

PALMETTO POWER L.L.C.

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BUREAU OF AIR REGULATION

July 1, 2003

Administrator, New Source Review Section
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Attention: Mr. A.A. Linero, P.E.

RE: AIR PERMIT EXTENSION REQUEST
Permit No. PSD-FL-277A Facility ID No. 970073
PALMETTO POWER PROJECT, OSCEOLA COUNTY, FLORIDA

Dear Mr. Linero:

As per the above referenced permit conditions 6 and 7, we are requesting an additional twelve month extension of the expiration date of the PSD permit granted to Palmetto Power, LLC.

In the information included below, Palmetto presents a description of the status of its project and provides justification that the most recent BACT determination presented in the above referenced permit is still valid, as per condition 8 of that permit.

Development Activities and the Florida Power Market

Coincident with the original issuance of the Prevention of Significant Deterioration of Air Quality (PSD) Permit for the Palmetto Power project, Dynegy had pursued numerous development activities. The principal environmental field studies – including an ecological resources survey, endangered species survey, water resources survey, and a Phase 1 property assessment required to support our various environmental approvals have all been completed. Initial fuel supply negotiations with Florida Gas Transmission Company and electrical transmission discussions with both Florida Power Corporation and Florida Power & Light has been initiated. As well, Dynegy has made arrangements to secure a water supply for the 3-unit simple-cycle combustion turbine plant from East Central Florida Services, Inc.

While pursuing these project development activities, however, we have been subjected to somewhat contradictory regulatory and legislative actions by the State of Florida that have deleteriously impacted our ability to make the financial viability determinations necessary to support a construction commitment for the Palmetto Power project.

Dynegy believes that legislation may ultimately arise at the State level that will clarify the status of merchant plants to be built in Florida. However, the needed legislative clarifications for merchant plant status have not so far been forthcoming and as it stands

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today, pure merchant plants cannot get commercial treatment at par with rate-based power generation in the State of Florida.

In light of these various regulatory and legislative dynamics, Dynegy plans to re-evaluate power market conditions in Florida and determine whether the Palmetto Power project, as currently permitted, can be supported with various bilateral power offtake contracts with load-serving entities. While we pursue this change in commercial structure for the project, we are respectfully requesting the twelve (12) month extension on the commencement of construction deadline as well as the twelve (12) month extension of the expiration of the air permit.

BACT Update

Respecting the BACT determination and limits placed in the air permit, recent PSD determinations for projects utilizing the Westinghouse 501FD turbine have continued to specify identical emission rates as found in the Palmetto permit. We note that our affiliate company, Chickahominy Power, L.L.C., received a PSD air permit earlier this year for a dual-fuel four turbine simple cycle facility to be located in Charles City County, Virginia. The BACT permitted levels for the natural gas fired emissions at the Chickahominy facility are as follows:

NO_x – 15 ppm @ 15% O₂
CO – 15 ppm @ 15% O₂

These are the identical limits as specified in the Palmetto permit. An updated BACT review and discussion is presented as an attachment to this request, and further confirms that the original BACT determination for Palmetto remains valid.

We appreciate your timely review of this extension request and look forward to continuing our work with you. If you have any questions, please contact Starla Lacy, Director of Environment Health and Safety at (713) 767-8961.

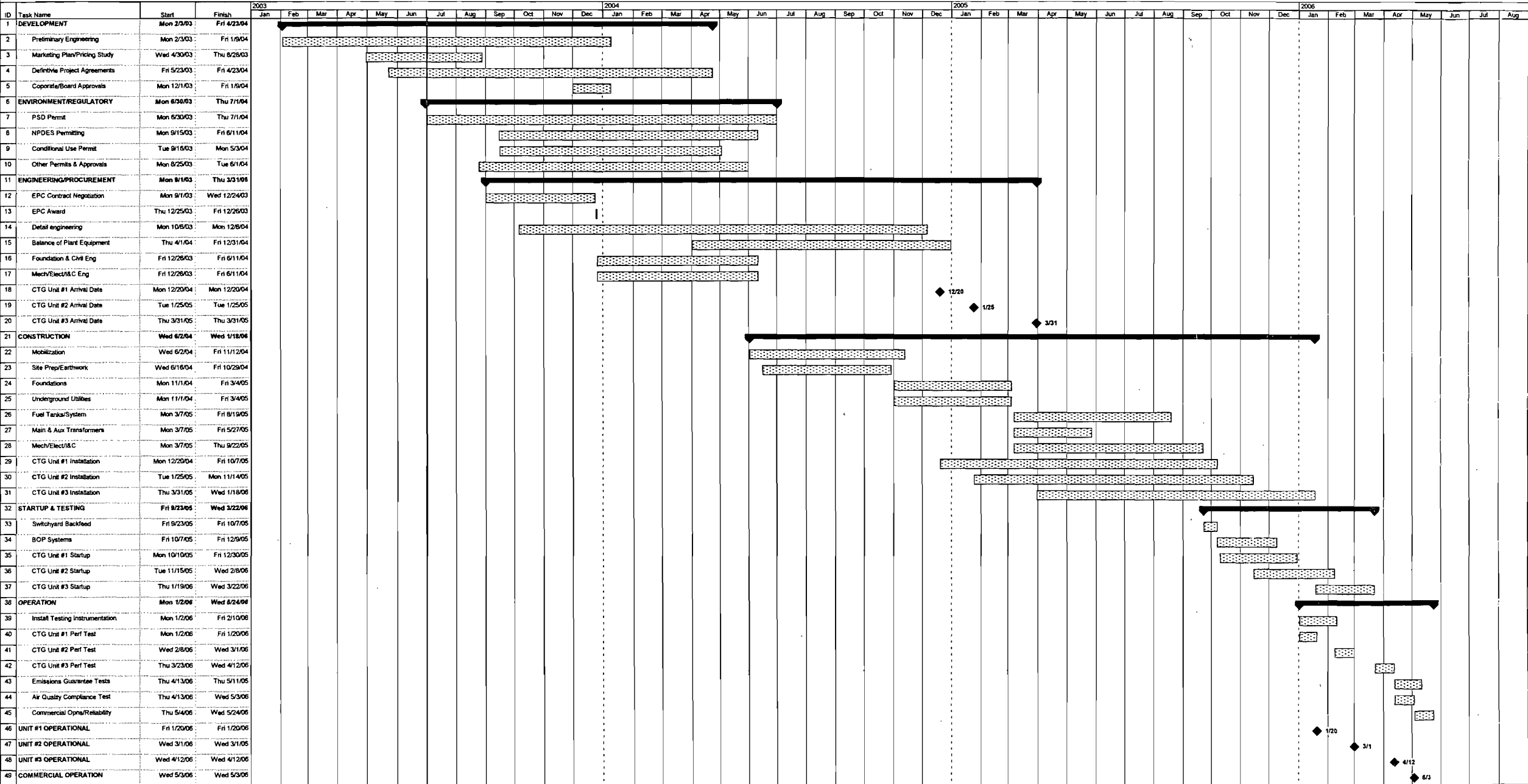
Sincerely,

A handwritten signature in black ink, appearing to read 'RB', followed by a horizontal line extending to the right.

Rick Bowen
Executive Vice President

Cc: Jeff Koerner-FDEP
Attch.

PALMETTO POWER PROJECT (FLORIDA)



**BEST AVAILABLE CONTROL TECHNOLOGY FOR
Siemens-Westinghouse 501 FD COMBUSTION TURBINES**

**Updated June 2003 for the Palmetto Power LLC Project
Osceola County, Florida**

1. NEW SOURCE PERFORMANCE STANDARDS

The NSPS regulations (40 CFR, Subpart GG) applicable to gas turbines apply to:

1. Electric utility stationary gas turbines with a heat input at peak load of greater than 100×10^6 Btu/hr [40 CFR 60.332 (b)];
2. Stationary gas turbines with a heat input at peak load between 10 and 100×10^6 Btu/hr [40 CFR 60.332 (c)]; or
3. Stationary gas turbines with a manufacturer's rate base load at ISO conditions of 30 MW or less [40 CFR 60.332 (d)].

The electric utility stationary gas turbine provisions apply to stationary gas turbines constructed for the purpose of supplying more than one-third of their potential electric output capacity for sale to any utility power distribution system [40 CFR 60.331 (q)]. The requirements for electric utility stationary gas turbines are applicable to the proposed Palmetto Power LLC 501F project to be located in Osceola County, Florida and are the most stringent provision of the NSPS. These requirements are summarized in Table 1 and were considered in the BACT analysis.

As noted from Table 1, the NSPS NO_x emission limit can be adjusted upward to allow for fuel-bound nitrogen (FBN). For a fuel-bound nitrogen concentration of 0.015 percent or less, no increase in the NSPS is provided; for a fuel-bound nitrogen concentration of 0.03 percent, the NSPS is increased by 0.0012 percent or 12 parts per million (ppm). The NSPS NO_x emission limit adjustment is not affected by natural gas combustion.

2. BEST AVAILABLE CONTROL TECHNOLOGY

2.1 NITROGEN OXIDES

Advanced dry low- NO_x combustion alone has been approved by regulatory agencies as BACT and is technically feasible for the proposed project. Available information suggests that SCR with dry low- NO_x combustor technology or with wet injection is also technically feasible. For the Palmetto 501F Project, advanced dry low- NO_x combustor technology is equivalent to the SCR technology and has several important advantages.

Identification of NO_x Control Technologies

NO_x emissions from combustion of fossil fuels consist of thermal NO_x and fuel-bound NO_x. Thermal NO_x is formed from the reaction of oxygen and nitrogen in the combustion air at combustion temperatures. Formation of thermal NO_x depends on the flame temperature, residence time, combustion pressure, and air-to-fuel ratios in the primary combustion zone. The design and operation of the combustion chamber dictates these conditions. Fuel-bound NO_x is created by the oxidation of volatilized nitrogen in the fuel. Nitrogen content in the fuel is the primary factor in its formation.

Table 2 presents a listing of the lowest achievable emission rates/best available control technology (LAER/BACT) decisions made by state environmental agencies and EPA regional offices for gas turbines. This table was developed from the information obtained from BACT/LAER Information System (BLIS) database maintained at EPA's National Computer Center located at Research Triangle Park, North Carolina, (e.g., the California Air Control Board, the South Coast Air Quality Management District, the New Jersey Department of Environmental Protection, and the Rhode Island Department of Environmental Management).

Historically, the most stringent NO_x controls for CTs established as LAER/BACT by state agencies were selective catalytic reduction (SCR) with wet injection and wet injection alone. When SCR has been employed, wet injection is used initially to reduce NO_x emissions. SCR is a post-combustion control, while advanced dry low-NO_x combustors minimize the formation of NO_x in the combustion process.

SCR has been installed or permitted in over 100 projects, the majority of these projects consisting of cogeneration or combined cycle facilities. A significant number of the projects with SCR have been permitted in non-attainment areas such as California and the east coast where SCR was required not as BACT but as LAER, a more stringent requirement. LAER is distinctly different from BACT in that there is no consideration of economic, energy, or environmental impacts; if a control technology has previously been installed, it must be required as LAER. LAER is defined as follows:

Lowest achievable emission rate means, for any source, the more stringent rate of emissions based on the following: (i) The most stringent emissions limitation which is contained in the implementation plan of any State of such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or (ii) The most stringent emissions limitation which is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term

permit a proposed new modified stationary source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance (40 CFR 51, Appendix S.II, A.18).

There are distinct regulatory and policy differences between LAER and BACT. BACT involves an evaluation of the economic, environmental, and energy impacts of alternative control technologies. In contrast, LAER only considers the technical aspects of control.

Reported and permitted NO_x removal efficiencies of SCR range from 40 to 80 percent of NO_x in the exhaust gas stream. The most common emission limiting standards associated with SCR range from approximately 5 to 9 ppm for natural gas firing. However, a few facilities have reported emission limits of 2.5 to 3.5 ppm.

Wet injection historically has been the primary method of reducing NO_x emissions from CTs. Indeed, this method of control was first mandated by the NSPS to reduce NO_x levels to 75 parts per million by volume, dry (ppmvd) (corrected to 15 percent O₂ and heat rate). Development of improved wet injection combustors reduced NO_x concentrations to 25 ppmvd (corrected to 15 percent O₂) when burning natural gas. More recently, however, CT manufacturers have developed dry low-NO_x combustors that can reduce NO_x concentrations from a range of 9 to 15 ppmvd (depending on manufacturer and turbine size and corrected to 15 percent O₂) or less when firing natural gas.

Technology Description and Feasibility

Wet Injection

The injection of water or steam in the combustion zone of CTs reduces the flame temperature with a corresponding decrease of NO_x emissions. The amount of NO_x reduction possible depends on the combustor design and the water-to-fuel ratio employed. An increase in the water-to-fuel ratio will cause a concomitant decrease in NO_x emissions until flame instability occurs. At this point, operation of the CT becomes inefficient and unreliable, and significant increases in products of incomplete combustion will occur (i.e., CO and VOC emissions).

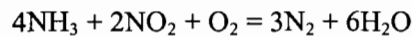
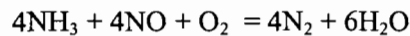
Dry Low-NO_x Combustor

In the past several years, CT manufacturers have offered and installed machines with dry low-NO_x combustors. These combustors, which are offered on conventional machines manufactured by Westinghouse, GE, Kraftwerk Union, and ABB, can achieve NO_x concentrations of 15 ppmvd or less when firing natural gas. Westinghouse and GE have offered dry low-NO_x combustors on advanced heavy-

duty industrial machines. Thermal NO_x formation is inhibited by using combustion techniques where the natural gas and combustion air are premixed before ignition. For the CT being considered for the project, the combustion chamber design includes the use of dry low-NO_x combustor technology. The NO_x emission level when firing natural gas at baseload conditions is 15 ppmvd (corrected to 15 percent O₂), a level that is guaranteed by the selected vendor (Siemens-Westinghouse) for the project.

Selective Catalytic Reduction

Selective Catalytic Reduction (SCR) uses ammonia (NH₃) to react with NO_x in the gas stream in the presence of a catalyst. NH₃, which is diluted with air to about 5 percent by volume, is introduced into the gas stream at reaction temperatures between 600°F and 750°F. The reactions are as follows:



SCR operating experience, as applied to gas turbines, consists primarily of baseload natural-gas-fired installations either of cogeneration or combined cycle configuration; no simple cycle facilities have SCR. Exhaust gas temperatures of simple cycle CTs generally are in the range of 1,000°F, which exceeds the optimum range for SCR with base metal catalysts. All current SCR applications have the catalyst placed in the HRSG to achieve proper reaction conditions. This allows a relatively constant temperature for the reaction of NH₃ and NO_x on the catalyst surface.

The use of SCR has been primarily limited to combined-cycle facilities that burn natural gas or small amounts of fuel oil since SCR catalysts are contaminated by sulfur-containing fuels (i.e., fuel oil). For most fuel-oil-burning facilities, catalyst operation is discontinued, or the exhaust bypasses the SCR system.

Ammonium salts (ammonium sulfate and bisulfate) are formed by the reaction of NH₃ and sulfur combustion products. Ammonium bisulfate can be corrosive and could cause damage to the HRSG surfaces that follow the catalyst, as well as to the stack. Corrosion protection for these areas would be required with concomitant cost and technical requirements. Ammonium sulfate is emitted as particulate matter. While the formation of ammonium salts is primarily associated with oil firing, sulfur combustion products from natural gas also could form small amounts of ammonium salts.

