**Section 291.207 Emission Projection and Allocation Techniques**

a) Generally, the air quality impact analysis procedures use surrogate variables to project and allocate future point and area source emissions in the study area. It is assumed that the anticipated growth in emissions will be proportional to the growth in certain surrogate variables, and will, therefore, be spatially distributed in the study area according to the spatial distribution of the growth in such variables. The methodology for projecting and allocating point and area source emissions in the study area is explained in detail in Volumes 7 and 13 of the USEPA's Guidelines for Air Quality Maintenance Planning and Analysis. The applicant is strongly urged to obtain and examine these documents throughly before undertaking an air quality impact analysis.

b) In undertaking an air quality impact assessment, the applicant should use growth and development projections which reflect control technology that is realistic for the projection period and type of source being considered. For example, with respect to point sources, the applicant should consider Best Available Control Technology (BACT) Regulations and Guidelines as defined by New Source Performance Standards (40 CFR 60) and as further defined by the USEPA in guidelines for Non Significant Deterioration (NSD)(40 CFR 52). Also the applicant should consider the application of Reasonably Available Control Technology (RACT) as defined by Federal guidelines in 40 CFR 51.

c) In undertaking air quality impact analyses, area source emissions projections at a sub-county spatial level will be necessary for use in dispersion models. The projections included in these analyses must be consistent with those projections being used by the Agency in its continuing air and water quality planning activities.

d) The Illinois Bureau of the Budget (IBOB) develops official state projections of population for each county in the state at 5-year increments to the year 2025. State agenices are constrained to use these figures, plus or minus 5%, for all planning activities. Variations in excess of 5% must be submitted to the IBOB with detailed supporting information before such figures will be acceptable to the Agency for inclusion in a planning analysis.

e) The Agency has township population projections (which are consistent with IBOB county control totals) for the entire state to the year 2010. Applicants may use these figures in lieu of any acceptable alternative figures either derived by the applicants or obtained from cognizant local and regional planning bodies in the area. Figures other than those obtained from the Agency should be substantiated by detailed information, including a description of data base, assumptions, and the methodology used in arriving at such alternative projections.

f) To obtain necessary, detailed sub-county information on housing units and structures, applicants should consult the 1970 Census reports series IIC(3) or PIIC(1). The publications include maps in which census tracts are overlaid with township boundaries. This base line data, coupled with the available township population projections, will provide sufficient information for the applicant to develop forecast-year housing unit totals.

g) The IBOB prepares estimates of employment in approximately 200 key industry groups for 20 multi-county regions consitituting the State of Illinois. Estimates are reported for base year and 5-year increments up to the year 2000. The "key industry" groupings roughly correspond to aggregates of 3-digit Standard Industrial Classification (SIC) categories. In order for an applicant to assess the air quality impact of his source and those of other major sources within the study area, information on the emissions levels of existing major sources is required in addition to a growth rate factor to be applied to such emissions for analysis of future years. Information on current emissions from existing major sources is available from the Agency. Growth factors for each of these major sources may be derived by determining the SIC code of any major facility in the study area, and assigning it the growth rate implicit in IBOB employment projections for the IBOB industry category in which this practicular SIC code is included. As with the population projections, the Agency will accept employment projections which deviate from current IBOB totals, only if such figures are accompanied by a detailed explanation of data base, assumptions, and methodology, and are concurred in by the IBOB.

h) Table 3 shows the various categories of emissions and corresponding orders of analysis possible in an air quality impact study. These categories of analysis are described in detail in Volume 13 of the USEPA's Guidelines for Air Quality Maintenance Planning and Analysis. Air quality impact analyses undertaken at the specified level should use the type and detail of data described in Table 4, unless concurrence from the Agency to do otherwise is obtained by the applicant. The orders of analyses range from that requiring the least detail (Order 1) to that requiring the greatest detail (Order 3). The status of any particular county with respect to the classification scheme in Table 4 may be obtained from the Division of Air Pollution Control.

1) Residential Fuel Combustion. Order 1 analyses use population by township, either obtained from the Agency or developed especially for the air quality impact study. Order 2 analyses use number of dwelling units by township (or equivalent sub-county spatial level) within the study area. When a reasonable factor of number-of-persons-per dwelling-unit is applied to the total number of dwelling units projected in the study area, the result must be consistent with IBOB population control totals. Order 3 analysis is a refinement upon Order 2, such that the number of residential structures in the study area is classified according to the number of dwelling units per structure, similar to that classification outlined on page 35 of AQMA Guideline Document 13.

2) Commercial/Institutional Fuel Combustion. Order 1 anlayses are similar to that for Residential Fuel Combustion. Orders 2 and 3 use employment growth rates to project and allocate emissions in the study area, using the methodology described in Guideline Document 13 and the information sources described in the preceding text.

3) Industrial Process. All orders of analysis use employment growth rates to project and allocate emissions in the study area, according to the methodology described in Guideline Document 13 and sources of information described in the proceding text.

4) Industrial Fuel Combustion. Requirements for Orders 1, 2, and 3 of this emissions category are similar to those for industrial process emissions.

5) Solid Waste. Estimation and allocation of emissions from the incineration of solid waste parallel the requirements for Residential, Commercial/Institutional, and Industrial Process Fuel Combustion for each order of analysis (i.e., the contribution of each emission source category to solid waste disposal emissions is determined by using the same indicator variables). For instance, in an Order 1, analysis of solid waste emissions, the relative contribution of commercial establishments to total solid waste emissions would be proportional to the growth in population. Base year figures on emissions in the applicant's study area due to solid waste disposal are available from the Agency.