STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CITY OF VERO BEACH, FLORIDA Petitioner, vs. STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL REGULATION, Respondent.	)	CASE NO. _____

PETITION FOR FORMAL ADMINISTRATIVE PROCEEDINGS

Petitioner, City of Vero Beach, Florida, ("City" or "Petitioner"), by and through its undersigned counsel, hereby files this petition for formal administrative proceedings pursuant to Section 120.57(1) and Chapter 403, Florida Statutes, and Titles 17 and 28, Florida Administrative Code, in order to challenge certain construction permit conditions set forth in the Department of Environmental Regulation's ("DER" or "Respondent") December 21, 1990 Notice of Intent to Issue Permit. In support of this Petition, the City states:

IDENTIFICATION OF PARTIES

1. The name, address, and telephone number of the Petitioner is City of Vero Beach, Florida, Vero Beach Municipal Power Plant, Post Office Box 1389, Vero Beach, Florida, 32961-1389, 407/567-5151.

Department of Environmental Regulation

Routing and Transmittal Slip

To: (Name, Office, Location)
1. ~~Steve Smallwood~~
2. Clair
3.
4.

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DER - BAQM

Remarks:

FYI - Please have whoever on your staff is handling this to give me a call. Thanks.

Doug MacLaughlin

From	Date
Doug MacLaughlin	2-21-91
	Phone

2. The name and address of the Respondent is State of Florida, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

RESPONDENT'S FILE NUMBER AND COUNTY

3. DER has assigned File Nos. AC 31-184928 and PSD-FL-152 to this matter. This Petition relates to a DER air pollution source construction permit for a proposed sixty (60) megawatt (MW) combined cycle turbine system to be constructed at the existing Municipal Power Plant in Vero Beach, Indian River County, Florida. The City proposes to repower existing Unit 2 by installing a new 40 MW combustion turbine and a new heat recovery steam generator (HRSG) to be used in conjunction with an existing 20 MW steam turbine electric generator.

RECEIPT OF NOTICE OF AGENCY ACTION

4. The City of Vero Beach received DER's Intent to Issue Permit by U.S. Mail on or about December 27, 1990. By order dated January 24, 1991, DER extended the time for initiating administrative proceedings to and including February 14, 1991.

SUBSTANTIAL INTERESTS AFFECTED

5. The City of Vero Beach currently operates four natural gas and fuel oil fired steam turbine units, totaling 117 MW of electric power, at the existing Vero Beach Municipal Power Plant. The City has applied to DER for an

air pollution source construction permit to authorize the installation of a new 40 MW combustion turbine and new HRSG in order to repower the existing Unit 2 steam turbine electric generator. Certain conditions contained in the DER construction permit for the proposed facility are unreasonable and unnecessary under Chapter 403, Florida Statutes, and inconsistent with the rules promulgated thereunder. These conditions would without justification require the City to install and operate selective catalytic reduction (SCR) devices to control nitrogen oxide (NO_x) emissions from the repowered unit. Installation of an SCR system would expose the City of Vero Beach to excessive construction costs, as well as substantially increased operating costs. Therefore, the Intent to Issue Permit substantially and detrimentally impacts the City of Vero Beach and its electric customers.

DISPUTED ISSUES OF MATERIAL FACT

6. The disputed issues of material fact involve the NO_x emission limitations proposed by DER as best available control technology ("BACT") in the construction permit. DER's BACT determination, as currently proposed, is arbitrary and capricious. Specific issues of material fact include whether DER, in formulating NO_x BACT limitations applicable to the proposed combined cycle unit:

a. Is improperly and insufficiently accounting for energy, environmental and economic impacts;

b. Is acting in a manner that is not uniform and consistent with its previous actions on similar or analogous applications;

c. Has not articulated and is incapable of articulating facts and circumstances that justify any incipient agency policy embodied in the Intent to Issue Permit;

d. Is deviating from the Department's validly promulgated rules relating to BACT determination; and

e. Is improperly applying a statement of general applicability that implements, interprets or prescribes law or policy, without complying with applicable rulemaking procedures.

FACTS

7. The City of Vero Beach currently operates the Vero Beach Municipal Power Plant in Vero Beach, Indian River County, just east U.S. 1 and west of the Indian River. The existing plant consists of four natural gas and fuel oil fired steam turbine units, totaling 117 MW of electric power. Facilities at the plant site currently include the building housing the four existing turbine units, three fuel oil storage tanks, an electrical substation, and ancillary facilities.

8. On or about July 27, 1990, the City of Vero Beach submitted to DER an application for an air construction permit that would authorize construction of a sixty (60) MW combined cycle unit at the existing plant site. The City proposes to repower existing Unit 2 by installing a new 40 MW combustion turbine and new HRSG, which will be used in conjunction with an existing 20 MW steam turbine electric generator. The installation of the new combustion turbine will increase the City's electric generating capability by 40 MW. The new HRSG will provide more efficient generation than the existing natural gas and oil fired boiler that currently provides steam to the existing 20 MW turbine generator. The resulting combined cycle unit will burn natural gas as the primary fuel and No. 2 fuel oil as a backup fuel.