Zeolite and specially designed high temperature catalysts, which are reported to be capable of operating in temperature ranges up to 1,100°F, have become available commercially only recently. Their application with SCR primarily has been limited to internal combustion engines. Optimum performance of an SCR

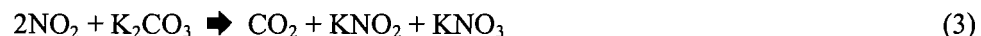
system using a zeolite catalyst is reported to range from about 800°F to 900°F. At temperatures of 1,100°F and above, the high-temperature catalyst will be irreparably damaged.

Although not required as BACT, experimental hot-SCR technology has been installed at three simple-cycle facilities permitted as minor sources in the States of Kentucky and Ohio. These facilities are owned and operated by Dynegy subsidiaries, and are installed in conjunction with the same turbine model (501FD) proposed for the Palmetto project. It has been one year or less since initial commissioning of these units and additional tuning and process development of these units remains ongoing. It is important to note that the NO_x reduction performance of these units has not yet met anticipated reduction levels, therefore, it is Dynegy's position that these units remain in the research and development phase and are considered experimental. Due to this fact, hot-SCR technology cannot be considered readily available and achievable as a reliable control technology.

SCONO_xTM Process

SCONO_xTM is a NO_x and CO control system exclusively offered by Goal Line Environmental Technologies (GLET). GLET is a partnership formed by Sunlaw Energy Corporation and Advanced Catalyst Systems, Inc.

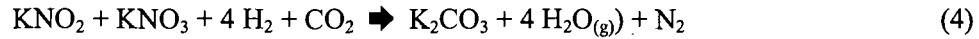
The SCONO_xTM system employs a single catalyst to simultaneously oxidize CO to CO₂ and NO to NO₂. NO₂ formed by the oxidation of NO is subsequently absorbed onto the catalyst surface through the use of a potassium carbonate absorber coating. The SCONO_xTM oxidation/absorption cycle reactions are:



CO₂ produced by reaction (1) and (2) is released to the atmosphere as part of the CT/HRSG exhaust gas stream.

As shown in Reaction (3), the potassium carbonate catalyst coating reacts with NO₂ to form potassium nitrites and nitrates. Prior to saturation of the potassium carbonate coating, the catalyst must be regenerated. This regeneration is accomplished by passing a dilute hydrogen-reducing gas across the surface of the catalyst in the absence of O₂. Hydrogen in the reducing gas reacts with the nitrites and nitrates to form water and elemental nitrogen. CO₂ in the regeneration gas reacts with potassium nitrites and nitrates to form potassium carbonate; this compound is the catalyst absorber coating present on the sur-

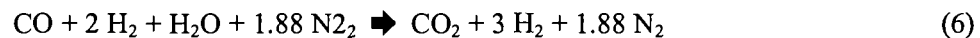
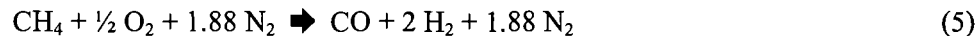
face of the catalyst at the start of the oxidation/absorption cycle. The $\text{SCONO}_x^{\text{TM}}$ regeneration cycle reaction is:



Water vapor and elemental nitrogen are released to the atmosphere as part of the CT/HRSG exhaust stream. Following regeneration, the $\text{SCONO}_x^{\text{TM}}$ catalyst has a fresh coating of potassium carbonate, allowing the oxidation/absorption cycle to begin again. There is no net gain or loss of potassium carbonate after both the oxidation/absorption and regeneration cycles have been completed.

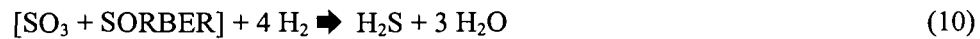
Since the regeneration cycle must take place in an oxygen-free environment, the section of catalyst undergoing regeneration is isolated from the exhaust gas stream using a set of louvers. Each catalyst section is equipped with a set of upstream and downstream louvers. During the regeneration cycle, these louvers close and valves open allowing fresh regeneration gas to enter and spent regeneration gas to exit the catalyst section being regenerated. At any given time, 75 percent of the catalyst sections will be in the oxidation/absorption cycle, while 25 percent will be in regeneration mode. A regeneration cycle is typically set to last for 3 to 5 minutes.

Regeneration gas is produced by reacting natural gas with O_2 present in ambient air. The $\text{SCONO}_x^{\text{TM}}$ system uses a gas generator produced by Surface Combustion. This unit uses a two-stage process to produce hydrogen and carbon dioxide. In the first stage, natural gas and ambient air are reacted across a partial oxidation catalyst at 1,900°F to form CO and hydrogen. Steam is added and the gas mixture is then passed across a low temperature shift catalyst, forming CO_2 and additional hydrogen. The resulting gas stream is diluted to less than 4 percent hydrogen using steam or another inert gas. The regeneration gas reactions are:



The $\text{SCONO}_x^{\text{TM}}$ operates at a temperature range of 300 to 700°F and, therefore, must be installed in the appropriate temperature section of a HRSG. For $\text{SCONO}_x^{\text{TM}}$ systems installed in locations of the HRSG above 500°F, a separate regeneration gas generator is not required. Instead, regeneration gas is produced by introducing natural gas directly across the $\text{SCONO}_x^{\text{TM}}$ catalyst that reforms the natural gas.

The SCONO_xTM system catalyst is subject to reduced performance and deactivation due to exposure to sulfur oxides. For this reason, an additional catalytic oxidation/absorption system (SCONO_xTM) to remove sulfur compounds is installed upstream of the SCONO_xTM catalyst. During regeneration of the SCONO_xTM catalyst, either hydrogen sulfide or SO₂ is released to the atmosphere as part of the CT/HRSG exhaust gas stream. The absorption portion of the SCONO_xTM process is proprietary. SCONO_xTM oxidation/absorption and regeneration reactions are:



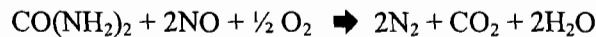
Utility materials needed for the operation of the SCONO_xTM control system include ambient air, natural gas, water, steam, and electricity. The primary utility material is natural gas used for regeneration gas production. Steam is used as the carrier/dilution gas for the regeneration gas. Electricity is required to operate the computer control system, control valves, and louver actuators.

Commercial experience to date with the SCONO_xTM control system is limited to one small combined cycle (CC) power plant located in Los Angeles. This power plant, owned by GLET partner Sunlaw Energy Corporation, utilizes a GE LM2500 turbine (30 MW size) equipped with water injection to control NO_x emissions to approximately 25 ppmvd. The SCONO_xTM control system was installed at the Sunlaw Energy facility in December 1996 and has achieved a NO_x exhaust concentration of 3.5 ppmv resulting in an approximate 85 percent NO_x removal efficiency.

The SCONO_xTM control technology is not considered to be technically feasible because it has not been commercially demonstrated on large CTs. The CTs planned for the project, Westinghouse 501 FD units, each have a nominal generating capacity of 180 MW which are approximately six times larger than the nominal 25-MW GE LM2500 utilized at the Sunlaw Energy Corporation Los Angeles facility. Technical problems associated with scale-up of the SCONO_xTM technology given the large differences in machine flow rates are unknown. Additional concerns with the SCONO_xTM control technology include process complexity (multiple catalytic oxidation / absorption / regeneration systems), reliance on only one supplier, and the relatively brief operating history of the technology.

NO_xOUT Process

The NO_xOUT process originated from the initial research by the Electric Power Research Institute (EPRI) in 1976 on the use of urea to reduce NO_x. EPRI licensed the proprietary process to Fuel Tech, Inc., for commercialization. In the NO_xOUT process, aqueous urea is injected into the flue gas stream ideally within a temperature range of 1,600°F to 1,900°F. In the presence of oxygen, the following reaction results:



The amount of urea required is most cost-effective when the treatment rate is 0.5 to 2 moles of urea per mole of NO_x. In addition to the original EPRI urea patents, Fuel Tech claims to have a number of proprietary catalysts capable of expanding the effective temperature range of the reaction to between 1,600°F and 1,950°F. Advantages of the system are as follows:

1. Low capital and operating costs as a result of use of urea injection, and
2. The proprietary catalysts used are nontoxic and nonhazardous, thus eliminating potential disposal problems.

Disadvantages of the system are as follows:

1. Formation of ammonia from excess urea treatment rates and/or improper use of reagent catalysts, and
2. Sulfur trioxide (SO₃), if present, will react with ammonia created from the urea to form ammonium bisulfate, potentially plugging the cold end equipment downstream.

Commercial application of the NO_xOUT system is limited and the NO_xOUT system has not been demonstrated on any combustion turbine/HRSG unit.

The NO_xOUT process is not technically feasible for the proposed project because of the high application temperature of 1,600°F to 1,950°F. The maximum exhaust gas temperature of the 501F CT is about 1,000°F. Raising the exhaust temperature the required amount essentially would require installation of a heater. This would be economically prohibitive and would result in an increase in fuel consumption, an increase in the volume of gases that must be treated by the control system, and an increase in uncontrolled air emissions, including NO_x.

Thermal DeNO_x

Thermal DeNO_x is Exxon Research and Engineering Company's patented process for NO_x reduction. The process is a high temperature selective noncatalytic reduction (SNCR) of NO_x using ammonia as the reducing agent. Thermal DeNO_x requires the exhaust gas temperature to be above 1,800°F. However, use of ammonia plus hydrogen lowers the temperature requirement to about 1,000°F. For some applications, this must be achieved by additional firing in the exhaust stream before ammonia injection.

The only known commercial applications of Thermal DeNO_x are on heavy industrial boilers, large furnaces, and incinerators that consistently produce exhaust gas temperatures above 1,800°F. There are no known applications on or experience with CTs. Temperatures of 1,800°F require alloy materials constructed with very large piping and components since the exhaust gas volume would be increased by several times. As with the NO_xOUT process, high capital, operating, and maintenance costs are expected because of material requirements, an additional duct burner system, and fuel consumption. Uncontrolled emissions would increase because of the additional fuel burning.

Thus, the Thermal DeNO_x process will not be considered for the proposed project since its high application temperature makes it technically infeasible. The maximum exhaust gas temperature of a combustion turbine is typically about 1,000°F; the cost to raise the exhaust gas to such a high temperature is prohibitively expensive.

Nonselective Catalytic Reduction

Certain manufacturers, such as Engelhard, market a nonselective catalytic reduction system (NSCR) for NO_x control on reciprocating engines. The NSCR process requires a low oxygen content in the exhaust gas stream and high temperature (700°F to 1,400°F) in order to be effective. CTs have the required temperature but also have high oxygen levels (greater than 12 percent) and, therefore, cannot use the NSCR process. As a result, NSCR is not a technically feasible add-on NO_x control device for CTs.

Technology Demonstration and Feasibility

The technical evaluation of post-combustion gas controls that include NO_xOUT, Thermal DeNO_x, NSCR, and SCONO™ indicate that these processes have not been applied to simple-cycle turbines and are technically infeasible for the project because of process constraints (e.g., temperature). While high-temperature SCR is feasible, it has not been demonstrated on simple-cycle "F" class turbines in peaking service.

For the BACT analysis, dry low-NO_x combustion technology is technically feasible and SCR in combination with combustion controls is a potentially feasible alternative that can achieve a maximum degree of emission reduction. The advanced dry low-NO_x combustor alone can achieve 15 ppm (corrected) and the SCR with dry low-NO_x combustor is capable of achieving a NO_x emission level of 9 ppm when firing natural gas (corrected to 15 percent O₂ dry conditions).

Below is a summary of the technical demonstration and feasibility for the proposed Palmetto Power project.

Technology

Dry Low-NO_x Combustors

“Hot” Selective Catalytic Reduction

Thermal De NO_x

NO_x Out

SCO NO_x

NSCR

Simple Cycle

Demonstrated and Feasible

Experimental Demonstration only - ongoing for “F”

Class turbines in peaking service

Not Feasible

Not Feasible

Not Feasible

Not Feasible

Conclusion

While lower NO_x emission concentrations have been approved for simple cycle projects using other manufacturers turbines, the BACT analysis for the Project reflects the emission levels projected to be achievable with the control technology currently available for the SWPC W501FD turbines. When conducting a direct comparison of equivalent turbines, it is noted that the GE 7FB combustion turbine is comparable to the SWPC W501FD in performance and power output (MW); however the NO_x emission guarantee for the GE 7FB is 25ppmvd@15% O₂. While this NO_x emission rate is higher than the guarantee of 9ppmvd@15% O₂ associated with the GE 7FA, we note that the GE 7FB turbine has the comparably higher MW output and efficiency which more closely matches the SWPC W501 FD turbine. Therefore, in comparing the more equivalent GE turbine to the proposed vendor, the SWPC W501 FD turbine emission guarantee is more favorable. BACT determinations are made on a case-by-case basis and consider energy, environmental, and economic impacts in determining the maximum degree of reduction achievable for the proposed emission unit. The analysis determined that SWPC’s DLN combustor technology would result in the maximum degree of reduction achievable. BACT should be set at a level that has been fully demonstrated in practice, or is readily achievable based on current technology. A permit should not ordinarily require the applicant to achieve a level of control never before demonstrated for a specific emission unit or project, but be based on the ability of that technology to achieve the lowest emission limit based on project specific factors. Palmetto Power is confident that the guaranteed emission

level can be achieved within the proposed project commissioning schedule for these specific emission units, the SWPC W501FD combustion turbine. Therefore, Palmetto seeks a permit extension with a final NO_x emission limit of 15 ppmvd that can be sustained over the life of the project without additional controls.

2.2 Carbon Monoxide

Identification of CO Control Technologies

CO emissions are a result of incomplete or partial combustion of fossil fuel. Combustion design and catalytic oxidation are the control alternatives that are viable for the project. Table 3 presents a listing of LAER/BACT decisions for CO emissions from combustion turbines. Combustion design is the more common control technique used in CTs. Sufficient time, temperature, and turbulence are required within the combustion zone to maximize combustion efficiency and minimize the emissions of CO. Combustion efficiency is dependent upon combustor design. For the CTs being evaluated, CO emissions will not exceed 15 ppmvd, corrected to 15 percent O₂, dry conditions when firing natural gas under full load conditions.

Catalytic oxidation is a post-combustion control that has been employed in CO nonattainment areas where regulations have required CO emission levels to be less than those associated with wet injection. These installations have been required to use LAER technology and typically have CO limits ranging from 2 to 9 ppm (corrected to dry conditions).

Technology Description

In an oxidation catalyst control system, CO emissions are reduced by allowing unburned CO to react with oxygen at the surface of a precious metal catalyst, such as platinum. Combustion of CO starts at about 300°F, with efficiencies above 90 percent occurring at temperatures above 600°F. Catalytic oxidation occurs at temperatures 50 percent lower than that of thermal oxidation, which reduces the amount of thermal energy required.

For CTs, the oxidation catalyst can be located directly after the CT. Catalyst size depends upon the exhaust flow, temperature, and desired efficiency. The existing oxidation catalyst applications primarily have been limited to smaller cogeneration facilities burning natural gas. Oxidation catalysts have not been used on fuel-oil-fired CTs or combined cycle facilities. The use of sulfur-containing fuels in an oxidation catalyst system would result in an increase of SO₃ emissions and concomitant corrosive effects to the stack.

In addition, trace metals in the fuel could result in catalyst poisoning during prolonged periods of operation.

Since the units likely will require numerous startups, during simple-cycle operation, variations in exhaust conditions will influence catalyst life and performance. Very little technical data exists to demonstrate the effect of such cycling.

As shown in Table 3, good combustion practices coupled with pipeline quality natural gas represents CO BACT. For the 501FD turbine model, Siemens-Westinghouse offers an emission guarantee for CO at 15 ppmvd. Therefore, Palmetto seeks a permit extension with a final CO emission limit of 15 ppmvd that can be sustained over the life of the project without additional controls.

