

CAPCOA / CARB Guidance
Achieved in Practice BACT Determinations
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I. Purpose:

These guidelines provide general criteria that may be used by California air districts when establishing achieved in practice BACT requirements.

II. Background:

In general, California New Source Review Regulations require a control technology that has been achieved in practice for a class or category of source be required as BACT/LAER for sources in that class or category without considering case-by-case economic impact. (Note: In some cases, economic considerations may be taken into account in establishing a class or category of source.) Additionally, many air districts require other more effective technologies that have not been achieved in practice for a class or category of source if the control is shown to be technologically and economically feasible.

Unlike federal BACT/LAER that only apply to major sources, California requirements apply to a great variety of small and large sources. Therefore, clear identification of the sources that are included in a given class or category for which a BACT/LAER determination is being or has been made is critical to reasonable implementation of BACT/LAER requirements in California. Additionally, it is vitally important to ascertain the availability, reliability, and effectiveness of a control technology before deeming it as having been achieved in practice of a class or category of source.

This document was developed by the California Air Pollution Control Officers Association (CAPCOA) Engineering Managers Committee and the staff from California Air Resources Board (CARB) in consultation with staff from the Region IX of the United States Environmental Protection Agency (EPA). The following guidelines primarily reflect the manner by which BACT is implemented by California air districts. In certain situations, EPA's approach differs from those outlined here. For instance, EPA subscribes to a broader scope for each class or category of sources and does not generally consider source size or economics in establishing the boundaries of a class or category of source. Careful consideration and addressing of EPA's positions, especially when permitting sources that are subject to federal BACT/LAER requirements, is recommended.

III. Class or Category of Sources:

The following criteria should be used in determining whether an emissions unit belongs to a class or category of source for which a control technology has been achieved in practice:

- A. **Source Size (e.g., rating or capacity):** The degree of needed similarity may vary based on the equipment type and size. In general, size thresholds that signify a change in emissions producing characteristics of the equipment provide for a reasonable delineation based on size. Generally accepted size designations (e.g., small, medium, large) for a piece of equipment may also be used in defining a class or category of source. It should be noted that EPA does not consider size in defining class or category of source.

- B. **Capacity Factor:** Limited use, standby, or seasonal equipment are not usually lumped together with full time equipment in a single class or category.
- C. **Unique Operational/Technological Issues:** Certain operational needs and characteristics can impact the effectiveness of a control technology or process. Operational or technological needs with demonstrable impact of effectiveness or reliability of basic equipment, operation, process, or control technology that are essential to successful operation of an emissions unit and cannot be overcome by other reasonable measures can be used in defining a class or category of source. Also, in certain situations, available pre-existing resources at a facility play a key role in rendering certain control technologies feasible. Requiring similar controls at facilities that do not have the same existing resources may not be advisable.

It should be noted that different BACT/LAER control levels may be established within the same class and category of source for varying operational models. For instance, for gas turbines BACT/LAER level during startup/shutdown conditions may differ from BACT/LAER level under full load conditions.

IV. Achieved in Practice Determinations

For an emission or performance level to be achieved in practice for a class or category of source, it should be commercially available, have demonstrated reliability of operation, and have a documented effectiveness verified by acceptable forms of emissions or performance measurement.

- A. **Commercial Availability:** At least one vendor should offer the control technology or equipment able to reach and achieved-in-practice emission limit or performance requirement for regular or full-scale operation within the United States.
- B. **Reliability in Operation:** The control technology or equipment should have operated for a reasonable time period in a manner that would provide an expectation of continued reliability. It is not necessary that the equipment operation be continuous, but that the equipment operate reliability in a manner typical of the class or category of source.
- C. **Effectiveness:** The control technology or equipment should be verified to perform effectively over the range of operation expected for the class or category of source. If the control technology or equipment will be allowed to operate at lesser effectiveness during certain modes of operation, then those modes of operation must be identified. The verification should be based on a performance test or tests, when possible, or other performance data.

Any control technology listed in a permitting agency's BACT/LAER Clearinghouse must be considered in establishing BACT/LAER requirements for that class or category of source. However, prior to accepting another agency's BACT/LAER determination as having been achieved in practice for a class and category, the permitting agency should verify that the technology has been achieved in practice in accordance with the above guidelines. Existing information should be used to the extent needed to prove that the technology has been achieved in practice.

V. Technology Transfer

Control technologies previously achieved in practice for a class and category of sources and/or other technologically feasible controls should be considered for transfer to other class or category of sources. Potentially transferable control technologies may be either add-on exhaust steam controls, or process controls and modifications. For the first type, technology transfer should be considered between

sources that produce similar exhaust streams. For the second type, technology transfer should be considered between sources with similar processes.