

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OCT 26 1978

MEMORANDUM

SUBJECT: BACT for NOx Emissions from Oil Field Steam  
Generators

FROM: Director  
Division of Stationary Source Enforcement

TO: Clyde B. Eller, Director  
Enforcement Division, Region IX

This is in response to your memo of October 6, 1978, concerning BACT for the control of nitrogen oxide emissions from oil field steam generators in the 10-250 MMBTU/hr. heat input range. Your memo asks whether it would be appropriate to issue a PSD permit conditioned such that BACT for the control of NOx emissions would be specified just prior to the commencement of construction rather than at the time of permit issuance. The purpose behind postponing the establishment of BACT would be the emerging technology for NOx control. The best control technology currently available is modification of combustion which is capable of achieving about 4-7% control. It is expected that technology capable of achieving 30-60% control will become available within the next several months.

After consulting the Office of Air Quality Planning and Standards, we have determined that there are two alternatives available for addressing BACT in this case.

1) If the source agrees, a PSD permit may be issued without specifying BACT. The permit would contain a provision allowing EPA to specify BACT prior to commencement of construction of the source. The source might agree to this if it would be economically or otherwise more advantageous to employ add-on controls which might be developed than to control emissions through combustion modifications. This type of permit may be issued only if the source is agreeable, since the PSD regulations contemplate requiring BACT which is current at the time the permit is

issued.\*

2) If the source does not agree to a conditional permit, currently available BACT must be specified at the time the permit is issued. That BACT determination cannot be revised to reflect new technology as long as the permit remains valid.

This response was transmitted by telephone to Dana Becker on October 16, 1978, by Libby Scopino, of my staff. If you have any further questions, please call Libby Scopino at 755-2564.

*ES/ Ed*

**Edward E. Reich**

cc: Mike Trutna  
Peter Wyckoff

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\* In the case of phased construction projects, the Administrator does intend to condition permits such that BACT for later construction phases may be reassessed if necessary. With phased construction projects there is often a long time span between issuance of the PSD permit and commencement of construction of the later phases. See 43 FR 26396, June 19, 1978.

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SUBJECT: BACT for NOx emissions from oil field steam generators

FROM: Director, Enforcement Division, Region IX

To: Director, Division of Stationary Source Enforcement (EN-341)  
Washington, D.C.

EPA, Region IX is currently attempting to establish the Best Available Control Technology (BACT) for the control of nitrogen oxide emissions from oil field steam generators ranging from 10 to 250 MMBTU/hr heat input. This determination will be made to comply with the requirements of the Prevention of Significant Deterioration (PSD) regulations.

According to information available to the EPA, the only currently available NOx control technology which could be used on all steam generators, is the use of combustion modifications (e.g. reduced excess oxygen, alterations in burner tip design, etc.). These modifications are expected to reduce NOx emissions by about 4-7%. However, it appears that new control technologies which will effect 30-60% reductions in emissions (namely, the Exxon Thermal DeNOx process, the John Zink Company's LoNOx Burners, a chemical being developed by Dow Chemical Co. which can be injected into a sulfur dioxide scrubber system, and a secret process being developed by Union Oil Co.) will be available within the next six to eighteen months.

Because of the obvious environmental benefits which would result from the employment of these new technologies, EPA, Region IX proposes to issue permits for the construction of steam generators without specifying BACT for NOx at the time of issuance. Instead, the permit recipient would be required to install the Best Available Control Technology just prior to the start-up of the subject steam generators. Since the start-up date of many of these projects is likely to be several months from now, the usage of this "delayed BACT" technique would probably enable EPA to require a more stringent control technology than is currently available.

At this time, we request your assistance in determining the legality of our proposal. Because of the utmost urgency of this matter, we request that your comments be forwarded to EPA, Region IX by October 16, 1978.

Should you have further questions regarding this matter, please contact Mr. Dana Becker of our Permits Branch at 8-556-8005.