Table 1. Federal NSPS for Electric Utility Stationary Gas Turbines

Pollutant	Emission Limitation ^a
Nitrogen Oxides ^b	0.0075 percent by volume (75 ppm) at 15 percent O ₂ on a dry basis adjusted for heat rate and fuel nitrogen

^a Applicable to electric utility gas turbines with a heat input at peak load of greater than 100×10^6 Btu/hr.

^b Standard is multiplied by $14.4/Y$; where Y is the manufacturer's rated heat rate in kilojoules per watt at rated load or actual measured heat rate based on the lower heating value of fuel measured at actual peak load; Y cannot be greater than 14.4. Standard is adjusted upward (additive) by the percent of nitrogen in the fuel:

Fuel-Bound Nitrogen (percent by weight)	Allowed Increase NO _x Percent by Volume
$N \leq 0.015$	0
$0.015 < N \leq 0.1$	$0.04(N)$
$0.1 < N \leq 0.25$	$0.004 + 0.0067(N - 0.1)$
$N > 0.25$	0.005

where: N = the nitrogen content of the fuel (percent by weight).

Source: 40 CFR 60 Subpart GG.

Table 2. Summary of Best Available Control Technology (BACT) Determinations for Nitrogen Oxide (NOx) Emissions

Facility Name	State	Permit Issue Date	Unit/Process Description	Capacity (size)	NOx Emission Limit	Control Method	Efficiency (%)	Type
ODEC LOUISA COUNTY	VA	Mar-03	SIMPLE CYCLE GAS FIRED TURBINE	1624.00 MMBTU/HR	10.5 PPMVD	DRY LOW NOX BURNERS WITH CEMS	0	NSPS
ODEC MARSH RUN	VA	Feb-03	4-GAS FIRED SIMPLE CYCLE TURBINES	1624.00 MMBTU/HR	9/10.5 PPMVD 30 day avg/1hr avg	DRY LOW NOX BURNERS	0	NSPS
CHICKAHOMINY POWER	VA	Jan-03	4-GAS FIRED SIMPLE CYCLE TURBINES	1862.00 MMBTU/HR	107 LB/HR	DRY LOW NOX BURNERS WITH CEMS	0	BACT-PSD
WHITE OAK POWER	VA	Aug-02	4-GAS FIRED TURBINES	1731.00 MMBTU/HR	9 PPMVD	DRY LOW NOX BURNERS WITH CEMS	0	BACT-PSD
CALPINE AUBURNDALE	FL	Apr-01	SIMPLE CYCLE GAS FIRED TURBINE	1591.00 MMBTU/HR	25 PPMVD	DRY LOW NOX BURNERS	0	OTHER
PERRYVILLE POWER	LA	Mar-02	NATURAL GAS FIRED TURBINE		9 PPMVD	DRY LOW NOX BURNERS AND/OR SCR	0	BACT-PSD
INDECK-NILES	MI	Dec-01	4-GAS FIRED TURBINES	163.00 MW	15 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
SOUTHERN INDIANA GAS & ELECTRIC	IN	Nov-01	NATURAL GAS FIRED TURBINE	1145.80 MMBTU/HR	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
EL PASO MERCHANT ENERGY MANATEE	FL	Sep-01	2-GAS FIRED TURBINES	175.00 MW	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
EL PASO MERCHANT ENERGY BELLE GLADE	FL	Aug-01	2-GAS FIRED TURBINES	1.79 MMSCF/HR	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
EL PASO MERCHANT ENERGY BROWARD COUNTY	FL	Aug-01	3-GAS FIRED TURBINES	1.79 MMSCF/HR	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
PAMPANO BEACH ENERGY	FL	Aug-01	3-GAS FIRED TURBINES	1.91 MMSCF/HR	9 PPMVD	DRY LOW NOX BURNERS WITH WATER INJECTION	0	BACT-PSD
DEERFIELD BEACH	FL	Jul-01	3-GAS FIRED TURBINES	1.91 MMSCF/HR	9 PPMVD	DRY LOW NOX BURNERS, WET INJECTION AND LIMITED FUEL USAGE	0	BACT-PSD
RENAISSANCE POWER, LLC	MI	Jun-01	4-GAS FIRED SIMPLE CYCLE TURBINES	170.00 MW	15 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
MIRANT SUGAR CREEK	IN	May-01	4-GAS FIRED TURBINES	170.00 MW	9 PPMVD	GOOD COMBUSTION	0	BACT-PSD
PSEG WATERFORD	OH	Mar-01	3-GAS FIRED TURBINES	170.00 MW	64 LB/HR	DRY LOW NOX BURNERS	0	BACT-PSD
PINE BLUFF ENERGY	AR	Feb-01	GAS FIRED TURBINE	170.00 MW	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
TENASKA ALABAMA PARTNERS, LP	AL	Jan-01	3-GAS FIRED TURBINES	170.00 MW	0.033 LB/MMBTU	DRY LOW NOX BURNERS	0	BACT-PSD
PEACE RIVER POWER	FL	Dec-00	3-GAS FIRED TURBINES	170.00 MW	9 PPMVD	DRY LOW NOX BURNERS WITH WATER INJECTION	0	BACT-PSD
CONNECTIVE ENERGY HAY RD	DE	Oct-00	3-GAS FIRED TURBINES	500.00 MW	9 PPMVD	DRY LOW NOX BURNERS	0	LAER
CLECO MIDSTREAM-PERRYVILLE	LA	Aug-00	4-NG FIRED TURBINES		9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
GRANITE POWER HARDEE	FL	Aug-00	3-NG FIRED TURBINES	1596.00 MMBTU/HR	15 PPMVD	DRY LOW NOX BURNERS WITH WATER INJECTION	0	BACT-PSD
VIRGINIA POWER-CAROLINE	VA	Jul-00	5-NATURAL GAS SIMPLE CYCLE TURBINES	1760.00 MMBTU/HR	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
FLORIDA POWER & LIGHT MARTIN	FL	Jul-00	2-NATURAL GAS FIRED SIMPLE CYCLE TURBINE	1860.00 MMBTU/HR	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
IPS DESOTO	FL	Jun-00	3-NATURAL GAS TURBINES	1612.00 MMBTU/HR	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
RELIANT ENERGY HOPE	RI	May-00	2-NATURAL GAS TURBINES	186.00 MW	2 PPMVD	DRY LOW NOX BURNERS WITH SCR	0	BACT-PSD
DOSWELL LIMITED	VA	Apr-00	NATURAL GAS TURBINE	1752.20 MMBTU/HR	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
SANTÉE COOPER RAINEY	SC	Apr-00	2-NATURAL GAS TURBINES	170.00 MW	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
IPS SHADY HILL	FL	Jan-00	3-NATURAL GAS TURBINES	1612.00 MMBTU/HR	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
IPS VANDOLAH POWER	FL	Dec-99	NATURAL GAS SIMPLE CYCLE TURBINE	170.00 MW	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
CANE ISLAND POWER PARK	FL	Nov-99	NATURAL GAS TURBINE	1696.00 MMBTU/HR	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
LINCOLN ELECTRIC	NE	Nov-99	NATURAL GAS TURBINE	965.00 GJ	25 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
TECO POLK POWER STATION	FL	Oct-99	2-NATURAL GAS TURBINES	165.00 MW	10.5 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
			2-NATURAL GAS TURBINES	100.00 MW	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
KANSAS CITY POWER & LIGHT	MO	Aug-99	NATURAL GAS TURBINE	140.00 MW	25 PPMVD	DRY LOW NOX BURNERS WITH WATER INJECTION	0	BACT-PSD
VIRGINIA POWER-REMINGTON	VA	Jun-99	5-NATURAL GAS SIMPLE CYCLE TURBINES	1761.00 MMBTU/HR	9 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
WEPCO-PLEASANT PRAIRIE	VM	Apr-99	NATURAL GAS TURBINE		12 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
SOUTHERN ENERGY	VM	Feb-99	2-175 MW NATURAL GAS TURBINES	175.00 MW	15 PPMVD	DRY LOW NOX BURNERS	0	BACT-PSD
TENASKA GEORGIA PARTNERS, LP	GA	Dec-98	6-160 MW NATURAL GAS TURBINES	160.00 MW	15 PPMVD @ 15% O2 (GAS)	DRY LOW NOX BURNERS	0	BACT-PSD
SOUTHERN NATURAL GAS	AL	Mar-96	2-9160 HP GE MODEL MS3002G NATURAL GAS TURBINES	9,160 HP	53 LB/HR		0	BACT-PSD
SOUTHERN NATURAL GAS	AL	Mar-96	9160 HP GE MODEL MS3002G NATURAL GAS FIRED TURBINE	9,160 HP	53 LB/HR		0	BACT-PSD
ALABAMA POWER COMPANY	AL	Dec-97	COMBUSTION TURBINE W/ DUCT BURNER (COMBINED CYCLE	100 MW	15 PPM	DRY LOW NOX BURNERS	0	BACT-PSD
BUCKNELL UNIVERSITY	PA	Nov-97	NG FIRED TURBINE, SOLAR TAURUS T-7300S	5.0 MW	25 PPMVD @ 15% O2	SOLOXOX BURNER, LOW NOX BURNER	0	BACT-OTHER
NORTHERN CALIFORNIA POWER AGENCY	CA	Oct-97	GE FRAME 5 GAS TURBINE	325 MMBTU/HR	25 PPMVD @ 15% O2	DRY LOW NOX BURNERS	0	LAER
						DRY LOW-NOX TECHNOLOGY WHICH ADOPTS STAGED OR SCHEDULED COMBUSTION.	60	BACT-PSD
LORDSBURG L.P.	NM	Jun-97	TURBINE, NATURAL GAS-FIRED, ELEC. GEN. VARIABLE LOAD NATURAL GAS FIRED TURBINE COMPRESSOR	100 MW	74.4 LB/HR		0	BACT-PSD
SOUTHERN CALIFORNIA GAS COMPANY	CA	May-97		50 MMBTU/HR	25 PPMVD @ 15% O2	DRY LOW NOX COMBUSTOR	0	LAER
						FUEL OIL SULFUR CONTENT <= 0.05% BY WEIGHT, DRY LOW NOX COMBUSTOR DESIGN FIRING GAS AND DRY LOW NOX COMBUSTOR WITH WATER INJECTION FIRING OIL	0	BACT-PSD
MEAD COATED BOARD, INC.	AL	Mar-97	COMBINED CYCLE TURBINE (25 MW)	568 MMBTU/HR	25 PPMVD @ 15% O2 (GAS)		0	BACT-PSD
FORMOSA PLASTICS CORPORATION, BATON ROUGE PLANT	LA	Mar-97	TURBINE/HSRG, GAS COGENERATION	450 MM BTU/HR	9 PPMV	DRY LOW NOX BURNER/COMBUSTION DESIGN AND CONSTRUCTION.	0	BACT-PSD
SOUTHWESTERN PUBLIC SERVICE COMPANY/CUNNINGHAM STA	NM	Feb-97	COMBUSTION TURBINE, NATURAL GAS	100 MW	0 SEE FACILITY NOTES	DRY LOW NOX COMBUSTION	0	BACT-PSD
CALRESOURCES LLC	CA	Jan-97	SOLAR MODEL 1100 SATURN GAS TURBINE	14 MMBTU/HR	69 PPMVD @ 15% O2	NO CONTROL	0	LAER
TEMPO PLASTICS	CA	Dec-96	GAS TURBINE COGENERATION UNIT	0.0	0.150 LB/MMBTU	LOW-NOX COMBUSTOR	0	LAER
SOUTHERN NATURAL GAS COMPANY	MS	Dec-96	TURBINE, NATURAL GAS-FIRED	9,160 HORSEPOWER	110 PPMV @ 15% O2, DRY	PROPER TURBINE DESIGN AND OPERATION	0	BACT-PSD
SOUTHERN NATURAL GAS COMPANY-SELMA COMPRESSOR STAT	AL	Dec-96	9160 HP GE MS3002G NATURAL GAS FIRED TURBINE	0.0	53 LB/HR		0	BACT-PSD
SOUTHWESTERN PUBLIC SERVICE CO/CUNNINGHAM STATION	NM	Nov-96	COMBUSTION TURBINE, NATURAL GAS	100 MW	15 PPM, SEE FAC. NOTES	DRY LOW NOX COMBUSTION	0	BACT-PSD
						STEAM/WATER INJECTION AND SELECTIVE CATALYTIC REDUCTION (SCR).	72	BACT-PSO
ECOELECTRICA, L.P.	PR	Oct-96	TURBINES, COMBINEO-CYCLE COGENERATION	461 MW	60 LB/HR (GAS)	STEAM/WATER INJECTION AND SELECTIVE CATALYTIC REDUCTION (SCR).	72	BACT-PSD
ECOELECTRICA, L.P.	PR	Oct-96	TURBINES, COMBINEO-CYCLE COGENERATION	461 MW	73 LB/HR (OIL)	DRY LNB WITH SCR WATER INJECTION IN PLACE WHEN FIRING OIL.	0	BACT-PSD
BLUE MOUNTAIN POWER, LP	PA	Jul-96	COMBUSTION TURBINE WITH HEAT RECOVERY BOILER	153 MW	4 PPM @ 15% O2	OIL FIRING LIMITS SET TO 8.4 PPM @ 15% O2	84	LAER
CITY OF ST. PAUL POWER PLANT	AK	Jun-96	INTERNAL COMBUSTION	3.4 MW	427 TPY	AFTERCOOLERS	0	BACT-PSO
CITY OF UNALASKA	AK	Jun-96	INTERNAL COMBUSTION	6.5 MW	633 TPY	LIMIT OF OPERATION HOURS AND AFTERCOOLERS	0	BACT-PSD
GENERAL ELECTRIC GAS TURBINES	SC	Apr-96	I.C. TURBINE	2,700 MMBTU/HR	885 LB/HR	GOOD COMBUSTION PRACTICES TO MINIMIZE EMISSIONS	0	BACT-PSO
CAROLINA POWER & LIGHT	NC	Apr-96	COMBUSTION TURBINE, 4 EACH	1,908 MMBTU/HR	512 LB/HR (OIL)	WATER INJECTION: FUEL SPEC: 0.04% N FUEL OIL	0	BACT-PSO
CAROLINA POWER & LIGHT	NC	Apr-96	COMBUSTION TURBINE, 4 EACH	1,908 MMBTU/HR	1908 LB/HR (GAS)	WATER INJECTION	0	BACT-PSO
MID-GEORGIA COGEN.	GA	Apr-96	COMBUSTION TURBINE (2), FUEL OIL	116 MW	20 PPMVD	WATER INJECTION WITH SCR	0	BACT-PSO
MID-GEORGIA COGEN.	GA	Apr-96	COMBUSTION TURBINE (2), NATURAL GAS	116 MW	9 PPMVD	DRY LOW NOX BURNER WITH SCR	0	BACT-PSO
GEORGIA GULF CORPORATION	LA	Mar-96	GENERATOR, NATURAL GAS FIRED TURBINE	1,123 MM BTU/HR	25 PPMV-CORR. TO 15% O2	CONTROL NOX USING STEAM INJECTION	0	BACT-PSD
SEMINOLE HARDEE UNIT 3	FL	Jan-96	COMBINED CYCLE COMBUSTION TURBINE	140 MW	15 PPM @ 15% O2	DRY LNB STAGED COMBUSTION	0	BACT-PSD
KEY WEST CITY ELECTRIC SYSTEM	FL	Sep-95	TURBINE, EXISTING CT RELOCATION TO A NEW PLANT	23 MW	75 PPM @ 15% O2	WATER INJECTION	0	BACT-PSD
UNION CARBIDE CORPORATION	LA	Sep-95	GENERATOR, GAS TURBINE	1,313 MM BTU/HR	25 PPMV CORR. TO 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
						STEAM INJECTION PLUS SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM USE OF NO. 2 FUEL OIL WITH NITROGEN CONTENT NOT TO EXCEED 0.10% BY WEIGHT.	0	BACT-PSD
PUERTO RICO ELECTRIC POWER AUTHORITY (PREPA)	PR	Jul-95	COMBUSTION TURBINES (3), 83 MW SIMPLE-CYCLE EACH	248 MW	35 LB/HR AS NO2	CONTROLS TO REGULATE THE FUEL CONSUMPTION AND THE RATIO OF WATER TO FUEL BEING FIRED IN THE TURBINES	0	BACT-PSD
HIGGINSVILLE MUNICIPAL POWER FACILITY	MO	Jul-95	ADD OF A DUAL FUEL FIRED TWIN-PAC TURBINE	49 MW	42 PPM BY VOL 1 HR AVG (G OF WATER TO FUEL BEING FIRED IN THE TURBINES	CONTROLS TO REGULATE THE FUEL CONSUMPTION AND THE RATIO OF WATER TO FUEL BEING FIRED IN THE TURBINES	0	BACT-PSD
HIGGINSVILLE MUNICIPAL POWER FACILITY	MO	Jul-95	ADD OF A DUAL FUEL FIRED TWIN-PAC TURBINE	49 MW	75 PPM BY VOL 1 HR AVG (N OF WATER TO FUEL BEING FIRED IN THE TURBINES		0	BACT-PSD
BROOKLYN NAVY YARD COGENERATION PARTNERS L.P.	NY	Jun-95	TURBINE, NATURAL GAS FIRED	240 MW	3.5 PPM @ 15% O2	SCR	0	LAER
PANDA-KATHELEN, L.P.	FL	Jun-95	COMBINED CYCLE COMBUSTION TURBINE (TOTAL 115MW)	75 MW	15 PPM @ 15% O2	DRY LOW NOX BURNER	0	BACT-PSD
PRDCTOR AND GAMBLE PAPER PRODUCTS CO (CHARMIN)	PA	May-95	TURBINE, NATURAL GAS	580 MMBTU/HR	55 PPM @ 15% O2	STEAM INJECTION	75	RACT

