

# TECHNICAL GUIDANCE DOCUMENT



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

## Analysis of Best Available Control Technology

### BACT-01

Office of Air Quality, Permits Branch

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#### ANALYSIS OF BEST AVAILABLE CONTROL TECHNOLOGY

Complete this document for each analysis of Best Available Control Technology (BACT). An individual BACT Analysis document should contain information regarding only one pollutant-facility combination; therefore, a facility with multiple pollutants subject to BACT would have multiple BACT Analyses for that facility.

A. Facility Background			
<b>Source:</b>		<b>Pollutant of Concern:</b>	
<b>Facility:</b>		<b>Segment ID:</b>	
<b>Unit ID:</b>		<b>SCC*:</b>	
<b>Stack ID:</b>		<b>Applicable Rule:**</b>	

\* SCC refers to the Source Classification Code.

\*\* 326 IAC 2-2 (Permit Review Rules: Prevention of Significant Deterioration (PSD) Requirements)

\*\* 326 IAC 2-3 (Permit Review Rules: Emission Offset)

\*\* 326 IAC 8-1-6 (Volatile Organic Compound Rules: New Facilities; General Reduction Requirements)

B. Facility Potential to Emit (PTE*) in tons per year (tpy)				
<b>Sulfur Dioxide (SO<sub>2</sub>):</b>		<b>Volatile Organic Compounds (VOCs):</b>		<b>Total Particulates (PM):</b>
<b>Nitrogen Oxides (NO<sub>x</sub>):</b>		<b>Carbon Monoxide (CO):</b>		<b>Particulate Matter less than 10µm (PM<sub>10</sub>):</b>
<b>Other</b> (please specify):				<b>Particulate Matter less than 2.5µm (PM<sub>2.5</sub>):</b>
<b>Other</b> (please specify):				
<b>Other</b> (please specify):				

\* PTE means Potential to Emit as defined in 326 IAC 2-1.1-1(16).

### C. Summary of Existing BACT Determinations

Provide the following summary information regarding the top BACT Determinations from five sources with a facility similar to your own. List these determinations in top-down order from the most to the least effective in terms of emission reduction potential/lowest emission rate. (i.e., Source A should have the most stringent BACT Determination, and Source E should have the least stringent BACT Determination.) In addition, complete BACT-01a BACKGROUND SEARCH - EXISTING BACT DETERMINATIONS to provide more detailed information regarding each of the five determinations to be listed below.

<b>Facility:</b>		<b>Unit ID:</b>		<b>Pollutant:</b>	
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Source	Affected Facility	BACT Determination	Reference*
A.			
B.			
C.			
D.			
E.			

\* Provide the sources of information used, including any available identification numbers, such as RBLC ID and/or permit number. Refer to Chapter B of the "New Source Review (NSR) Workshop Manual" (Draft edition, October 1990).

**D. All BACT Options Considered**

List all BACT options considered, and identify which options are technically feasible. If a BACT option is determined to be technically infeasible, specify the reason in the Comments/Rationale column. Do not list items determined to be infeasible later in Tables E, F, G, and H.

<b>Facility:</b>		<b>Unit ID:</b>		<b>Pollutant:</b>	
<b>BACT Option</b>		<b>Technically Feasible? (Yes/No)</b>	<b>Comments / Rationale</b>		

Refer to Chapter B of the "New Source Review (NSR) Workshop Manual" (Draft edition, October 1990).

### E. Ranking of Technically Feasible BACT Options

List all technically feasible BACT options ranked in descending order of Overall System Pollution Reduction Efficiency. Use this same ranking in Tables F, G, and H.

**Facility:** \_\_\_\_\_ **Unit ID:** \_\_\_\_\_ **Pollutant:** \_\_\_\_\_

**Baseline Emissions Rate (tpy):** \_\_\_\_\_

<b>BACT Option</b>	<b>Post-BACT Emissions Rate (tpy)</b>	<b>Emissions Reduction (tpy)*</b>	<b>Overall System Pollution Reduction Efficiency (%)</b>

\* Emissions reduction in relation to PTE is the difference between the PTE before BACT is implemented and the PTE after BACT is implemented. Refer to Chapter B of the "New Source Review (NSR) Workshop Manual" (Draft edition, October 1990).



**F. Economic Analysis**

Provide the following economic information for each of the BACT options listed in Table E for which economic impacts are to be considered. Complete document BACT-01b COST/ECONOMIC IMPACT ANALYSIS for each option listed in this table.

Facility:	Unit ID:		Pollutant:	
BACT Option	Total Annualized Cost (TAC) (\$/year)	Cost Effectiveness (\$/ton)		Comments / Rationale**
		Average	Incremental (optional)	

\* Refer to the "Office of Air Quality Planning and Standards (OAQPS) Control Cost Manual" and Chapter B of the "New Source Review (NSR) Workshop Manual" (Draft edition, October 1990).\*\* Use this column to indicate whether any of the listed options may be economically infeasible.



G. Environmental Impact Analysis*				
Provide the following information regarding environmental impacts for each of the BACT options listed in Table E.				
Facility:		Unit ID:		Pollutant:
BACT Option	Toxics Impact**		Adverse Impact***	
	Yes/No	amount/ton	Yes/No	amount/ton

\* Refer to Chapter B of the "New Source Review (NSR) Workshop Manual" (Draft edition, October 1990).  
 \*\* Indicate whether air toxics are generated or eliminated due to the implementation of the BACT option. Quantify the amount generated or eliminated per ton of pollutant controlled.  
 \*\*\* Indicate whether other adverse environmental impacts are generated or eliminated due to the implementation of the BACT option. Quantify the amount of additional waste generated or eliminated per ton of pollutant controlled.



H. Energy Impact Analysis*				
Provide the following information regarding energy impacts** for each of the BACT options listed in Table E.				
Facility:		Unit ID:		Pollutant:
BACT Option	Baseline (specify units):			
	Incremental increase over baseline (specify units)			

\* Refer to Chapter B of the "New Source Review (NSR) Workshop Manual" (Draft edition, October 1990).  
 \*\* Energy impacts are the difference between the total project energy requirements without the BACT option and total project energy requirements with the BACT option.



I. BACT Recommendation			
Facility:		Unit ID:	Pollutant:
BACT Option Recommended:			
JUSTIFICATION:			

J. Additional Documents/Attachments	
Indicate the number of each type of document included as part of this BACT analysis.	
	<b>BACT-01a: BACKGROUND SEARCH - EXISTING BACT DETERMINATIONS</b> <i>(Mandatory)</i>
	<b>BACT-01b: COST / ECONOMIC IMPACT ANALYSIS</b> <i>(Mandatory for each economic consideration)</i>
	<b>BACT-02: SUMMARY OF BEST AVAILABLE CONTROL TECHNOLOGY</b> <i>(Mandatory)</i>
	<b>PSD/EO-01: PSD / EMISSION OFFSET CHECKLIST</b> <i>(Mandatory for 326 IAC 2-2 and/or 2-3)</i>
	<b>Additional Attachments:</b> List all supplemental documents in the space below.