

**SATSOP COMBUSTION TURBINE PROJECT  
GREENHOUSE GAS MITIGATION PLAN**

**APPROVED June 9, 2003**

**By**

**STATE OF WASHINGTON  
ENERGY FACILITY SITE EVALUATION COUNCIL**

**SUBMITTED BY  
DUKE ENERGY GRAYS HARBOR, LLC**

## INTRODUCTION

In 1994, the Washington Public Power Supply System (now "Energy Northwest") filed an application with the Energy Facility Site Evaluation Council (EFSEC or "the Council") to construct a 490 MW combined-cycle combustion turbine project at the Satsop site. After holding an adjudicatory hearing, EFSEC recommended a Site Certification Agreement (SCA) for the Satsop Combustion Turbine Project, and the Governor executed that SCA on May 21, 1996.

The topic of greenhouse gas mitigation was addressed during the adjudicatory hearings in 1996. Evidence indicated that the facility would emit up to 1.778 million tons of greenhouse gases a year. During the hearings, the applicant and the Counsel for the Environment disagreed about whether the Council should require mitigation for those greenhouse gas emissions. Ultimately, the Council decided not to impose a mitigation requirement. The Council found that "the Satsop CT Project uses the latest reasonable technology and that it will produce lower emissions of greenhouse gases than older natural gas combustion turbine facilities or other fossil fuel facilities." Order No. 694 at 13-14.

Among other things, the Council concluded that "[b]urdensome greenhouse gas mitigation . . . could place the Applicant at a competitive disadvantage within the power producing market and deprive the market of a very efficient power producing facility. Balancing the respective interests, and recognizing that emission technology will advance and greenhouse mitigation measures may be enhanced as time passes, the Council will impose no fixed requirement upon the Applicant. . . . If a comprehensive federal or state mitigation program is implemented, the Council reserves the right to exercise its authority under that program . . ." Order No. 694 at 25. Accordingly, the original SCA provided that:

If a comprehensive federal or state mitigation program is implemented, the Council reserves the right to exercise its authority under that program, considering and appropriately crediting any measures that the Certificate Holder has accomplished. SCA Article VI.B.2.

In 2001, the Council added Duke Energy Grays Harbor, LLC ("Duke Energy"), to the SCA as a Certificate Holder, and together Duke Energy and Energy Northwest requested a technical amendment to the SCA to allow the use of currently available equipment in the CT facility. The equipment change resulted in an increase in the facility capacity from 490 MW to approximately 630 MW.

The Council granted the technical amendment on April 13, 2001, by Resolution No. 298. In Resolution No. 298, the Council acknowledged that the increase in the facility's capacity could result in an increase in the facility's carbon dioxide (CO<sub>2</sub>) emissions, and stated that the Council had authority to compel the Certificate Holders to prepare and implement a carbon dioxide mitigation plan. Although the Satsop CT facility now has the potential to emit more than 1.778 million tons of CO<sub>2</sub> per year, under many likely operating scenarios, the actual annual emissions would not exceed the total volume of emissions that the Council and the Governor permitted in 1996 without any mitigation requirement. Both Resolution No. 298 and subsequent discussions with the Council

reflect the Council's intention to require the Certificate Holders to mitigate only those CO<sub>2</sub> emissions that exceed the previously-permitted amount.

Duke Energy has developed this Greenhouse Gas Mitigation Plan over the course of several months, in consultation with Council members and with careful consideration of comments provided by other interested parties. The mitigation plan set forth below is based upon the mitigation plan that the Council approved for the Sumas 2 Generating Facility, which in turn was based upon the mitigation requirements established by Oregon statute and regulations.

In evaluating the mitigation plan, however, it is important to keep in mind that the Satsop CT Project differs from the Sumas 2 project in one very important respect. EFSEC approved the vast majority of the CO<sub>2</sub> emissions from the Satsop CT Project in 1996 (those attributable to 490 MW of the now 630 MW facility), without imposing any mitigation requirement. In contrast, none of the Sumas 2 facility's emissions had been previously approved without mitigation. Nonetheless, to address EFSEC's concerns, Duke Energy proposes a mitigation plan that is relatively comparable to the plan approved for the Sumas 2 Project.

## **MITIGATION PLAN**

Duke Energy proposes that the mitigation obligation be based upon the maximum potential CO<sub>2</sub> emissions that exceed a rate of 0.675 pounds of CO<sub>2</sub> per kilowatt hour (lb/kWh) over 30 years of the facility's operation. The mitigation requirement would be satisfied on an annual basis by providing a fixed amount of funding per ton of CO<sub>2</sub> emissions to be mitigated to an approved organization for use in implementing CO<sub>2</sub> mitigation projects. In addition, the Certificate Holders will provide a fixed amount of funding to cover the organization's expenses in administering the mitigation funding.