Table 2. Summary of Best Available Control Technology (BACT) Determinations for Nitrogen Oxide (NOx) Emissions

MILAGRO, WILLIAMS FIELD SERVICE	NM	May-95	TURBINE/COGEN, NATURAL GAS (2)	900 MMCF/OAY	9 PPM @ 15% O2	DRY LOW NOX (GENERAL ELECTRIC MODEL PG6541B)	94	BACT-PSD
GAINESVILLE REGIONAL UTILITIES	FL	Apr-95	SIMPLE CYCLE COMBUSTION TURBINE, GAS/NO 2 OIL B-UP	74 MW	15 PPM AT 15% OXYGEN	DRY LOW NOX BURNERS GE FRAME UNIT, CAN ANNUAL	0	BACT-PSD
GAINESVILLE REGIONAL UTILITIES	FL	Apr-95	OIL FIRE COMBUSTION TURBINE	74 MW	42 PPM AT 15% OXYGEN	COMBUSTORS	0	BACT-PSD
LEDERLE LABORATORIES	NY	Apr-95	(2) GAS TURBINES (EP #S 00101&102)	110 MMBTU/HR	42 PPM, 18 LB/HR	WATER INJECTION	0	BACT-PSD
PILGRIM ENERGY CENTER	NY	Apr-95	(2) WESTINGHOUSE W501D5 TURBINES (EP #S 00001&2)	1,400 MMBTU/HR	4.5 PPM, 23 LB/HR	STEAM INJECTION FOLLOWED BY SCR	0	BACT
BALTIMORE GAS & ELECTRIC - PERRYMAN PLANT	MD	Mar-95	TURBINE, 140 MW NATURAL GAS FIRED ELECTRIC	140 MW	15 PPM @ 15% O2	DRY BURN LOW NOX BURNERS	91	BACT-PSD
FORMOSA PLASTICS CORPORATION, LOUISIANA	LA	Mar-95	TURBINE/HRSG, GAS COGENERATION	450 MM BTU/HR	9 PPMV	DRY LOW NOX BURNER/COMBUSTION DESIGN AND CONTROL	0	LAER
LSP-COTTAGE GROVE, L.P.	MN	Mar-95	COMBUSTION TURBINE/GENERATOR	1,970 MMBTU/HR	4.5 PPM @ 15% O2 GAS	SELECTIVE CATALYTIC REDUCTION (SCR)	70	BACT-PSD
EMPIRE DISTRICT ELECTRIC CO.	NY	Mar-95	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	89 MW	360 TPY	WATER INJECTION	0	BACT-PSD
MARATHON OIL CO. - INDIAN BASIN N.G. PLAN	NM	Jan-95	TURBINES, NATURAL GAS (2)	5,500 HP	7.4 LB5/HR	LEAN PREMIXED COMBUSTION TECHNOLOGY, DRY/LOW NOX	66	BACT-PSD
KAMINE/BESICORP SYRACUSE LP	NY	Dec-94	SIEMENS V64.3 GAS TURBINE (EP #00001)	650 MMBTU/HR	25 PPM	WATER INJECTION	70	BACT
INDECK-OSWEGO ENERGY CENTER	NY	Oct-94	GE FRAME 6 GAS TURBINE	533 LB/MMBTU	42 PPM, 75.00 LB/HR	STEAM INJECTION	53	BACT
FULTON COGEN PLANT	NY	Sep-94	GE LM5000 GAS TURBINE	500 MMBTU/HR	36 PPM, 65 LB/HR	WATER INJECTION	59	BACT
CAROLINA POWER AND LIGHT	SC	Aug-94	STATIONARY GAS TURBINE	1,520 MMBTU/HR	25 PPM @ 15% O2 (GAS)	WATER INJECTION	30	BACT-PSD
CAROLINA POWER AND LIGHT	SC	Aug-94	STATIONARY GAS TURBINE	1,520 MMBTU/HR	62 PPM @ 15% O2 (OIL)	WATER INJECTION	30	BACT-PSD
BRUSH COGENERATION PARTNERSHIP	CO	Jul-94	TURBINE	350 MMBTU/HR	25 PPM @ 15% O2	DRY LOW NOX BURNER	74	BACT-PSD
COLORADO POWER PARTNERSHIP	TX	Jul-94	TURBINES, 2 NAT GAS & 2 DUCT BURNERS	385 MMBTU/HR EACH TURBINE	42 PPM @ 15% O2	WATER INJECTION	66	BACT-PSD
MUDDY RIVER LP	NV	Jun-94	COMBUSTION TURBINE, DIESEL & NATURAL GAS	140 MEGAWATT	303 LB/HR	LOW NOX BURNER	0	BACT-PSD
CSW NEVADA, INC.	NV	Jun-94	COMBUSTION TURBINE, DIESEL & NATURAL GAS	140 MEGAWATT	273 LB/HR	DRY LOW NOX COMBUSTOR	0	BACT-PSD
PORTLAND GENERAL ELECTRIC CO.	OR	May-94	TURBINES, NATURAL GAS (2)	1,720 MMBTU	4.5 PPM @ 15% O2	SCR	82	BACT-PSD
EMPIRE DISTRICT ELECTRIC CO.	MO	May-94	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	1345 MMBTU/HR	25 PPM BY VOL. 1 HR AVG (G)	LOW NOX BURNERS, AND WATER INJECTION	0	BACT-PSD
EMPIRE DISTRICT ELECTRIC CO.	MO	May-94	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	1,345 MMBTU/HR	1,135 TPY (NO. 2 OIL)	LOW NOX BURNERS, AND WATER INJECTION	0	BACT-PSD
GEORGIA POWER COMPANY, ROBINS TURBINE PROJECT	GA	May-94	TURBINE, COMBUSTION, NATURAL GAS	80 MW	25 PPM	WATER INJECTION, FUEL SPEC. NATURAL GAS	0	BACT-PSD
WEST CAMPUS COGENERATION COMPANY	TX	May-94	TX GAS TURBINE (TOTAL POWER)	200 AS	200 PPM	INTERNAL COMBUSTION CONTROLS	0	BACT-PSD
FLEETWOOD COGENERATION ASSOCIATES	PA	Apr-94	NO TURBINE (GE LM5000) WITH WASTE HEAT BOILER	360 MMBTU/HR	21 LB/HR	SCR WITH LOW NOX COMBUSTORS	47	BACT-OTHER
HERMITON GENERATING CO.	OR	Apr-94	TURBINES, NATURAL GAS (2)	1,696 MMBTU	4.5 PPM @ 15% O2	SCR	82	BACT-PSD
FLORIDA POWER CORPORATION POLK COUNTY SITE	FL	Feb-94	TURBINE, NATURAL GAS (2)	1,510 MMBTU/HR	12 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
FLORIDA POWER CORPORATION POLK COUNTY SITE	FL	Feb-94	TURBINE, FUEL OIL (2)	1,730 MMBTU/HR	42 PPM @ 15% O2	WATER INJECTION	0	BACT-PSD
TECO POLK POWER STATION	FL	Feb-94	TURBINE, SYNGAS (COAL GASIFICATION)	1,755 MMBTU/HR	25 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
TECO POLK POWER STATION	FL	Feb-94	TURBINE, FUEL OIL	1,765 MMBTU/HR	42 PPM @ 15% O2	WET INJECTION	0	BACT-PSD
INTERNATIONAL PAPER	LA	Feb-94	TURBINE/HRSG, GAS COGEN	338 MM BTU/HR TURBINE	25 PPM @ 15% O2 TURBINE	DRY LOW NOX COMBUSTOR/COMBUSTION CONTROL	0	BACT
KAMINE/BESICORP CARTHAGE L.P.	NY	Jan-94	GE FRAME 6 GAS TURBINE	491 BTU/HR	42 PPM	STEAM INJECTION	63	BACT
ORANGE COGENERATION LP	FL	Dec-93	TURBINE, NATURAL GAS, 2	368 MMBTU/HR	15 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
PROJECT ORANGE ASSOCIATES	NY	Dec-93	GE LM-5000 GAS TURBINE	550 MMBTU/HR	25 PPM, 47 LB/HR	STEAM INJECTION, FUEL SPEC. NATURAL GAS ONLY	80	BACT
WILLIAMS FIELD SERVICES CO. - EL CEORO COMPRESSOR	NM	Oct-93	TURBINE, GAS-FIRED	11,257 HP	42 PPM @ 15% O2	SOLONOX COMBUSTOR, DRY LOW NOX TECHNOLOGY	66	BACT-PSD
FLORIDA GAS TRANSMISSION	FL	Sep-93	TURBINE, GAS	132 MMBTU/HR	25 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
FATOWMACK POWER PARTNERS, LIMITED PARTNERSHIP	VA	Sep-93	TURBINE, COMBUSTION, SIEMENS MODEL V84.2, 3	10.2 X109 SCF/YR NAT GAS	131 LB/HR (GAS); 339 OIL	DRY LOW NOX COMBUSTOR; DESIGN, WATER INJECTION	0	BACT-PSD
FLORIDA GAS TRANSMISSION COMPANY	AL	Aug-93	TURBINE, NATURAL GAS	12,600 BHP	60 PPMW/HR	AIR-TO-FUEL RATIO CONTROL, DRY LOW NOX COMBUSTION	78	BACT
LOCKPORT COGEN FACILITY	NY	Jul-93	(5) GE FRAME 6 TURBINES (EP #S 00001-00006)	424 MMBTU/HR	42 PPM	STEAM INJECTION	0	BACT-OTHER
ANITEK COGEN PLANT	NY	Jul-93	GE LM5000 COMBINED CYCLE GAS TURBINE EP #00001	451 MMBTU/HR	25 PPM, 41 LB/HR	NO CONTROLS	0	BACT-OTHER
NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NJ	Jun-93	TURBINES, COMBUSTION, KEROSENE-FIRED (2)	640 MMBTU/HR (EACH)	16 PPM @ 15% O2	SCR	0	BACT-PSD
NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NJ	Jun-93	TURBINES, COMBUSTION, NATURAL GAS-FIRED (2)	617 MMBTU/HR (EACH)	8.3 PPM @ 15% O2	SCR	0	BACT-PSD
TIGER BAY LP	FL	May-93	TURBINE, OIL	1,650 MMBTU/HR	42 PPM @ 15% O2	WATER INJECTION	0	BACT-PSD
TIGER BAY LP	FL	May-93	TURBINE, GAS	1,615 MMBTU/HR	15 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
INDEX ENERGY COMPANY	NY	May-93	GE FRAME 6 GAS TURBINE EP #00001	491 MMBTU/HR	42 PPM	STEAM INJECTION	58	BACT
PHOENIX POWER PARTNERS	CO	May-93	TURBINE (NATURAL GAS)	311 MMBTU/HR	22 PPM @ 15% O2	DRY LOW NOX COMBUSTION	0	BACT-OTHER
TRIGEN MITCHEL FIELD	NY	Apr-93	GE FRAME 6 GAS TURBINE	425 MMBTU/HR	60 PPM, 30 LB/HR	STEAM INJECTION	20	BACT
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, FUEL OIL	928 MMBTU/HR	42 PPM @ 15% O2	WATER INJECTION	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, FUEL OIL	371 MMBTU/HR	42 PPM @ 15% O2	WATER INJECTION	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, NATURAL GAS	869 MMBTU/HR	15 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, NATURAL GAS	367 MMBTU/HR	15 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
EAST KENTUCKY POWER COOPERATIVE	KY	Mar-93	TURBINES (5), #2 FUEL OIL AND NAT. GAS FIRED	1,492 MMBTU/HR (EACH)	42 PPM @ 15% O2 (OIL)	WATER INJECTION	46	SEE NOTES
INTERNATIONAL PAPER CO. - RIVERDALE MILL	AL	Jan-93	TURBINE, STATIONARY (GAS-FIRED) WITH DUCT BURNER	40 MW	0.06 LB/MMBTU (GAS)	INTO THE TURBINE	0	BACT-PSD
OKLAHOMA MUNICIPAL POWER AUTHORITY	OK	Dec-92	TURBINE, COMBUSTION	58 MW	65 PPM @ 15% O2 (OIL)	COMBUSTION CONTROLS	83	BACT-OTHER
OKLAHOMA MUNICIPAL POWER AUTHORITY	OK	Dec-92	TURBINE, COMBUSTION	58 MW	25 PPM @ 15% O2 (GAS)	COMBUSTION CONTROLS	83	BACT-OTHER
AUBURNDALE POWER PARTNERS, LP	FL	Dec-92	TURBINE, OIL	1,170 MMBTU/HR	42 PPM @ 15% O2	STEAM INJECTION	0	BACT-PSD
AUBURNDALE POWER PARTNERS, LP	FL	Dec-92	TURBINE, GAS	1,214 MMBTU/HR	15 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
SITH/INDEPENDENCE POWER PARTNERS	NY	Nov-92	TURBINE, COMBUSTION (4) (NATURAL GAS) (1012 MW)	2,133 MMBTU/HR (EACH)	45 PPM	SCR AND DRY LOW NOX	0	BACT-OTHER
KAMINE/BESICORP BEAVER FALLS COGENERATION FACILITY	NY	Nov-92	TURBINE, COMBUSTION (NAT. GAS & OIL FUEL) (79MW)	650 MMBTU/HR	9 PPM (GAS)	DRY LOW NOX OR SCR	0	BACT-OTHER
KAMINE/BESICORP BEAVER FALLS COGENERATION FACILITY	NY	Nov-92	TURBINE, COMBUSTION (NAT. GAS & OIL FUEL) (79MW)	650 MMBTU/HR	55 PPM (OIL)	DRY LOW NOX OR SCR	0	BACT-OTHER
KAMINE/BESICORP CORNING L.P.	NY	Nov-92	TURBINE, COMBUSTION (79 MW)	653 MMBTU/HR	9 PPM	DRY LOW NOX OR SCR	0	BACT-OTHER
GRAYS FERRY CO. GENERATION PARTNERSHIP	PA	Nov-92	TURBINE (NATURAL GAS & OIL)	1,150 MMBTU	9 PPM @ 15% O2	DRY LOW NOX BURNER, COMBUSTION CONTROL	0	BACT-OTHER
GOAL LINE, LP ICEFLOE	CA	Nov-92	TURBINE, COMBUSTION (NATURAL GAS) (42.4 MW)	386 MMBTU/HR	5 PPM @ 15% OXYGEN	WATER INJECTION & SCR W/ AUTOMATIC AMMONIA INJECT.	98	BACT-OTHER
BEAR ISLAND PAPER COMPANY, L.P.	VA	Oct-92	TURBINE, COMBUSTION GAS	468 X10(6) BTU/HR #2 OIL	15 PPM	SCR	81	BACT-PSD
BEAR ISLAND PAPER COMPANY, L.P.	VA	Oct-92	TURBINE, COMBUSTION GAS (TOTAL)	0.0 HP	65.7 TPY	SCR	0	BACT-PSD
BEAR ISLAND PAPER COMPANY, L.P.	VA	Oct-92	TURBINE, COMBUSTION GAS	474 X10(6) BTU/HR N. GAS	9 PPM	SELECTIVE CATALYTIC REDUCTION (SCR)	75	BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	Sep-92	TURBINE FACILITY, GAS	7.4 X10(7) GPY FUEL OIL	245 TOTAL TPY	SELECTIVE CATALYTIC REDUCTION (SCR)	80	BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	Sep-92	TURBINES (2) EACH WITH A SF	1.4 X10(9) BTU/HR #2 OIL	66 LB5/HR/UNIT	WATER INJECTION AND SCR	80	BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	Sep-92	TURBINE FACILITY, GAS	1,331 X10(7) SCFY NAT GAS	245 TOTAL TPY	SELECTIVE CATALYTIC REDUCTION (SCR) W/ WATER INJECT	80	BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	Sep-92	TURBINES (2) EACH WITH A SF	1.5 X10(9) BTU/HR N GAS	9 PPM @ 15% O2	SCR WITH WATER INJECTION	80	BACT-PSD
NEVADA POWER COMPANY, HARRY ALLEN PEAKING PLANT	NV	Sep-92	COMBUSTION TURBINE ELECTRIC POWER GENERATION	600 MW (8 UNITS 75 EACH)	88.6 TPY (EACH TURBINE)	LOW NOX COMBUSTOR	0	BACT-PSD
KAMINE SOUTH GLENS FALLS COGEN CO	NY	Sep-92	GE FRAME 6 GAS TURBINE	496 MMBTU/HR	42 PPM, 76.5 LB/HR	WATER INJECTION	50	BACT
NORTHERN STATES POWER COMPANY	SD	Sep-92	TURBINE, SIMPLE CYCLE, 4 EACH	1,229 MW	24 PPM @ 15% O2 GAS	WATER INJECTION FOR GAS & DISTILLATION	0	BACT-PSD
PASNY/HOLTSVILLE COMBINED CYCLE PLANT	NY	Sep-92	TURBINE, COMBUSTION GAS (150 MW)	1,146 MMBTU/HR (GAS)*	9 PPM (GAS)	DRY LOW NOX	0	BACT-OTHER
PASNY/HOLTSVILLE COMBINED CYCLE PLANT	NY	Sep-92	TURBINE, COMBUSTION GAS (150 MW)	1,146 MMBTU/HR (GAS)*	42 PPM (OIL)	WATER INJECTOR	0	BACT-OTHER
WEPCU, PARIS SITE	WI	Aug-92	TURBINES, COMBUSTION (4)	0.0	66 PPM @ 15% O2 (OIL)	GOOD COMBUSTION PRACTICES	0	BACT-PSD
WEPCU, PARIS SITE	WI	Aug-92	TURBINES, COMBUSTION (4)	0.0	25 PPM @ 15% O2 (GAS)	GOOD COMBUSTION PRACTICES	0	BACT-PSD
FLORIDA POWER CORPORATION	FL	Aug-92	TURBINE, OIL	1,029 MMBTU/HR	42 PPM @ 15% O2	WET INJECTION	0	BACT-PSD
FLORIDA POWER CORPORATION	FL	Aug-92	TURBINE, OIL	1,866 MMBTU/HR	42 PPM @ 15% O2	WET INJECTION	0	BACT-PSD
NORTHWEST PIPELINE COMPANY	OH	Aug-92	TURBINE, GAS-FIRED	12,100 HP	196 PPM @ 15% O2	ADVANCED DRY LOW NOX COMBUSTOR (BY 07/01/95)	76	BACT-PSD
CNO TRANSMISSION	OH	Aug-92	TURBINE (NATURAL GAS) (3)	5,300 HP (EACH)	1.6 G4/HR*	LOW NOX COMBUSTION	0	BACT-OTHER
SARANAC ENERGY COMPANY	NY	Jul-92	TURBINES, COMBUSTION (2) (NATURAL GAS)	1,123 MMBTU/HR (EACH)	9 PPM	SCR	0	BACT-OTHER
HARTWELL ENERGY LIMITED PARTNERSHIP	GA	Jul-92	TURBINE, OIL FIRED (2 EACH)	1,840 M BTU/HR	25 PPM @ 15% O2	MAXIMUM WATER INJECTION	0	BACT-PSD
MAUI ELECTRIC COMPANY, LTD./MAALAEA GENERATING STA	HI	Jul-92	TURBINE, COMBINED-CYCLE COMBUSTION	28 MW	42.3 LB/HR	WATER INJECTION	69	BACT-OTHER
HARTWELL ENERGY LIMITED PARTNERSHIP	GA	Jul-92	TURBINE, GAS FIRED (2 EACH)	1,817 M BTU/HR	25 PPM @ 15% O2	MAXIMUM WATER INJECTION	0	BACT-PSD
INDECK-YERKES ENERGY SERVICES	NY	Jun-92	GE FRAME 6 GAS TURBINE (EP #00001)	432 MMBTU/HR	42 PPM, 74 LB/HR	STEAM INJECTION	35	BACT
SELKIRK COGENERATION PARTNERS, L.P.	NY	Jun-92	COMBUSTION TURBINES (2) (252 MW)	1,173 MMBTU/HR (EACH)	9 PPM GAS	STEAM INJECTION AND SCR	0	BACT-OTHER
SELKIRK COGENERATION PARTNERS, L.P.	NY	Jun-92	COMBUSTION TURBINES (79 MW)	1,173 MMBTU/HR	25 PPM GAS	STEAM INJECTION	0	BACT-OTHER

