NEBRASKA

DEPT. OF ENVIRONMENT AND ENERGY

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Best Available Control Technology (BACT)

Nebraska Administrative Code Title 129 – Nebraska Air Quality Regulations requires that Best Available Control Technology (BACT) be applied for major stationary sources and major modifications subject to Prevention of Significant Deterioration (PSD) review (Chapter 4). The Nebraska Department of Environment and Energy (NDEE) uses a BACT analysis approach similar to EPA's preferred method, commonly referred to as the 'top-down' BACT process.

The 'top-down' BACT process consists of the following five steps:

- identify all control technologies;
- eliminate technically infeasible options;
- rank remaining control technologies by control effectiveness;
- evaluate most effective controls and document results;
- and select BACT.

The 'top-down' BACT process is discussed in a number of publications, including the October 1990 New Source Review (NSR) Workshop Manual published by EPA, and Guidance for Detecting BACT Under PSD which is part of the NSR Policy and Guidance Database.

The following emphasizes some of NDEE's expectations regarding specific aspects of the BACT process that have caused delays in BACT decisions. As part of a BACT analysis, applicants need to identify all available control technologies and then determine whether each one is feasible or infeasible. Applicants should not limit their search for control technologies to the RACT/BACT/LAER Clearinghouse (RBLC) but should also review information provided by control technology vendors, NSR permits and associated inspection/performance test reports, environmental consultants, technical journals, reports and newsletters, and EPA's NSR bulletin board.

When identifying control technologies and determining feasibility, applicants should take into consideration technology transfer. At times, an applicant will claim that a control technology and/or effectiveness need not be evaluated or is infeasible because the source's process is different than the process for which this control technology has been demonstrated elsewhere. However, if a source's emission stream is characteristically similar to an emission stream for a process for which the control technology has been demonstrated, NDEE will presume that such a control technology is available and feasible at the control effectiveness demonstrated.

When applicants rank control technologies by control effectiveness, they should conduct a thorough review of available information in order to establish the most effective level of control. Excluding the most effective level of control for a control technology will delay NDEE's review of a BACT analysis.

Sources of information should include the RBLC, information provided by control technology vendors, NSR permits and associated inspection/performance test reports, environmental consultants, technical journals, reports and newsletters, and EPA's NSR bulletin board.

When evaluating control effectiveness for a given technology, applicants may need to consider various levels of control. For example, if 99% VOC control using a thermal oxidizer is technically feasible, but the facility proposes BACT is 98% VOC control, then the applicant must provide a detailed analysis as to why BACT should not be 99% VOC control. Also, when a source proposes a BACT limit, the source needs to detail how the proposed BACT limit was derived. For example, if a source proposes a lb/MMBtu BACT limit, the source needs to explain what baseline (uncontrolled emission rate) and control efficiency were used to calculate the proposed BACT limit. This explanation is necessary even for a proposed BACT limit that the source feels is very stringent. Finally, depending upon the technology, it may be necessary to consider control effectiveness over a range of operating conditions.

The Department does not have a threshold for cost effectiveness or a dollar value per ton that is considered cost prohibitive. Each BACT analysis is evaluated on a case-by-case basis. Whether a control is cost effective depends upon a number of variables, including the pollutant being controlled and other environmental impacts related to the use of a control technology (e.g. the control of toxics or the generation of additional emissions by the control device). A control technology is generally considered cost-effective if a similar type and size of source is using the technology.

NDEE will generally use the date of permit public notice as a BACT analysis cut-off date for purposes of identifying available control technologies, determining technology feasibility and achievable control effectiveness, and establishing cost effectiveness. The Department may re-evaluate the BACT analysis depending upon comments received during the public notice period.

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