9. When operating in the simple cycle mode, the proposed unit will result in an increase in potential emissions of various regulated air pollutants from the existing power plant facilities. The United States Environmental Protection Agency ("EPA") and DER have promulgated regulations that require prevention of significant deterioration ("PSD") review in conjunction with modifications of existing sources that increase potential air emissions above specified threshold amounts. The City's application is subject to PSD review.

10. EPA's PSD regulations are found at 40 CFR §§51.166 and 52.21; the PSD program is administered by DER through Florida's EPA-approved State Implementation Plan, which is comprised of applicable portions of Chapter 17-2, Florida Administrative Code. DER's PSD regulations are codified at Florida Administrative Code Rule 17-2.500. These regulations require application of BACT, a term that is defined by Rule 17-2.100(28) as follows:

> An emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant.

In addition to the factors specified in the above quoted definition, DER must consider the following in determining BACT:

> (a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169 [of the Clean Air Act], and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).
>
> (b) All scientific, engineering, and technical material and other information available to the Department.
>
> (c) The emission limiting standards or BACT determinations of any other state.
>
> (d) The social and economic impact of the application of such technology.

§17-2.630(1), Florida Administrative Code.

11. Technical information and analyses required by the PSD regulations was set forth in the Ambient Air Quality Impact Analysis (AAQIA) attached to the City's application. Information pertaining to control technology review, and BACT, was set forth in Section 6 of the AAQIA.

12. Although DER has responsibility for making BACT determinations in Florida, EPA typically comments upon and participates informally in the process. In December, 1978, EPA published Guidelines for the Evaluation of BACT to assist states in rendering BACT determinations. The BACT evaluation process suggested by the 1978 guidelines generally provided for appropriate consideration of the factors specified in DER's definition of BACT in Rule 17-2.100(28), F.A.C. Until at least 1987, DER applied this approach in all BACT determinations in the State of Florida.

13. Late in 1987, EPA issued a memorandum advocating a so-called "top-down" approach to BACT determinations. [EPA Memorandum from J. Potter (Assistant Administrator for Air and Radiation) to Regional Administrators, "Improving New Source Review (NSR) Implementation," December 1, 1987] This memorandum reflects a significant shift in EPA policy in that it fails to provide for adequate case-by-case consideration of energy, environmental and economic impacts as required by DER's Rule 17-2.100(28), F.A.C. Instead, this new top-down approach requires that deliberations begin with the most stringent limitation that has been applied to

the same source category. The BACT determination must reflect this limitation unless there are specific facts warranting its rejection, such as site-specific technical or economic infeasibility. In effect, the "top down" approach shifts the burden of proof to the applicant to justify why the proposed source is unable to apply the most stringent technology available. In March, 1990, EPA made available a "draft" top-down BACT guidance document, which provided additional guidance on implementation of this new policy. [EPA Office of Air Quality Planning and Standards, "Top-Down" Best Available Control Technology Guidance Document, March 15, 1990]

14. Since EPA issued the 1987 memorandum advocating the "top down" BACT policy, DER has applied this new approach in virtually all, if not all, BACT determinations in the State of Florida. Because this new policy fails to provide for adequate consideration of the energy, environmental and economic factors specified in DER's definition of BACT, the "top down" approach is inconsistent with Rule 17-2.100(28), F.A.C.

15. Even using this "top-down" approach, DER has not previously imposed an emission limitation requiring the use of SCR as BACT for NO_x in its BACT determinations for any electrical generating facility. DER has failed to articulate any factors to justify the inconsistent treatment proposed for the City's electrical generating facility.

16. In the AAQIA accompanying its permit application, the City proposed that BACT for NO_x emissions from the proposed combined cycle unit is the use of water injection necessary to limit emissions to 42 ppmvd or 65 ppmvd (at 15% oxygen) when burning natural gas or No. 2 fuel oil, respectively. The City rejected SCR as BACT for NO_x because of site-specific energy, environmental, and economic concerns. First, the City noted that the energy requirements of an SCR system would reduce the energy output of the combustion turbines by approximately one percent. The City also identified potential adverse environmental impacts of SCR which would require on-site storage and handling of ammonia, and could result in emissions of particulate ammonia sulfate compounds and potentially hazardous unreacted ammonia. In addition, SCR would require periodic replacement of catalytic elements, which could require implementation of hazardous waste disposal procedures. Moreover, installation and use of an SCR system would have a significant economic impact on the project. In the AAQIA, the City noted that installation and operation of SCR would increase total costs for the project by $790,000 per year, resulting in an incremental cost of $3,050 per ton of NO_x removed while burning natural gas and $2,290 per ton of NO_x removed while burning No. 2 fuel oil.