Table 2. Summary of Best Available Control Technology (BACT) Determinations for Nitrogen Oxide (NOx) Emissions

NORTHWEST PIPELINE CORPORATION	CO	May-92	TURBINE, SOLAR TAURUS	45 MMBTU/HR	95 PPMVD (UNTIL 11/98)	DRY LOW NOX COMBUSTOR (BY 11/01/98)	0	BACT-PSD
NARRAGANSETT ELECTRIC/NEW ENGLAND POWER CO.	RI	Apr-92	TURBINE, GAS AND DUCT BURNER	1,360 MMBTU/HR EACH	9 PPM @ 15% O2, GAS	SCR	0	BACT-PSD
KENTUCKY UTILITIES COMPANY	KY	Mar-92	TURBINE, #2 FUEL OIL/NATURAL GAS (8)	1,500 MM BTU/HR (EACH)	42 PPM @ 15% O2, N. GAS	WATER INJECTION	0	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION	1,175 MMBTU/HR NAT. GAS	9 PPM @ 15% O2	SCR, STEAM INJECTION	81	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION	1,117 MMBTU/HR NO2 FUEL OIL	15 PPM @ 15% O2	SCR, STEAM INJ.	91	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION, 2	0.0	191 T/YR/UNIT		0	BACT-PSD
THERMO INDUSTRIES, LTD.	CO	Feb-92	TURBINE, GAS FIRED, 5 EACH	246 MMBTU/HR	25 PPM @ 15% O2	DRY LOW NOX TECH.	0	BACT-PSD
HAWAII ELECTRIC LIGHT CO., INC.	HI	Feb-92	TURBINE, FUEL OIL #2	20 MW	42.3 LB/HR	COMBUSTOR WATER INJECTOR, WATER INJECTION	70	BACT-PSD
SAVANNAH ELECTRIC AND POWER CO.	GA	Feb-92	TURBINES, 8	1,032 MMBTU/HR, NAT GAS	25 PPM @ 15% O2	MAX WATER INJECTION	0	BACT-PSD
SAVANNAH ELECTRIC AND POWER CO.	GA	Feb-92	TURBINES, 8	972 MMBTU/HR, #2 OIL	0 SEE NOTES	MAX WATER INJECTION	0	BACT-PSD
LINDEN COGENERATION TECHNOLOGY	NJ	Jan-92	TURBINE, NATURAL GAS FIRED	50 KW	33.8 LB/HR	STEAM INJECTION AND SCR	95	BACT-PSD
ALYESKA PIPELINE SERVICE COMPANY	AK	Jan-92	SOLAR CENTAUR, 3	150 PPMVD @ 15% O2	150 PPMVD @ 15% O2	LOW NOX BURNERS	0	NSPS
KAMINE/BEISICORP NATURAL DAM LP	NY	Dec-91	GE FRAME 6 GAS TURBINE	500 MMBTU/HR	42 PPM, 801 LB/HR	STEAM INJECTION	35	BACT
DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	NC	Dec-91	TURBINE, COMBUSTION	1,247 MM BTU/HR	287 LB/HR	MULTINOZZLE COMBUSTOR, MAXIMUM WATER INJECTION	0	BACT-PSD
DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	NC	Dec-91	TURBINE, COMBUSTION	1,313 MM BTU/HR	119 LB/HR	MULTINOZZLE COMBUSTOR, MAXIMUM WATER INJECTION	0	BACT-PSD
MAUI ELECTRIC COMPANY, LTD.	HI	Dec-91	TURBINE, FUEL OIL #2	28 MW	42 PPM	WATER INJECTION	71	BACT-PSD
KALAMAZOO POWER LIMITED	MI	Dec-91	TURBINE, GAS-FIRED, 2, W WASTE HEAT BOILERS	1,806 MMBTU/HR	15 PPMV	DRY LOW NOX TURBINES	0	BACT-PSD
LAKE COGEN LIMITED	FL	Nov-91	TURBINE, OIL, 2 EACH	42 MW	42 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
LAKE COGEN LIMITED	FL	Nov-91	TURBINE, GAS, 2 EACH	32 MW	25 PPM @ 15% O2	COMBUSTION CONTROL	60	BACT-PSD
SHELL PIPELINE CORPORATION	CA	Nov-91	GENERATOR, EMERGENCY, PROPANE FIRED	82 BHP	0.28 LB/H	3-WAY CATALYTIC CONVERTER	0	BACT-PSD
DE LA GUERRA POWER, INC	CA	Nov-91	ENGINE IC & GEN (1 OF 3)	380 HP	6.34 LB/D	NON-SELECTIVE CATALYTIC CONVERTER	90	BACT-PSD
ORLANDO UTILITIES COMMISSION	FL	Nov-91	TURBINE, GAS, 4 EACH	35 MW	42 PPM @ 15% O2	WET INJECTION	70	BACT-PSD
ORLANDO UTILITIES COMMISSION	FL	Nov-91	TURBINE, OIL, 4 EACH	35 MW	65 PPM @ 15% O2	WET INJECTION	0	BACT-PSD
SOUTHERN CALIFORNIA GAS	CA	Oct-91	TURBINE, GAS FIRED, SOLAR MODEL H	5,500 HP	8 PPM @ 15% O2	HIGH TEMP SELECT. CAT. REDUCTION	93	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, GAS, SOLAR CENTAUR H	5,500 HP	84.9 PPM @ 15% O2	LEAN BURN	0	NSPS
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, GAS, SOLAR CENTAUR H	5,500 HP	42 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	51	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, GAS, SOLAR CENTAUR H	5,500 HP	85.1 PPM @ 15% O2	FUEL SPEC. LEAN FUEL MIX	0	NSPS
FLORIDA POWER GENERATION	FL	Oct-91	TURBINE, OIL, 6 EACH	5500 HP	42 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	51	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, NAT. GAS TRANS., GE FRAME 3	93 MW	42 PPM @ 15% O2	WET INJECTION	0	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, NAT. GAS TRANS., GE FRAME 3	12,000 HP	225 PPM @ 15% O2	LEAN BURN	0	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, NAT. GAS TRANS., GE FRAME 3	12,000 HP	42 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	80	BACT-PSD
NUGGET OIL CO.	CA	Oct-91	GENERATOR, STEAM, GAS FIRED	63 MMBTU/HR	0.043 LB/MMBTU	LOW NOX BURNER AND FLUE GAS RECIRCULATION*	57	BACT-PSD
CAROLINA POWER AND LIGHT CO.	SC	Aug-91	TURBINE, I.C.	80 MW	282 LB/H	WATER INJECTION	50	BACT-PSD
ENRON LOUISIANA ENERGY COMPANY	LA	Aug-91	TURBINE, GAS, 2	39 MMBTU/HR	40 PPM @ 15% O2	H2O INJECT 0.67 LB/LB	71	BACT-PSD
ALGONQUIN GAS TRANSMISSION CO.	RI	Jul-91	TURBINE, GAS, 2	49 MMBTU/HR	100 PPM @ 15% O2	LOW NOX COMBUSTION	0	BACT-OTHER
CHARLES LARSEN POWER PLANT	FL	Jul-91	TURBINE, OIL, 1 EACH	80 MW	42 PPM @ 15% O2	WET INJECTION	0	BACT-PSD
CHARLES LARSEN POWER PLANT	FL	Jul-91	TURBINE, GAS, 1 EACH	80 MW	25 PPM @ 15% O2	WET INJECTION	0	BACT-PSD
SUMAS ENERGY INC.	WA	Jun-91	TURBINE, NATURAL GAS	88 MW	6 PPM @ 15% O2	SCR	90	BACT-PSD
SAGUARO POWER COMPANY	NV	Jun-91	COMBUSTION TURBINE GENERATOR	35 MW	16.9 PPH (WINTER)	SELECTIVE CATALYTIC REDUCTION (SCR)	80	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Jun-91	TURBINE, OIL, 2 EACH	400 MW	65 PPM @ 15% O2	LOW NOX COMBUSTORS	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Jun-91	TURBINE, GAS, 4 EACH	400 MW	25 PPM @ 15% O2	LOW NOX COMBUSTORS	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Jun-91	TURBINE, CG, 4 EACH	400 MW	42 PPM @ 15% O2	LOW NOX COMBUSTORS	0	BACT-PSD
GRANITE ROAD LIMITED	CA	May-91	TURBINE, GAS, ELECTRIC GENERATION	461 MMBTU/HR*	3.5 PPMVD @ 15% O2	SCR, STEAM INJECTION	97	BACT-PSD
NORTHERN CONSOLIDATED POWER	PA	May-91	TURBINES, GAS, 2	35 KW EACH	25 PPM @ 15% O2	STEAM INJECTION+SCR IN 1997	85	OTHER
CIMARRON CHEMICAL	CO	Mar-91	TURBINE #1, GE FRAME 6	33 MW	25 PPM @ 15% O2	WATER INJECTION	0	OTHER
CIMARRON CHEMICAL	CO	Mar-91	TURBINE #2, GE FRAME 6	33 MW	9 PPM @ 15% O2	SCR	0	OTHER
SEMINOLE FERTILIZER CORPORATION	FL	Mar-91	TURBINE, GAS	26 MW	9 PPM @ 15% O2	SCR	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Mar-91	TURBINE, GAS, 4 EACH	240 MW	42 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Mar-91	TURBINE, OIL, 4 EACH	0.0	65 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
CITY UTILITIES OF SPRINGFIELD	MO	Mar-91	GENERATION OF ELECTRICAL POWER	752 MMBTU/HR	42 PPM BY VOL 1 HR AVG (G WATER INJECTION		0	BACT-PSD
CITY UTILITIES OF SPRINGFIELD	MO	Mar-91	GENERATION OF ELECTRICAL POWER	752 MMBTU/HR	65 PPM BY VOL 1 HR AVG (G WATER INJECTION		0	BACT-PSD
CITY UTILITIES OF SPRINGFIELD	MO	Mar-91	GENERATION OF ELECTRICAL POWER	585 MMBTU/HR	42 PPM BY VOL 1 HR AVG (G WATER INJECTION		0	BACT-PSD
CITY UTILITIES OF SPRINGFIELD	MO	Mar-91	GENERATION OF ELECTRICAL POWER	585 MMBTU/HR	65 PPM BY VOL 1 HR AVG (G WATER INJECTION		0	BACT-PSD
NEVADA COGENERATION ASSOCIATES #2	NV	Jan-91	COMBINED-CYCLE POWER GENERATION	85 MW POWER OUTPUT	61.3 LBS/HR	SELECTIVE CATALYTIC SYSTEM ON ONE UNIT	0	BACT-PSD
NEVADA COGENERATION ASSOCIATES #1	NV	Jan-91	COMBINED-CYCLE POWER GENERATION	85 MW TOTAL OUTPUT	61.3 LBS/HR	SELECTIVE CATALYTIC SYSTEM ON ONE UNIT	0	BACT-PSD
NEWARK BAY COGENERATION PARTNERSHIP	NJ	Nov-90	TURBINE, NATURAL GAS FIRED	585 MMBTU/HR	0.033 LB/MMBTU	STEAM INJECTION AND SCR	94	BACT-PSD
NORTHERN NATURAL GAS COMPANY	IA	Sep-90	ENGINE, COMPRESSOR	4,000 HP	1.8 G/B-HP-H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
NORTHERN NATURAL GAS COMPANY	IA	Sep-90	ENGINE, COMPRESSOR, 2	2,000 HP EACH	1.8 G/B-HP-H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
TBG COGEN COGENERATION PLANT	NY	Aug-90	GE LM2500 GAS TURBINE	215 MMBTU/HR	75 PPM + FBN CORRECTION	WATER INJECTION	80	BACT
PEPCO - CHALK POINT PLANT	MD	Jun-90	TURBINE, 105 MW NATURAL GAS FIRED ELECTRIC	105 MW	77 PPM @ 15% O2	DRY PREMIX AND WATER INJECTION	0	BACT-PSD
PEPCO - CHALK POINT PLANT	MD	Jun-90	TURBINE, 84 MW NATURAL GAS FIRED ELECTRIC	84 MW	25 PPM @ 15% O2	QUIET COMBUSTION AND WATER INJECTION	0	BACT-PSD
PACIFIC GAS TRANSMISSION COMPANY	OR	Jun-90	TURBINE, GAS, COMPRESSOR STATION	110 MMBTU/HR	199 PPM @ 15% O2	LOW NOX BURNER DESIGN	30	NSPS
PEPCO - STATION A	MD	May-90	TURBINE, 124 MW NATURAL GAS FIRED	125 MW	42 PPM @ 15% O2	WATER INJECTION	0	BACT-PSD
PEDRICKTOWN COGENERATION LIMITED PARTNERSHIP	NJ	Feb-90	TURBINE, NATURAL GAS FIRED	1,000 MMBTU/HR	0.044 LB/MMBTU	STEAM INJECTION AND SCR	93	BACT-PSD
SC ELECTRIC AND GAS COMPANY - HAGOOD STATION	SC	Dec-89	INTERNAL COMBUSTION TURBINE	110 MEGAWATTS	308 LBS/HR	WATER INJECTION	0	BACT-PSD
PEABODY MUNICIPAL LIGHT PLANT	MA	Nov-89	TURBINE, 36 MW NATURAL GAS FIRED	412 MMBTU/HR	25 PPM @ 15% O2	WATER INJECTION	0	BACT-OTHER
PACIFIC GAS TRANSMISSION	OR	Nov-89	TURBINE, NAT. GAS	14,800 HP	42 PPM @ 15% O2	LOW NOX BURNERS	75	BACT-PSD
SOUTHERN MARYLAND ELECTRIC COOPERATIVE (SMECO)	MD	Oct-89	TURBINE, NATURAL GAS FIRED ELECTRIC	90 MW	199 LB/HR	WATER INJECTION	0	BACT-PSD
KINGSBURG ENERGY SYSTEMS	CA	Sep-89	TURBINE, NATURAL GAS FIRED, DUCT BURNER	35 MW	6 PPM @ 15% O2	SCR, STEAM INJECTION	90	BACT-PSD
MEGAN-RACINE ASSOCIATES, INC	NY	Aug-89	GE LM5000-N COMBINED CYCLE GAS TURBINE	401 LB/MMBTU	42 PPMVD @ 15% O2	WATER INJECTION	60	BACT

