

# **Prevention of Significant Deterioration (PSD)** **Best Available Control Technology (BACT)** **Frequently Asked Questions (FAQ)**

## **Disclaimer**

This document is intended to serve as guidance only, and does not take the place of any rule or law. This document may not reflect changes in rule or law that occur after the date noted below. Please contact DNR for the most recent applicable rules.

Finally Linn and Polk Counties have their own permit programs and may have differing or additional guidance.

## **1. What method does Iowa use to determine BACT?**

Iowa uses a "Top-Down" Analysis. The steps in this analysis are:

- 1) Identify all available control technologies
- 2) Eliminate technically feasible options
- 3) Rank remaining control technologies by control effectiveness
- 4) Evaluate most effective controls and document results
- 5) Select BACT

For more details on the individual steps see Chapter B in [EPA's 1990 Draft NSR Workshop Manual](#).

## **2. Can the applicant propose BACT emission limits?**

Yes, the applicant proposes both BACT emission control methods and emission limits through a top down analysis of all potential control technologies. The applicant is also responsible for proposing emission averaging times and methods to assure compliance with those limits including stack tests access ports, test methods, other emission monitoring methods, monitoring, and special recordkeeping methods.

## **3. Do I need to consider startup/shutdown/malfunction (SSM) emissions when proposing a BACT limit?**

Yes. SSM emissions are required to be considered in long-term BACT limits (i.e. ton/yr). For short term periods the Department typically requires SSM plans. These plans may involve emission limits or work practice as appropriate.

## **4. How does an applicant complete the BACT economic analysis?**

Generally applicants use the approach described in the [OAQPS Cost Manual](#) but with the factors noted below. Other methods may be used if justified and approved by IDNR.

**5. What other economic factors should be considered?**

- Interest rates used are the [AAA Corporate Bond Rating these can be easily determined using Federal Reserve publication A-15](#)
- Control equipment life cycles should be twenty (20) years unless justified otherwise and approved by the department.
- All labor rates should be those typical for Iowa for the job classifications involved (if you do not have Iowa data you must use Midwest data). Alternately you can use pre-established company specific labor rates (such as union contract rates, etc.)
- All percent-of-cost factors are to be adjusted to your particular situation and must be justified (just stating that you are using a particular cost factor is not sufficient).
- All other factors, including material requirements and costs, labor costs and labor requirements, must be documented.
- Property tax on the control equipment cannot be included as there is a property tax exemption in the State of Iowa for control equipment.

**6. How do I determine if control equipment is technically feasible?**

Equipment is technically feasible if it is:

- Commercially available and has
- Proven effectiveness.

You must also:

- Look at technology transfer. A technology is feasible if it can be used on a similar air stream even if only used in different industries
- Determine if there is any process interference
- Consider removal of multiple pollutants.

The expense of the equipment and the efficiency of the equipment are not feasibility issues. These issues are evaluated later in the top down analysis.

**7. Where can I find previous BACT decisions?**

- [BACT/RACT/LAER Clearinghouse](#)
- [National turbine spreadsheet](#)
- [National coal-fired utility spreadsheet](#)
- [Historical PSD projects Region 7](#)
- [Historical Iowa PSD projects.](#)

**8. What do I use for baseline emissions?**

Baseline emissions should be calculated using realistic upper bound uncontrolled emissions.

**9. Do I have to establish BACT for auxiliary equipment?**

Yes, all equipment in the project that emits any pollutant subject to PSD must go through BACT. This includes generators, emergency fire equipment, and other small units even those that may otherwise be exempt under minor source permitting.

**10. Do I have to establish BACT for fugitive emissions?**

Once you trigger review for a PSD pollutant, you must consider BACT for all emissions of that pollutant including fugitive emissions. BACT for fugitive emissions can be a work practice standard rather than an emission limit.

**11. Do I have to establish an opacity BACT limit?**

Generally opacity limits are required for particulate sources if the project is major for particulates or any other pollutants that contribute to opacity. It is possible, however, to substitute particulate monitoring, if it is rigorous enough, for the opacity BACT limit. This is a case-by-case assessment. An applicant who wants to explore this option will need to talk to the engineer reviewing the application to get an understanding of the yearly monitoring frequency which will be required and how many years that monitoring rate will have to be maintained. In this situation the permit will still have opacity limits but they would not be BACT level limits.

**12. Has Iowa determined a cost threshold for BACT?**

No. The cost per ton of removal is to be compared to other projects in Iowa as well as those in the national BACT clearinghouse. If the cost for the project under review is comparable to other projects, it would be considered to be cost-effective to install the controls.

**13. What other factors are considered in establishing a BACT limit?**

The DNR considers data from sources such as stack tests, continuous emission monitoring systems (CEMS), engineering tests, and vendor data on the emission unit or similar emission units when establishing a BACT limit.