This Mitigation Plan is generally based upon the mitigation plan approved by the Council for the Sumas 2 Generation Facility, which in turn was based on the requirement in effect in Oregon on June 29, 2001, the date on which the application for the Sumas 2 project was submitted to EFSEC. However, this Plan differs from the Sumas 2 mitigation plan in three important respects: (1) funding will be provided on an annual basis, unlike the Sumas plan which funded the entire obligation over the first five years of operation; (2) the price per ton will increase over time according to the Producer Price Index, and (3) funding for administrative expenses will be provided.

### **A. Calculation of Emissions Subject to Mitigation Requirement**

The Certificate Holders will mitigate potential CO<sub>2</sub> emissions from the facility that exceed the rate of 0.675 lb/kWh. The mitigation requirement will be based upon the facility's maximum potential emissions, rather than the actual emissions in any given year.

In order to determine the volume of emissions requiring mitigation, the Certificate Holders shall determine the facility's maximum potential annual CO<sub>2</sub> emissions and the corresponding maximum potential kilowatt-hours of electricity generated. The Certificate Holders shall then subtract from the maximum potential annual emissions the volume of emissions that would be associated with generating the same amount of electricity if the electricity were generated at a rate of 0.675 lb/kWh CO<sub>2</sub>.

For example, if the facility's maximum capacity were 630 MW and its maximum potential annual CO<sub>2</sub> emissions were 2.2 million tons, the calculation would be made as follows:

Facility's Potential Annual CO <sub>2</sub> Emissions	-	Annual Emissions if 630 MW Generated at Rate of 0.675 lbs CO <sub>2</sub> per kilowatt hour	=	Emissions to Mitigate
2,200,000 tons	-	630,000 kw x 8760 hrs x 0.675 lb/kwhr	=	Emissions to Mitigate
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		2000 lbs/ton		
2,200,000 tons	-	1,862,595 tons	=	337,405 tons

Thirty days prior to the commencement of facility operations, the Certificate Holders will submit to EFSEC the calculation of the emissions subject to mitigation on an annual basis.

**B. Funding for Mitigation**

The Certificate Holders will satisfy the mitigation requirement by providing a fixed amount of funding for each ton of emissions to be mitigated to an organization approved by EFSEC, as well as funding for administrative expenses as described below.

The amount of mitigation funding will be initially be fixed at \$0.57 per ton of CO<sub>2</sub> emissions to be mitigated. On the first anniversary of the commencement of commercial operation of the facility, and on the anniversary of that date of each year thereafter, the amount of funding per ton will increase from \$0.57 in the same percentage as the Producer Price Index has increased during the same period. For example, if the facility began commercial operation on January 1, 2004, and if the Producer Price Index rose by 3% from January 1, 2004 to January 1, 2005, the amount of any funding due for 2005 would be based on a price of \$0.587 per ton, which is 103% of \$0.57.

**C. Funding for Administrative Expenses**

In addition to the mitigation funding described above, the Certificate Holders will provide the organization selected to administer the greenhouse gas mitigation funding with funding equal to seven and one-half percent (7.5%) of each annual payment of mitigation funding for use toward the payment of the organization's administrative expenses.

**D. Timing and Duration of Funding Requirement**

The mitigation requirement will be payable by the Certificate Holders on an annual basis at the start of each of the first 30 years in which the facility is operating. Thirty days after the facility begins commercial operation, and on the anniversary of that date in each of the following 29 years, the Certificate Holders shall submit documentation to EFSEC demonstrating that the mitigation and administrative funding required under this mitigation plan has been provided to the organization approved to administer the funds.

## **E. Approval of Organization to Administer Funds**

A qualified organization, such as the Climate Trust, shall be selected by the Certificate Holders to administer the funds provided for greenhouse gas mitigation. At least thirty days prior to the commencement of commercial operations, the Certificate Holders shall propose, for EFSEC's approval, an organization to administer the mitigation funding. The Certificate Holders shall provide detailed information regarding the proposed organization, including documentation indicating the organization's willingness to administer the funds and a description of how the organization intends to administer the funds. If EFSEC does not approve the organization proposed by the Certificate Holders, EFSEC shall specify an alternative organization to receive funding required under this mitigation plan.

At any time while the mitigation requirement is in effect, the Certificate Holders may propose to designate a new organization to administer mitigation funds in future years. EFSEC must approve any change in the administering organization.

## **PREEMPTION AND SUNSET**

If a new state or federal law imposes requirements on the Certificate Holders to limit, mitigate or offset greenhouse gas emissions, EFSEC will support the Certificate Holders in obtaining credit under any such new laws, regardless of preemption, for early action for offsets already funded under this Mitigation Plan.

If any new state or federal law pre-empts this Mitigation Plan, to the extent that any carbon offset or funding obligation hereunder has not been met at the time of such change in law, the Certificate Holders may meet any such obligation through compliance with the new program, and further obligations under this Mitigation Plan will terminate.