Note: PSD= Prevention of Significant Deterioration
BACT= Best Available Control Technology
LAER= Lowest Achievable Emission Rate

Table 3. Summary of Best Available Control Technology (BACT) Determinations for Carbon Monoxide (CO) Emissions

Facility Name	State	Permit Issue Date	Unit/Process Description	Capacity (size)	CO Emission Limit	Control Method	Efficiency (%)	Type
ODEC LOUISA COUNTY	VA	Mar-03	SIMPLE CYCLE GAS FIRED TURBINE	1624.00 MMBTU/H	9 PPMV@15%O2	GOOD COMBUSTION WITH CEMS	0	NSPS
CHICK MARSH RUN	VA	Feb-03	4-GAS FIRED SIMPLE CYCLE TURBINES	1624.00 MMBTU/H	9 PPMV@15%O2	GOOD COMBUSTION AND CLEAN BURNING FUEL	0	NSPS
CHICKAHOMINY POWER	VA	Jan-03	4-GAS FIRED SIMPLE CYCLE TURBINES	1862.00 MMBTU/H	4 LB/H	GOOD COMBUSTION AND CLEAN BURNING FUEL	0	BACT-PSD
COMPETITIVE POWER VENTURES	VA	Sep-02	2-GAS FIRED TURBINES	2132.00 MMBTU/H	2 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
WHITE OAK POWER	VA	Aug-02	4-GAS FIRED TURBINES	1731.00 MMBTU/H	8 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
CALPINE AUBURNDALE	FL	Apr-01	NATURAL GAS FIRED TURBINE		10 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
PERRYVILLE POWER	LA	Mar-02	NATURAL GAS FIRED TURBINE		9 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
SOUTHERN INDIANA GAS & ELECTRIC	IN	Nov-01	NATURAL GAS FIRED TURBINE	1145.00 MMBTU/H	25 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
EL PASO MERCHANT ENERGY MANATEE	FL	Sep-01	2-GAS FIRED TURBINES	175.00 MW	7.4 PPMV@15%O2	COMBUSTION CONTROLS	0	BACT-PSD
EL PASO MERCHANT ENERGY BELLE GLADE	FL	Aug-01	2-GAS FIRED TURBINES	1.79 MMSCFH/R	7 PPMV@15%O2	COMBUSTION CONTROLS	0	BACT-PSD
EL PASO MERCHANT ENERGY BROWARD COUNTY	FL	Aug-01	3-GAS FIRED TURBINES	1.79 MMSCFH/R	7 PPMV@15%O2	COMBUSTION CONTROLS	0	BACT-PSD
PAMPANO BEACH ENERGY	FL	Aug-01	3-GAS FIRED TURBINES	1.91 MMSCFH/R	9 PPMV@15%O2	COMBUSTION CONTROLS	0	BACT-PSD
DEERFIELD BEACH	FL	Jul-01	3-GAS FIRED TURBINES	1.91 MMSCFH/R	9 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
RENAISSANCE POWER, LLC	MI	Jun-01	4-GAS FIRED SIMPLE CYCLE TURBINES	170.00 MW	15 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
MIRANT SUGAR CREEK	IN	May-01	4-GAS FIRED TURBINES	170.00 MW	9 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
PSEG WATERFORD	OH	Mar-01	3-GAS FIRED TURBINES	170.00 MW	33 LB/H	NO CONTROLS	0	BACT-PSD
PINE BLUFF ENERGY	AR	Feb-01	GAS FIRED TURBINE	170.00 MW	7 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
TENASKA ALABAMA PARTNERS, LP	AL	Jan-01	3-GAS FIRED TURBINES	170.00 MW	0.0284 LB/MMBTU	EFFICIENT COMBUSTION	0	BACT-PSD
PEACE RIVER POWER	FL	Dec-00	3-GAS FIRED TURBINES	170.00 MW	8 PPMV@15%O2	COMBUSTION DESIGN	0	BACT-PSD
CLECO MIDSTREAM/PERRYVILLE	LA	Aug-00	4-NG FIRED TURBINES		9 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
GRANITE POWER HARDEE	FL	Aug-00	3-NG FIRED TURBINES	1596.00 MMBTU/H	18 PPMV@15%O2	COMBUSTION CONTROLS	0	BACT-PSD
VIRGINIA POWER-CAROLINE	VA	Jul-00	5-NATURAL GAS SIMPLE CYCLE TURBINES	1760.00 MMBTU/H	9 PPMV@15%O2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
FLORIDA POWER & LIGHT MARTIN	FL	Jul-00	2-NATURAL GAS FIRED SIMPLE CYCLE TURBINE	1860.00 MMBTU/H	9 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
IPS DESOTO	FL	Jun-00	3-NATURAL GAS TURBINES	1612.00 MMBTU/H	12 PPMV@15%O2	COMBUSTION CONTROLS	0	BACT-PSD
RELANT ENERGY HOPE	RI	May-00	2-NATURAL GAS TURBINES	166.00 MW	16 PPMV@15%O2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
DORWELL LIMITED	VA	Apr-00	NATURAL GAS TURBINE	1752.00 MMBTU/H	7 PPMV@15%O2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
SANTEEC COOPER RAINCY	SC	Apr-00	2-NATURAL GAS TURBINES	170.00 MW	2 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
IPS SHADY HILL	FL	Jan-00	3-NATURAL GAS TURBINES	1612.00 MMBTU/H	12 PPMV@15%O2	PIPELINE NATURAL GAS, GOOD COMBUSTION	0	BACT-PSD
IPS VANDOLAH POWER	FL	Dec-99	NATURAL GAS SIMPLE CYCLE TURBINE	170.00 MW	12 PPMV@15%O2	PIPELINE NATURAL GAS, GOOD COMBUSTION	0	BACT-PSD
CANE ISLAND POWER PARK	FL	Nov-99	NATURAL GAS TURBINE	1696.00 MMBTU/H	12 PPMV@15%O2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
TECO POLK POWER STATION	FL	Oct-99	2-NATURAL GAS TURBINES	165.00 MW	12 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
			2-NATURAL GAS TURBINES	100.00 MW	50 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
KANSAS CITY POWER & LIGHT	MO	Aug-99	NATURAL GAS TURBINE	140.00 MW	15 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
VIRGINIA POWER-REMGINTON	VA	Jun-99	5-NATURAL GAS SIMPLE CYCLE TURBINES	1761.00 MMBTU/H	9 PPMV@15%O2	GOOD COMBUSTION	0	NSPS
SOUTHERN ENERGY	WI	Feb-99	2-175 MW NATURAL GAS TURBINES	175.00 MW	12 PPMV@15%O2	GOOD COMBUSTION	0	BACT-PSD
TENASKA GEORGIA PARTNERS, LP	GA	Dec-98	6-160 MW GAS FIRED TURBINES	160 MW	15,000 PPMV @15%O2	GOOD COMBUSTION	0	BACT-PSD
BUCKNELL UNIVERSITY	PA	Nov-97	NG FIRED TURBINE, SOLAR TAURUS T-7300S	5 MW	50 PPMV@15%O2	GOOD COMBUSTION	0	BACT-OTHER
LORDSBURG L.P.	NM	Jun-97	TURBINE, NATURAL GAS-FIRED, ELEC. GEN.	100 MW	27 LB/S-HR	DRY LOW-NOX TECHNOLOGY BY MAINTAINING PROPER AIR- FUEL RATIO.	0	BACT-PSD
MEAD COATED BOARD, INC.	AL	Mar-97	COMBINED CYCLE TURBINE (25 MW)	568 MMBTU/H	28 PPMV@15% O2 (GAS)	PROPER DESIGN AND GOOD COMBUSTION PRACTICES	0	BACT-PSD
FORMOSA PLASTICS CORPORATION, BATON ROUGE PLANT	LA	Mar-97	TURBINE/HSRG, GAS COGENERATION	450 MM BTU/H	70 LB/H	COMBUSTION DESIGN AND CONSTRUCTION.	0	BACT-PSD
SOUTHWESTERN PUBLIC SERVICE COMPANY/CUNNINGHAM STA	NM	Feb-97	COMBUSTION TURBINE, NATURAL GAS	100 MW	0 SEE FACILITY NOTES	GOOD COMBUSTION PRACTICES	0	BACT-PSD
SOUTHWESTERN PUBLIC SERVICE CO/CUNNINGHAM STATION	NM	Nov-96	COMBUSTION TURBINE, NATURAL GAS	100 MW	0 SEE P2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
ECONETRIC, L.P.	PR	Oct-96	TURBINES, COMBINED-CYCLE COGENERATION	461 MW	33 PPMV/D	COMBUSTION CONTROLS.	0	BACT-PSD
ECOELECTRICA, L.P.	PR	Oct-96	TURBINES, COMBINED-CYCLE COGENERATION	461 MW	100 PPMV AT MIN. LOAD	COMBUSTION CONTROLS.	0	BACT-PSD
						OXIDATION CATALYST 16 PPM @ 15% O2 WHEN FIRING NO. 2 OIL. AT 75% NG LIMIT SET TO 22.1 PPM	80	OTHER
BLUE MOUNTAIN POWER, LP	PA	Jul-96	COMBUSTION TURBINE WITH HEAT RECOVERY BOILER	153 MW	3.1 PPM @ 15% O2	GOOD COMBUSTION OPERATING PRACTICES	0	BACT/NSPS
COMMONWEALTH CHESAPEAKE CORPORATION	VA	May-96	3 COMBUSTION TURBINES (OIL-FIRED)	6,000 HRS/YR	96 TPY	GOOD COMBUSTION AND EMISSIONS NOT TO EXCEED 40 PPMV/D AT 15% OXYGEN.	0	BACT-PSD
PORTSIDE ENERGY CORP.	IN	May-96	TURBINE, NATURAL GAS-FIRED	63 MEGAWATT	40 LB/S-HR	GOOD COMBUSTION AND EMISSIONS NOT TO EXCEED 10 PPMV/D AT 15% OXYGEN.	0	BACT-PSD
PORTSIDE ENERGY CORP.	IN	May-96	TURBINE, NATURAL GAS-FIRED	63 MEGAWATT	12 LB/S-HR	GOOD COMBUSTION PRACTICES TO MINIMIZE EMISSIONS	0	BACT-PSD
GENERAL ELECTRIC GAS TURBINES	SC	Apr-96	I.C. TURBINE	2,700 MMBTU/H	27,169 LB/H	COMBUSTION CONTROL	0	BACT-PSD
CAROLINA POWER & LIGHT	NC	Apr-96	COMBUSTION TURBINE, 4 EACH	1,908 MMBTU/H	81 LB/H	COMBUSTION CONTROL	0	BACT-PSD
CAROLINA POWER & LIGHT	NC	Apr-96	COMBUSTION TURBINE, 4 EACH	1,908 MMBTU/H	80 LB/H	COMBUSTION CONTROL	0	BACT-PSD
SOUTH MISSISSIPPI ELECTRIC POWER ASSOC.	MS	Apr-96	COMBUSTION TURBINE, COMBINED CYCLE	1,299 MMBTU/H NAT GAS	26.3 PPM @ 15% O2, GAS	GOOD COMBUSTION CONTROLS	0	BACT-PSD
MID-GEORGIA COGEN.	GA	Apr-96	COMBUSTION TURBINE (2). FUEL OIL	116 MW	30 PPMV/D	COMPLETE COMBUSTION	0	BACT-PSD
MID-GEORGIA COGEN.	GA	Apr-96	COMBUSTION TURBINE (2). NATURAL GAS	116 MW	10 PPMV/D	COMPLETE COMBUSTION	0	BACT-PSD
GEORGIA GULF CORPORATION	LA	Mar-96	GENERATOR, NATURAL GAS FIRED TURBINE	1,123 MM BTU/H	972 TPY CAP FOR 3 TURB.	GOOD COMBUSTION PRACTICE AND PROPER OPERATION	0	BACT-PSD
SEMINOLE HARDEE UNIT 3	FL	Jan-96	COMBINED CYCLE COMBUSTION TURBINE	140 MW	140 PPM (NAT. GAS)	DRY LOW GOOD COMBUSTION PRACTICES	66	BACT-PSD
KEY WEST CITY ELECTRIC SYSTEM	FL	Sep-95	TURBINE, EXISTING CT RELOCATION TO A NEW PLANT	23 MW	20 PPM @ 15% O2 FULL LD	GOOD COMBUSTION	0	BACT-PSD
UNION CARBIDE CORPORATION	LA	Sep-95	GENERATOR, GAS TURBINE	1,313 MM BTU/H	199 LB/H	NO ADD-ON CONTROL GOOD COMBUSTION PRACTICE	0	BACT-PSD
						MAINTAIN EACH TURBINE IN GOOD WORKING ORDER AND IMPLEMENT GOOD COMBUSTION PRACTICES.	0	BACT-PSD
PUERTO RICO ELECTRIC POWER AUTHORITY (PREPA)	PR	Jul-95	COMBUSTION TURBINES (3), 83 MW SIMPLE-CYCLE EACH	246 MW	20 LB/H	GOOD COMBUSTION PRACTICES.	0	BACT-PSD
PUERTO RICO ELECTRIC POWER AUTHORITY (PREPA)	PR	Jul-95	COMBUSTION TURBINES (3), 83 MW SIMPLE-CYCLE EACH	246 MW	104 LB/H	GOOD COMBUSTION PRACTICES.	0	BACT-PSD
BROOKLYN NAVY YARD COGENERATION PARTNERS L.P.	NY	Jun-95	TURBINE, NATURAL GAS FIRED	240 MW	4 PPM @ 15% O2	COMBUSTION CONTROLS STANDARD ONLY APPLIES IF GE CT IS SELECTED, THE ABB CT WAS LESS THAN SIGNIFICANT EMIS. INCR FOR CO	0	LAER
PANDA-KATHLEEN, L.P.	FL	Jun-95	COMBINED CYCLE COMBUSTION TURBINE (TOTAL 115MW)	75 MW	25 PPM @ 15% O2		0	BACT-PSD
MILGRO, WILLIAMS FIELD SERVICE	NM	May-95	TURBINE/COGEN NATURAL GAS (2)	800 MM BTU/DAY	28 PPM @ 15% O2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
LEDERLE LABORATORIES	NY	Apr-95	(2) GAS TURBINES (EP #S 00101A,102)	110 MMBTU/H	48 PPM, 12.5 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-OTHER
PILGRIM ENERGY CENTER	NY	Apr-95	(2) WESTINGHOUSE W50105 TURBINES (EP #S 00001&2)	1,400 MMBTU/H	10 PPM, 29.0 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-OTHER
BALTIMORE GAS & ELECTRIC - PERRYMAN PLANT	MD	Mar-95	TURBINE, 140 MW NATURAL GAS FIRED ELECTRIC	140 MW	20 PPM @ 15% O2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
FORMOSA PLASTICS CORPORATION, LOUISIANA	LA	Mar-95	TURBINE/HSRG, GAS COGENERATION	450 MM BTU/H	26 LB/H	PROPER OPERATION	0	BACT-PSD
EMPIRE DISTRICT ELECTRIC CO.	MO	Feb-95	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	89 MW	428 TPY	GOOD COMBUSTION CONTROL	0	BACT-PSD
MARATHON OIL CO. - INDIAN BASIN N.G. PLAN	MA	Jan-95	TURBINES, NATURAL GAS (2)	5,566 HP	13 LB/H	LEAN PREMIXED COMBUSTION TECHNOLOGY.	66	BACT-PSD
KAMINE/BESICORP SYRACUSE LP	NY	Dec-94	SIEMENS V64.3 GAS TURBINE (EP #00001)	650 MMBTU/H	9.5 PPM	NO CONTROLS	0	BACT-OTHER
INDECK-OSWEGO ENERGY CENTER	NY	Oct-94	GE FRAME 6 GAS TURBINE	533 LB/MMBTU	10 PPM, 10.00 LB/H	NO CONTROLS	0	BACT-OTHER
FULTON COGEN PLANT	NY	Sep-94	GE LM5000 GAS TURBINE	500 MMBTU/H	107 PPM, 120 LB/H	NO CONTROLS	0	BACT-OTHER
CAROLINA POWER AND LIGHT	SC	Aug-94	STATIONARY GAS TURBINE	1,520 MMBTU/H	702 LB/H	PROPER OPERATION TO ACHIEVE GOOD COMBUSTION	0	BACT-PSD
CAROLINA POWER AND LIGHT	SC	Aug-94	STATIONARY GAS TURBINE	1,520 MMBTU/H	414 LB/H	PROPER OPERATION TO ACHIEVE GOOD COMBUSTION	0	BACT-PSD
SNYDER OIL CORPORATION-RIVERTON OOME GAS PLANT	WY	Jul-94	NATURAL GAS-FIRED COMPRESSOR ENGINE	520 HORSEPOWER	1.7 LB/S-HR	GOOD COMBUSTION	0	BACT
SNYDER OIL CORPORATION-RIVERTON OOME GAS PLANT	WY	Jul-94	2 GAS-FIRED GENERATOR ENGINES	385 HORSEPOWER	1.3 LB/S-HR	GOOD COMBUSTION	0	BACT
SNYDER OIL CORPORATION-RIVERTON OOME GAS PLANT	WY	Jul-94	1 GAS-FIRED GENERATOR ENGINE	577 HORSEPOWER	1.9 LB/S-HR	GOOD COMBUSTION	0	BACT
COLORADO POWER PARTNERSHIP	CO	Jul-94	TURBINES, 2 NAT GAS & 2 DUCT BURNERS	385 MMBTU/H EACH TURBINE	22 PPM @ 15% O2		0	BACT-PSD
MUDDY RIVER L.P.	NV	Jun-94	COMBUSTION TURBINE, DIESEL & NATURAL GAS	140 MEGAWATT	77 LB/H	FUEL SPEC: NATURAL GAS	0	BACT-PSD
CSW NEVADA, INC.	NV	Apr-94	COMBUSTION TURBINE, DIESEL & NATURAL GAS	140 MEGAWATT	83 LB/H	FUEL SPEC: NATURAL GAS	0	BACT-PSD
PORTLAND MERCHANT ELECTRIC CO.	OR	May-94	TURBINES, NATURAL GAS (2)	1,720 MMBTU	15 PPM @ 15% O2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
EMPIRE DISTRICT ELECTRIC CO.	MO	May-94	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	1,345 MMBTU/H	120 TPY	NONE	0	BACT-PSD
EMPIRE DISTRICT ELECTRIC CO.	MO	May-94	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	1,345 MMBTU/H	1290 TPY	NONE	0	BACT-PSD
NAVY PUBLIC WORKS CENTER	VA	May-94	1 EMERGENCY GENERATOR	1,500 KW	14.4 TPY	RETARD TIMING 6 DEGREES	0	NSPS
WEST CAMPUS COGENERATION COMPANY	TX	May-94	GAS TURBINES	75 MW (TOTAL POWER)	300 TPY	INTERNAL COMBUSTION CONTROLS	0	BACT-PSD
HERMISTON GENERATING CO.	OR	Apr-94	TURBINES, NATURAL GAS (2)	1,656 MMBT	15 PPM @ 15% O2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
FLORIDA POWER CORPORATION POLK COUNTY SITE	FL	Feb-94	TURBINE, NATURAL GAS (2)	1,510 MMBTU/H	25 PPMV/D	GOOD COMBUSTION PRACTICES	0	BACT-PSD
FLORIDA POWER CORPORATION POLK COUNTY SITE	FL	Feb-94	TURBINE, FUEL OIL (2)	1,730 MMBTU/H	30 PPMV/D	GOOD COMBUSTION PRACTICES	0	BACT-PSD
TECO POLK POWER STATION	FL	Feb-94	TURBINE, SYNGAS (COAL GASIFICATION)	1,755 MMBTU/H	25 PPMV/D	GOOD COMBUSTION	0	BACT-PSD
TECO POLK POWER STATION	FL	Feb-94	TURBINE, FUEL OIL	1,765 MMBTU/H	40 PPMV/D	GOOD COMBUSTION	0	BACT-PSD
INTERNATIONAL PAPER	FL	Feb-94	TURBINE/HSRG, GAS COGEN	338 MM BTU/H TURBINE	166 LB/H	COMBUSTION CONTROL	0	BACT
KAMINE/BESICORP CARTHAGE L.P.	NY	Jan-94	GE FRAME 6 GAS TURBINE	491 BTU/H	10 PPM, 11.0 LB/H	NO CONTROLS	0	BACT-OTHER

