

**UTAH DIVISION OF AIR QUALITY**  
**Provisions to Ensure BACM/BACT**  
**For the Provo, UT Serious PM2.5 Nonattainment Area**

**May 16, 2018**

## **Executive Summary**

The following collection of documents presents an analysis to ensure Best Available Control Measures, to include Best Available Control Technologies (BACM/BACT), within the Provo, UT PM<sub>2.5</sub> nonattainment area. This area was designated (in 2009) as not attaining the 2006 24-hour National Ambient Air Quality Standard (NAAQS). This analysis was prepared to support a Serious Area State Implementation Plan (SIP). Within the context of such a SIP, this analysis would support the requirement in Clean Air Act (CAA) Section 189(b)(1)(B) to submit provisions ensuring the implementation of best available control measures no later than 4 years after the area was reclassified to Serious. These provisions are generally independent of, and are to be determined without regard to, the quantitative demonstration of attainment.

This BACM/BACT analysis is, however, now presented by itself in a somewhat different context. The “Fine Particulate Matter NAAQS: SIP Requirements; Final Rule” (FR 81, 58010) affords an option, at 40 CFR 51.1015, for the EPA to determine that a PM<sub>2.5</sub> nonattainment area has attained the NAAQS, and to thereby suspend a state’s obligation to submit certain elements of the attainment plan typically required. The suspended elements include (for a Serious Area): the attainment demonstration, reasonable further progress plan, quantitative milestones and quantitative milestone reports, and contingency measures. This does leave, however, other plan elements that are not suspended. The elements a state must still submit include (for a Serious Area): the base year Emissions Inventory (EI), Serious Area control strategy requirements, and plan requirements for nonattainment new source review.

To support the EPA in exercising this option for the Provo, UT PM<sub>2.5</sub> nonattainment area, the BACM/BACT analysis is now presented as a “stand-alone” work product.

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## **Control Strategies: Background and Overview**

### **Summary and Organization**

This section of the Technical Support Documentation describes the consideration of possible control measures and their inclusion or elimination from consideration as part of the overall control strategies in the various PM<sub>2.5</sub> Serious Area SIPs.

A basic description of the process to be employed is followed by four sections, each addressing one of the fundamental sectors of the emissions inventories (area sources, large stationary point sources, off-road mobile sources, and on-road mobile sources).

### **BACM/BACT Requirements**

Section 189(b) of the CAA requires that, in addition to the provisions submitted to meet the requirements relating to the Moderate Area SIPs, implementation plans for Serious Areas would need to include provisions to assure that best available control measures for the control of PM<sub>2.5</sub> will be implemented no later than 4 years after the date of reclassification to Serious.

*“Best available control measure (BACM)”* – is defined as any technologically and economically feasible control measure that can be implemented in whole or in part within 4 years after the date of reclassification (to Serious) and that generally can achieve greater permanent and enforceable emissions reductions ... than can be achieved through the implementation of Reasonably Available Control Measures (RACM) on the same sources. BACM is also defined to include BACT, and EPA notes in its interpretation of BACM that while BACT for existing sources in the context of NAAQS implementation is separate and distinct from the requirement for BACT under the PSD program, consistency with past policy indicates that BACT determinations for PM<sub>2.5</sub> NAAQS implementation are to follow the same process and criteria that area applied to the BACT determination process for the PSD program.

EPA’s nod to the PSD process in determining BACT is also analogous to its interpretation of RACT, wherein RACM would refer to measures of any type that may be applicable to a wide range of sources (mobile, area, or stationary), whereas RACT refers to measures applicable to stationary sources. Similarly, BACT may be regarded as a type of BACM specifically designed for stationary sources, though in many instances control *measures* may be applied to point sources and *technologies* may be applied to non-point sources.

In general, the combined approach to BACM and BACT includes the following steps:

- Step 1: Develop a comprehensive inventory
- Step 2: Identify potential control measures. The list should include options not previously considered as RACM/RACT for the area.
- Step 3: Determine whether an available control measure is technologically feasible.
- Step 4: Determine whether an available control measure is economically feasible
- Step 5: Determine the earliest date by which a control measure can be implemented in whole or in part

For each technologically feasible measure, a state should evaluate the economic feasibility through consideration of factors such as the capital costs, operating and maintenance costs, and cost effectiveness (i.e. annualized \$/ton).

### **Source Categories**

In examining emission controls, it is helpful to categorize the sources of those emissions into the same basic groupings used in the compiling of the emissions inventories: stationary point sources, area sources, non-road mobile sources, and on-road mobile sources. Each is discussed in turn.

As mentioned, BACM analysis represents a great deal of the technical basis for the PM<sub>2.5</sub> SIPs, and would occupy a large portion of the Technical Support Document (TSD.) The control strategy portion of the TSD is presented in Chapter 5 “Control Strategies” which contains a Background section at 5.a. followed by sections 5.b. through 5.e devoted to each of the four basic source categories (Area, Point, Non-Road, and On-Road Mobile Sources respectively). Section 5.c. “Point Sources” contains subsection 5.c.iii which contains the BACT Evaluation Reports for each of the large stationary point sources. The information presented below is therefore numbered specifically to fit within this structure, and will be presented in this stand-alone document in that order.

## **BACM/BACT Analyses, by Source Category:**

The documents addressing BACM/BACT with respect to the four categories of sources identified in the emissions inventory are identified below.

### **Area Source Emissions**

- Provo BACM wo gas ammonia.docx

### **Point Sources**

- 5\_c\_i Overview\_Point Source TSD for BACM\_v2.docx

### **Non-road Mobile Source Emissions**

- 5d Nonroad BACM.final.docx

### **On-Road Mobile Source Emissions**

- 5e Onroad BACM.final.docx