baseline data and compliance to accepted norms. • Plantation monitoring programme. <p>2. The description of monitoring programme should include technical plan, methodology of measurement, required frequency of measurement, land location of measurement, data storage & analysis, reporting schedules, emergency procedure, detailed budgets and procurement schedule for equipments & supplies, technical & administrative manpower. The monitoring shall include air, noise, groundwater, surface water and maintenance of rainwater harvesting pits & other water conservation method used and be done regularly.</p>
16.	EMP during construction and operational phases.	<p>Environmental Management Plan indicating the following:</p> <ul style="list-style-type: none"> a) All mitigation measures for each item-wise activity to be undertaken during the construction, operation and the entire life cycle to minimize adverse environmental impacts as a result of the activities of the project. b) Compliance of various environmental regulations c) Steps to be taken in case of emergency such as accidents at the site including fire. d) For how long period the project proponent will be responsible for implementation of EMP and the name of the person(s) responsible for implementation of EMP. e) Capital & recurring cost for the EMP per year and the details of funds for the same. f) Name of the individual persons / organization, who will be responsible for

		implementation of EMP after the lapse of the period for which the project proponent is responsible.
17.	Any other related parameter of the project which may have any other specific impact on environmental sustainability and ecology.	
18.	Alternative technologies	Consideration of alternative technologies in place of conventional practice to be used in building material, energy conservation and transportation methods be addressed in this section. Important recommendations of ECBC code and NBC Code on energy conservation be presented and discussed.
19.	Summary & conclusion	The summary should present the critical facts that make up each issue and the resolution of the issues. Wherever possible, the summary should make use of basemaps, tables and figures. Information should be condensed into succinct, but meaningful presentation.

Table 3.1 Physical Properties of Soil

Station Code	Colour	Texture	Water Holding capacity (%)	Porosity (%)	Sand (%)	Salt (%)	Bulk Density gm/cc	Permeability H/m

Table-3.2 Chemical Properties of Soil

Parameters	Samples					
pH						
Potassium						
Sodium						
Sodium Absorption Ratio						
Cation exchange capacity						

Table 3.3 Description of Ground Water Sampling Locations

Station No.	Location	Distance & Direction from project area	Project area / study area	Environmental Setting

Table 3.4 Analysis of Ground Water

S. No	Parameters	Unit	Result			Standards
			GW1	GW2	GW3	

Table 3.5 Description of Surface Water Sampling Locations

Station No.	Location	Distance & Direction from project area	Project area/ study area	Environmental Setting

Table 3.6 Analysis of Surface Water

S. No	Parameters	Unit	Result			Standards
			SW1	SW2	SW3	

Table No. 3.7 Description of Ambient Air Quality Monitoring Stations

Station No.	Location	Distance & Direction from project area	Project area / study area	Environmental Setting

Table-3.8 Analysis of Ambient Air Quality

Monitoring Station Category (R,I,S)	Category of Station																	
		Min.	Max.	Mean	95 Percentile	Min.	Max.	Mean	95 Percentile	Min.	Max.	Mean	95 Percentile	Min.	Max.	Mean	95 Percentile	

R - : Residential Area
 I - : Industrial Area
 S - : Sensitive Area

Table No. 3.9 Description of Noise Monitoring Stations

S. No	Locations	Class*	Average Day noise level (dBA)	Average Night noise level (dBA)	Day time (6.00 A.M. to 10.00 P.M)	Day time (10.00 P.M. to 6.00 A.M)	Remarks
					Standard (L _{eq} in dBA)	Standard (L _{eq} in dBA)	

*Industrial area/ Commercial area /Residential area /Silence zone