Table 3. Summary of Best Available Control Technology (BACT) Determinations for Carbon Monoxide (CO) Emissions

Facility Name	State	Permit Issue Date	Unit/Process Description	Capacity (size)	CO Emission Limit	Control Method	Efficiency (%)	Type
ORANGE COGENERATION LP	FL	Dec-93	TURBINE, NATURAL GAS, 2	368 MMBTUHR	30 PPMVD	GOOD COMBUSTION	0	BACT-PSD
PROJECT ORANGE ASSOCIATES	NY	Dec-93	GE LM-5000 GAS TURBINE	550 MMBTUHR	92 LB/MR TEMP > 20F	NO CONTROLS	0	BACT-OTHER
WILLIAMS FIELD SERVICES CO. - EL CEDRO COMPRESSOR	NM	Oct-93	TURBINE, GAS-FIRED	11,297 HP	50 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
PAT O'MACK POWER PARTNERS, LIMITED PARTNERSHIP	SD	Dec-93	TURBINE, COMBUSTION, SIEMENS MODEL V84.2, 3	10.2 X109 SCFY/NR NAT GAS	26 LB/MR	GOOD COMBUSTION OPERATING PRACTICES	0	BACT-PSD
FLORIDA GAS TRANSMISSION COMPANY	AL	Aug-93	TURBINE, NATURAL GAS	12,600 BHP	0.42 GM/HP HR	AIR-TO-FUEL RATIO CONTROL, DRY COMBUSTION CONTROLS	0	BACT-PSD
LOCKPORT COGEN FACILITY	NY	Jul-93	(6) GE FRAME 6 TURBINES (EP #S 00001-00006)	424 MMBTUHR	10 PPM	NO CONTROLS	0	BACT-OTHER
ANITEC COGEN PLANT	NJ	Jul-93	GE LM5000 COMBINED CYCLE GAS TURBINE EP #00001	451 MMBTUHR	36 PPM, 33 LB/MR	BAFFLE CHAMBER	80	SEE NOTE #4
NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NY	Jun-93	TURBINES, COMBUSTION, KEROSENE-FIRED (2)	640 MMBTUHR (EACH)	2.8 PPMOV	OXIDATION CATALYST	0	OTHER
NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NJ	Jun-93	TURBINES, COMBUSTION, NATURAL GAS-FIRED (2)	617 MMBTUHR (EACH)	1.8 PPMOV	OXIDATION CATALYST	0	OTHER
PSI ENERGY, INC. WABASH RIVER STATION	IN	May-93	COMBINED CYCLE SYNGAS TURBINE	1,775 MMBTUHR	15 LESS THAN PPM	SYNGAS TURBINE	0	BACT-PSD
TIGER BAY LP	FL	May-93	TURBINE, OIL	1,850 MMBTUH	98.4 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
TIGER BAY LP	FL	May-93	TURBINE, GAS	1,815 MMBTUH	49 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
INDECK ENERGY COMPANY	NY	May-93	GE FRAME 6 GAS TURBINE EP #00001	491 MMBTUHR	40 PPM, 11.0 LB/MR	NO CONTROLS	0	BACT-OTHER
TRIGEN MITCHELL FIELD	NY	Apr-93	GE FRAME 6 GAS TURBINE	425 MMBTUHR	10 PPM, 10.0 LB/MR	NO CONTROLS	0	BACT-OTHER
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, FUEL OIL	528 MMBTUH	65 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, FUEL OIL	371 MMBTUH	78 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, NATURAL GAS	869 MMBTUH	54 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, NATURAL GAS	367 MMBTUH	40 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
EAST KENTUCKY POWER COOPERATIVE	NY	Mar-93	TURBINES (5), #2 FUEL OIL, AND NAT. GAS FIRED	1,492 MMBTUH (EACH)	75 LB/MH (EACH)	PROPER COMBUSTION TECHNIQUES	0	BACT-OTHER
INTERNATIONAL PAPER CO. RIVERDALE MILL	AL	Jan-93	TURBINE, STATIONARY (GAS-FIRED) WITH DUCT BURNER	40 MW	22 LB/MR	DESIGN	0	BACT-PSD
AUBURNDALE POWER PARTNERS, LP	FL	Dec-92	TURBINE, OIL	1,170 MMBTUH	25 PPMVD	GOOD COMBUSTION PRACTICES	0	BACT-PSD
AUBURNDALE POWER PARTNERS, LP	FL	Dec-92	TURBINE, GAS	1,214 MMBTUH	15 PPMVD	GOOD COMBUSTION PRACTICES	0	BACT-PSD
SITHENDEPENDENCE POWER PARTNERS	NY	Nov-92	TURBINES, COMBUSTION (4) (NATURAL GAS) (1012 MW)	2,133 MMBTUHR (EACH)	13 PPM	COMBUSTION CONTROLS	0	BACT-OTHER
KAMINGBESICORP BEAVER FALLS COGENERATION FACILITY	NY	Nov-92	TURBINE, COMBUSTION (NAT. GAS & OIL FUEL) (76MW)	650 MMBTUHR	9.5 PPM	COMBUSTION CONTROLS	0	BACT-OTHER
GRAY'S FERRY CO. GENERATION PARTNERSHIP	PA	Nov-92	TURBINE (NATURAL GAS & OIL)	1,150 MMBTU	0.0055 LB/MMBTU (GAS)*	COMBUSTION	0	BACT-OTHER
BEAR ISLAND PAPER COMPANY, L.P.	VA	Oct-92	TURBINE, COMBUSTION GAS	468 X10(5) BTU/MR #2 OIL	11 LBSS/MR	GOOD COMBUSTION	0	BACT-PSD
BEAR ISLAND PAPER COMPANY, L.P.	VA	Oct-92	TURBINE, COMBUSTION GAS (TOTAL)	0	48 TYP	GOOD COMBUSTION	0	BACT-PSD
BEAR ISLAND PAPER COMPANY, L.P.	VA	Oct-92	TURBINE, COMBUSTION GAS	474 X10(5) BTU/MR N. GAS	11 LBSS/MR	GOOD COMBUSTION	0	BACT-PSD
PHILADELPHIA SOUTHWEST WATER TREATMENT PLANT	PA	Oct-92	ENGINES (2) (NATURAL GAS)	443 KW (EACH)	0	LEAN BURN ENGINE	0	OTHER
PHILADELPHIA SOUTHWEST WATER TREATMENT PLANT	PA	Oct-92	ENGINES (3) (NATURAL GAS)	443 KW (EACH)	0	LEAN BURN ENGINE	0	OTHER
GORDONVILLE ENERGY, L.P.	VA	Dec-92	TURBINE FACILITY, GAS	7.44 X10(7) GPPY FUEL OIL	250 TOTAL TYP	GOOD COMBUSTION PRACTICES	0	BACT-PSD
GORDONVILLE ENERGY, L.P.	VA	Dec-92	TURBINES (2) (EACH WITH A SF)	1.38 X10(9) BTU/MR #2 OIL	68 LBSS/MR/UNIT	GOOD COMBUSTION PRACTICES	0	BACT-PSD
GORDONVILLE ENERGY, L.P.	VA	Dec-92	TURBINE FACILITY, GAS	1,331 X10(7) SCFY NAT GAS	250 TOTAL TYP	GOOD COMBUSTION PRACTICES	0	BACT-PSD
GORDONVILLE ENERGY, L.P.	VA	Dec-92	TURBINES (2) (EACH WITH A SF)	1.51 X10(9) BTU/MR N GAS	57 LBSS/MR/UNIT	GOOD COMBUSTION PRACTICES	0	BACT-PSD
NEVADA POWER COMPANY, HARRY ALLEN PEAKING PLANT	NV	Dec-92	COMBUSTION TURBINE ELECTRIC POWER GENERATION	600 MW (6 UNITS 75 EACH)	153 TYP (EACH TURBINE)	PRECISION CONTROL FOR THE LOW NOX COMBUSTOR	0	BACT-PSD
KAMINE SOUTH OLENS FALLS COGEN CO	NY	Dec-92	GE FRAME 6 GAS TURBINE (EP #00001)	491 MMBTUHR	40 PPM, 11.0 LB/MR	NO CONTROLS	0	BACT-OTHER
NORTHERN STATES POWER COMPANY	SD	Dec-92	TURBINE, SIMPLE CYCLE, 4 EACH	129 MW	50 PPM FOR GAS	GOOD COMBUSTION TECHNIQUES	0	BACT-PSD
PASNYHOLTSVILLE COMBINED CYCLE PLANT	NY	Dec-92	TURBINE, COMBUSTION GAS (150 MW)	1,146 MMBTUHR (GAS)*	8.5 PPM	COMBUSTION CONTROL	0	BACT-OTHER
WEPCU, PARIS SITE	NY	Aug-92	TURBINES, COMBUSTION (4)	0	25 LBSS/MR (SEE NOTES)	COMBUSTION CONTROL	0	BACT-PSD
FLORIDA POWER CORPORATION	FL	Aug-92	TURBINE, OIL	1,029 MMBTUH	54 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
FLORIDA POWER CORPORATION	FL	Aug-92	TURBINE, OIL	1,866 MMBTUH	79 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
CMS TRANSMISSION	OH	Aug-92	TURBINE (NATURAL GAS) (3)	5,500 HP (EACH)	0.01 GM/HP-HR	FUEL SPEC: USE OF NATURAL GAS	0	OTHER
SARANAC ENERGY COMPANY	NY	Jul-92	TURBINES, COMBUSTION (2) (NATURAL GAS)	1,123 MMBTUHR (EACH)	3 PPM	OXIDATION CATALYST	0	BACT-OTHER
HARTWELL ENERGY LIMITED PARTNERSHIP	GA	Jul-92	TURBINE, OIL FIRED (2 EACH)	1,840 M BTUHR	25 PPMVD @ FULL LOAD	FUEL SPEC: CLEAN BURNING FUELS	0	BACT-PSD
MAUI ELECTRIC COMPANY, LTD./MAALAEA GENERATING STA	HI	Jul-92	TURBINE, COMBINED-CYCLE COMBUSTION	28 MW	27 LB/MR	COMBUSTION TECHNOLOGY/DESIGN	0	BACT-OTHER
HARTWELL ENERGY LIMITED PARTNERSHIP	GA	Jul-92	TURBINE, GAS FIRED (2 EACH)	1,817 M BTUHR	25 PPMVD @ FULL LOAD	FUEL SPEC: CLEAN BURNING FUELS	0	BACT-PSD
INDECK-YERKES ENERGY SERVICES	NY	Jun-92	GE FRAME 6 GAS TURBINE (EP #00001)	432 MMBTUHR	10 PPM, 10 LB/MR	COMBUSTION DESIGN	0	BACT-PSD
SELKIRK COGENERATION PARTNERS, L.P.	NY	Jun-92	COMBUSTION TURBINES (2) (252 MW)	1,173 MMBTUHR (EACH)	10 PPM	COMBUSTION CONTROLS	0	BACT-OTHER
SELKIRK COGENERATION PARTNERS, L.P.	NY	Jun-92	COMBUSTION TURBINE (79 MW)	1,173 MMBTUHR	25 PPM	COMBUSTION CONTROL	0	BACT-OTHER