17. Due to these significant energy, environmental, and economic considerations, the City asserts that BACT for NO_x

should be based upon water injection under either the approach to BACT recommended in EPA's 1978 guidelines and previously employed by DER, or the "top down" approach currently recommended by EPA.

18. Since submitting its construction permit application for the proposed combined cycle unit, the City has performed a refined economic analysis which establishes the incremental cost of SCR to be approximately $4,500 to $4,700 per ton of NO_x removed depending on whether the unit is firing natural gas or No. 2 fuel oil.

19. The City of Vero Beach received DER's Intent to Issue Permit on or about December 27, 1990. In the accompanying Technical Evaluation and Preliminary Determination, BACT Determination, and construction permit, DER used the new "top down" approach to preliminarily determine that BACT for NO_x during combined cycle operation would be the use of SCR to achieve an emission rate of 9 ppmvd or 25 ppmvd (at 15% oxygen) when firing natural gas or No. 2 fuel oil, respectively.

20. Under the draft permit proposed by DER, the NO_x emission limitations for simple cycle operation of the combustion turbine are in agreement with that requested by the City. When the unit operates in the simple cycle mode, SCR may be bypassed and the NO_x emission limits become 42 ppmvd and 65 ppmvd for natural gas and No. 2 fuel oil, respectively. Since no additional fuel is burned when the

HRSG is operated in conjunction with the combustion turbine, total NO_x emissions from the combined cycle mode would not exceed emissions produced under simple cycle operation. Nevertheless, DER preliminarily established more stringent NO_x emission limits (9 ppmvd and 25 ppmvd for natural gas and oil, respectively) for combined cycle operation. Consequently, the City would be forced to install an expensive SCR system for the combined cycle unit, or to restrict operation of the combustion turbine to the less efficient simple cycle mode.

21. In setting the NO_x emission limitations for the combined cycle unit, DER has failed to consider adequately energy, environmental, and economic concerns related to the installation and use of SCR at the Vero Beach facility. DER failed to consider emission reductions resulting from the use of the new HRSG to provide steam to the existing 20 MW turbine generator during combined cycle operation. DER cannot point to any qualitative or quantitative environmental benefits that would justify the adverse energy, environmental, and economic impacts associated with the installation and use of SCR at the Vero Beach Municipal Power Plant. Moreover, DER improperly deviated from the Department's rules relating to BACT determinations, by failing to apply a case-by-case analysis of energy, environmental, and economic impacts.

FACTS REQUIRING MODIFICATION OR REVERSAL OF THE DEPARTMENT'S ACTION

22. Facts requiring modification or reversal of the Department's BACT determination are as follows:

a. DER has improperly and insufficiently accounted for energy, economic, and environmental impacts;

b. DER has not acted in a manner that is uniform and consistent with its previous actions on similar or analogous applications;

c. DER has not articulated and cannot articulate facts and circumstances that justify any incipient policy embodied in the Intent to Issue Permit and related documents;

d. DER has improperly deviated from its validly promulgated rules relating to BACT determinations;

e. DER has applied the new "top down" approach to BACT determinations on an industry-wide basis in a manner that is inconsistent with Rule 17-2.100(28), F.A.C., and without promulgating the policy through applicable rulemaking procedures; and

f. The City of Vero Beach's proposal is reasonable and comports with applicable regulations.

LAWS ENTITLING PETITIONER TO RELIEF

23. The laws entitling City of Vero Beach to relief in this action include the Clean Air Act (42 U.S.C. §§7401, et seq.); 40 CFR §§51.166 and 52.21; Chapters 120 and 403, Florida Statutes; Titles 17, 22I and 28, Florida Administrative Code; and the United States and State of Florida Constitutions.

RELIEF SOUGHT

24. The City of Vero Beach hereby requests the Florida Department of Environmental Regulation to issue a Permit to Construct the combustion turbine project at the City of Vero Beach Municipal Power Plant in accordance with the City's proposal. The City requests that the NO_x emission limits (in Table 1, Specific Condition 1 of the proposed permit) in the final permit be revised from 9 ppmvd to 42 ppmvd at 15% oxygen on a dry basis during natural gas firing, and from 25 ppmvd to 65 ppmvd at 15% oxygen on a dry basis during No. 2 fuel oil firing.

Respectfully submitted this 14th day of February, 1991.

HOPPING BOYD GREEN & SAMS

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Attorneys for City of Vero Beach, Florida

CERTIFICATE OF SERVICE

I DO HEREBY CERTIFY that the original and one copy of the foregoing petition was filed by hand delivery with the Department of Environmental Regulation, Office of General Counsel, and that a copy thereof was served by hand delivery this 14th day of February, 1991, on the following:

Douglas MacLaughlin
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Richard D. Melson
Attorney