

## **(IV). Proposed Terms of Reference for EIA studies**

### **1.0 OBJECTIVE: -**

Preparation of Rapid Environmental Impact Assessment Report based on one season data, which would be used as management planning tool for better Environmental Management by suggesting control measures to avoid pollution problems arising out of this new project technical grade pesticides plant capacity of 750 MTPA by Popular Chemical Manufacturers And Supplies located at Site No. 380 karagada village belur taluk district Hassan (Karnataka).

The report will be prepared to meet the guidelines of Ministry of Environment and Forests, New Delhi Notification No. S.O. 1533 dated 14th September, 2006 and amendments thereof.

**2.0 Study of Project Profile:-** This information forms the first part of the report which would cover location of the project and its environmental setting compliance, cost of project, details of the proponents and their expertise, background of the project.

**3.0 Process Description:-** The review of manufacturing process, raw materials required and their source, water and power and its source, manpower etc., will be covered. Detailed information like chemical reactions, material balances, flow charts will be discussed in details stage wise and waste loads will be estimated.

### **4.0 Baseline Data Generation**

**a) Meteorological Information;-** The micro climatic parameters will be recorded using automatic / manual weather station for the study period. Wind speed, wind direction and relative humidity will be recorded on hourly basis. Minimum & Maximum temperatures will be recorded during the study period. Other required data like seasonal wind patterns, cloud cover, etc will collected from the concerned government departments. The collected data will be further processed and interpreted in the report for assessment of the study area.

**b) Air Environment Ambient: -** Air Quality assessment will be carried out through a scientifically designed monitoring network for one season as part of Environmental report. The important parameters that will be monitored are Particulate matter PM<sub>10</sub>, PM<sub>2.5</sub>, Sulfur Dioxide (SO<sub>2</sub>), and Nitrogen oxides (NO<sub>x</sub>). The samples will be analyzed as per the Indian Standards 5182 and CPCB Guidelines. The analyzed values will be further processed using the latest software to represent the values as per the requirements of the statutory bodies. Pre-calibrated Respirable Dust Samplers will be used for monitoring all the air pollutants.

**c) Noise Environment:** - Noise levels in the study area shall be monitored at requisite locations using the latest equipment as per Indian Standard 4954. The sampling locations will cover the project site and sensitive areas such as hospitals, roads, and residential areas. The noise levels will be collected hourly for one day at each location and the collected data will be processed further to arrive at the noise equivalents, which can be used as the baseline noise levels.

**d) Water Environment:** - Requisite number of water samples, pertaining to surface and ground water shall be collected for the assessment of the water quality in the study area as per Indian Standards. Existing data of the study area will be collected from Government departments and will be incorporated in the report. The samples will be analyzed for some specific parameters as per the IS standards and other relevant standards.

**e) Land Environment:** - Requisite number of Soil samples will be collected preserved and analyzed for physical and chemical parameters. Geological experts will be collecting information on Topography, Geology and hydrogeological features of the study area. Cropping pattern, yields, etc shall form a part of the report. The data collected from the field will be supplemented with data collected from government departments for comprehensive interpretation of the results in the report.

**f) Flora and Fauna studies:-** Forests, wild life, flora and fauna information form a part of this study. Though most of the data will be based on the information collected from the secondary data available with government authorities, a part of the information collection is supplemented with on field surveys.

**g) Socio-Economic Information :** -Population, human health, occupational patterns, housing, land holding, business activity, employment, incomes and expenditure, social behavior, castes form a part of this survey. Amenities survey like education, medical facilities, water supply, sanitation, marketing facilities, transport, roads, banks, post offices also will be collected through secondary data and verified through sample door-to-door survey.

**5.0 Prediction of Impacts:-**Recourse will be taken to use the state of the art mathematical dispersion models for prediction of air quality levels due to emissions. The models used will be the most advanced ATDM model and USEPA approved. Isopleths will be drawn using advanced graphics packages. Noise prediction shall be carried out with homogenous

dispersion equation in loss free environment. This is the most accepted mode. Predictions shall be carried out with the most acceptable procedures.

**6.0 Environment Management Plan:** - An environment management plan to mitigate any adverse impact will be suggested after evaluation of the pollution control facilities already being proposed by the proponent, detailed review of the existing facilities will be made. This will also include greenbelt development plan and plant species to be used for greenbelt. Details covered will encompass post project monitoring requirements, equipment and manpower requirements. It will also include the statutory obligations to be fulfilled by the proponent. Post project environmental management will be proposed to evaluate the efficiency of the control measures proposed in the report.

**7.0 Risk Assessment:** - Risk Assessment study in order to assess the risks due to accidental release of hazardous chemicals will be prepared based on studies, viz. Hazard identification, hazard quantification, recommending risk mitigation measures and delineation approach to disaster management plan.

- a) Hazard Identification & Evaluation Collection of relevant data about the facility Identification of hazard prone operations, sections, Suggestion for mitigation measures to minimize the hazards.
- b) Risk Mitigation Measures Delineation of risk mitigation measures Recommendations for risk control to personnel and environment Specific recommendations in order to enhance the safety of process technology
- c) Disaster Management Plan Delineation of organization chart for Disaster Management Plan Delineation of hazard detection and warning systems Delineation of contingency action plan for rescue and containment of hazards.