TENASKA WASHINGTON PARTNERS, L.P.	WA	May-92	COGENERATION PLANT, COMBINED CYCLE	1.83 MMBTUHR	20 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
NARRAGANSETT ELECTRIC/NEW ENGLAND POWER CO.	RI	Apr-92	TURBINE, GAS AND DUCT BURNER	1,360 MMBTUHR EACH	11 PPM @ 15% O2, GAS	COMBUSTION CONTROL	0	BACT-PSD
KENTUCKY UTILITIES COMPANY	NY	Mar-92	TURBINE, #2 FUEL OIL/NATURAL GAS (8)	1,500 MM BTUHR (EACH)	75 LB/MR (EACH)	COMBUSTION CONTROL	0	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION	1,175 MMBTUHR NAT. GAS	62 LB/MR/UNIT	FURNACE DESIGN	91	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION	1,117 MMBTUHR NO2 FUEL OIL	62 LB/MR/UNIT	FURNACE DESIGN	91	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION, 2	0	229 TYP/UNIT	COMBUSTION CONTROL	0	BACT-PSD
THERMO INDUSTRIES, LTD.	CO	Feb-92	TURBINE, GAS FIRED, 5 EACH	246 MMBTUH	25 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
HAWAII ELECTRIC LIGHT CO., INC.	HI	Feb-92	TURBINE, FUEL OIL #2	20 MW	27 LB/MR @ 100% PEAKLD	COMBUSTION DESIGN	0	BACT-PSD
HAWAII ELECTRIC LIGHT CO., INC.	HI	Feb-92	TURBINE, FUEL OIL #2	20 MW	56 LB/H @ 75-100% PKLD	COMBUSTION DESIGN	0	BACT-PSD
HAWAII ELECTRIC LIGHT CO., INC.	HI	Feb-92	TURBINE, FUEL OIL #2	20 MW	181 LB/H @ 50-75% PKLD	COMBUSTION DESIGN	0	BACT-PSD
HAWAII ELECTRIC LIGHT CO., INC.	HI	Feb-92	TURBINE, FUEL OIL #2	20 MW	476 LB/H @ 25-50% PKLD	COMBUSTION DESIGN	0	BACT-PSD
SAVANNAH ELECTRIC AND POWER CO	GA	Feb-92	TURBINES, 8	1,032 MMBTUH, NAT GAS	9 PPM @ 15% O2	FUEL SPEC: LOW SULFUR FUEL OIL	0	BACT-PSD
SAVANNAH ELECTRIC AND POWER CO.	GA	Feb-92	TURBINES, 8	972 MMBTUH, #2 OIL	9 PPM @ 15% O2	FUEL SPEC: LOW SULFUR FUEL OIL	0	BACT-PSD
KAMINGBESICORP NATURAL, DAM LP	NY	Dec-91	GE FRAME 6 GAS TURBINE	506 MMBTUHR	0.02 LB/MMBTU, 10 LB/MR	COMBUSTION CONTROL	0	BACT-OTHER
DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	NC	Dec-91	TURBINE, COMBUSTION	1,247 MM BTUHR	60 LB/MR	COMBUSTION CONTROL	0	BACT-PSD
DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	NC	Dec-91	TURBINE, COMBUSTION	1,313 MM BTUHR	59 LB/MR	COMBUSTION CONTROL	0	BACT-PSD
MAUI ELECTRIC COMPANY, LTD.	HI	Dec-91	TURBINE, FUEL OIL #2	28 MW	0 SEE NOTES	GOOD COMBUSTION PRACTICES	0	BACT-PSD
KALAMAZOO POWER LIMITED	MI	Dec-91	TURBINE, GAS-FIRED, 2, W/ WASTE HEAT BOILERS	1,808 MMBTUH	20 PPMV	DRY LOW NOX TURBINES	0	BACT-PSD
LAKE COGEN LIMITED	FL	Nov-91	TURBINE, GAS, 2 EACH	42 MW	78 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
LAKE COGEN LIMITED	FL	Nov-91	TURBINE, GAS, 2 EACH	42 MW	42 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
ORLANDO UTILITIES COMMISSION	FL	Nov-91	TURBINE, GAS, 4 EACH	36 MW	10 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
ORLANDO UTILITIES COMMISSION	FL	Nov-91	TURBINE, OIL, 4 EACH	35 MW	10 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
SOUTHERN CALIFORNIA GAS	CA	Oct-91	TURBINE, GAS-FIRED	48 MMBTUH	7.74 PPM @ 15% O2	HIGH TEMPERATURE OXIDATION CATALYST	80	BACT-PSD
SOUTHERN CALIFORNIA GAS	CA	Oct-91	TURBINE, GAS FIRED, SOLAR MODEL H	5,500 HP	7.74 PPM @ 15% O2	HIGH TEMP OXIDATION CATALYST	80	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, GAS, SOLAR CENTAUR H	5,500 HP	10.5 PPM @ 15% O2	FUEL SPEC: LEAN FUEL MIX	0	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, GAS, SOLAR CENTAUR H	5,500 HP	10.5 PPM @ 15% O2	FUEL SPEC: LEAN FUEL MIX	0	BACT-PSD
FLORIDA POWER GENERATION	FL	Oct-91	TURBINE, OIL, 8 EACH	93 MW	44 LB/M	COMBUSTION CONTROL	0	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, NAT. GAS TRANSM., GE FRAME 3	12,000 HP	60 PPM @ 15% O2	LEAN BURN	0	BACT-PSD
CAROLINA POWER AND LIGHT CO.	SC	Sep-91	TURBINE, I.C.	80 MW	60 LB/H	COMBUSTION CONTROL	0	BACT-PSD
ENRON LOUISIANA ENERGY COMPANY	LA	Aug-91	TURBINE, GAS, 2	39 MMBTUH	60 PPM @ 15% O2	BASE CASE, NO ADDITIONAL CONTROLS	0	BACT-PSD
ALGONQUIN GAS TRANSMISSION CO.	RI	Jul-91	TURBINE, GAS, 2	49 MMBTUH	0.114 LB/MMBTU	GOOD COMBUSTION PRACTICES	0	BACT-OTHER
CHARLES LARSEN POWER PLANT	FL	Jul-91	TURBINE, OIL, 1 EACH	80 MW	25 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
CHARLES LARSEN POWER PLANT	FL	Jul-91	TURBINE, GAS, 1 EACH	80 MW	25 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
SUMAS ENERGY INC.	WA	Jun-91	TURBINE, NATURAL GAS	88 MW	6 PPM @ 15% O2	CO CATALYST	80	BACT-PSD
SAGUARO POWER COMPANY	NV	Jun-91	COMBUSTION TURBINE GENERATOR	34.5 MW	9 PPH	CONVERTER (CATALYTIC)	90	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Jun-91	TURBINE, OIL, 2 EACH	400 MW	33 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Jun-91	TURBINE, GAS, 4 EACH	400 MW	33 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Jun-91	TURBINE, CO, 4 EACH	400 MW	33 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
NORTHERN CONSOLIDATED POWER	PA	May-91	TURBINES, GAS, 2	34.6 KW EACH	110 TYP	OXIDATION CATALYST	90	OTHER
LAKEWOOD COGENERATION, L.P.	NJ	Apr-91	TURBINES (#2 FUEL OIL) (2)	1,190 MMBTUHR (EACH)	0.06 LB/MMBTU	TURBINE DESIGN	0	BACT-OTHER
LAKEWOOD COGENERATION, L.P.	NJ	Apr-91	TURBINES (NATURAL GAS) (2)	1,190 MMBTUHR (EACH)	0.026 LB/MMBTU	TURBINE DESIGN	0	BACT-OTHER
OMARON CHEMICAL	CO	Mar-91	TURBINE #2, GE FRAME 6	33 MW	250 TYP, LESS THAN	CO CATALYST	0	OTHER
FLORIDA POWER AND LIGHT	FL	Mar-91	TURBINE, GAS, 4 EACH	24 MW	30 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Mar-91	TURBINE, OIL, 4 EACH	0	33 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
NEVADA COGENERATION ASSOCIATES #2	NV	Jan-91	COMBINED-CYCLE POWER GENERATION	85 MW POWER OUTPUT	40 LBSS/MR	CATALYTIC CONVERTER	0	BACT-PSD
NEVADA COGENERATION ASSOCIATES #1	NV	Jan-91	COMBINED-CYCLE POWER GENERATION	85 MW TOTAL OUTPUT	40 LBSS/MR	CATALYTIC CONVERTER	0	BACT-PSD
NEWARK BAY COGENERATION PARTNERSHIP	NJ	Nov-90	TURBINE, NATURAL GAS FIRED	585 MMBTUHR	0.0055 LB/MMBTU	CATALYTIC OXIDATION	80	BACT-PSD
TBO COGEN COGENERATION PLANT	NY	Nov-90	GE LM2500 GAS TURBINE	215 MMBTUHR	0.115 LB/MMBTU	CATALYTIC OXIDIZER	80	BACT-PSD
SC ELECTRIC AND GAS COMPANY - HAGOOD STATION	SC	Dec-89	INTERNAL COMBUSTION TURBINE	110 MEGAWATTS	23 LBSS/MR	GOOD COMBUSTION PRACTICES	0	BACT-PSD
PEABODY MUNICIPAL LIGHT PLANT	MA	Nov-89	TURBINE, 38 MW NATURAL GAS FIRED	412 MMBTUHR	40 PPM @ 15% O2	GOOD COMBUSTION PRACTICES	0	BACT-OTHER

Table 3. Summary of Best Available Control Technology (BACT) Determinations for Carbon Monoxide (CO) Emissions

Facility Name	State	Permit Issue Date	Unit/Process Description	Capacity (size)	CO Emission Limit	Control Method	Efficiency (%)	Type
MEGAN-RACINE ASSOCIATES, INC	NY	Aug-89	GE LM5000-N COMBINED CYCLE GAS TURBINE	401 LB/MMBTU	0.026 LB/MMBTU, 11 LB/HR	NO CONTROLS	0	BACT-OTHER
UNOCAL	CA	Jul-89	TURBINE, GAS (SEE NOTES)	0	10 PPM @ 15% O ₂	OXIDATION CATALYST	75	BACT-OTHER

Note: PSD= Prevention of Significant Deterioration
BACT = Best Available Control Technology
LAER= Lowest Achievable Emission Rate