

AGREEMENT BETWEEN WASHINGTON STATE FERRIES AND THE PUGET SOUND CLEAN AIR AGENCY FOR REIMBURSEMENT FOR THE COST OF PURCHASING DIGITAL VOLTAGE REGULATORS

This agreement is entered into between the **Puget Sound Clean Air Agency**, (hereinafter referred to as the "Agency"), a municipal corporation of the laws of the state of Washington, and **Washington State Ferries**, a division of the Washington State Department of Transportation (hereinafter referred to as the "WSF") 2901 Third Avenue, Suite 500, Seattle, WA 98121-3014.

I. RECITALS

WHEREAS, the Agency has established the Diesel Solutions program to reduce diesel emissions from public and private fleets operating in the region; and

WHEREAS, WSF operates 28 vessels and uses approximately 17.5 million gallons of diesel fuel per year; and

WHEREAS, WSF has initiated a conservation project on the Jumbo Mark II Class ferries and it is expected to save over 180,000 gallons of diesel fuel per year and reduce emissions of toxic air contaminants and greenhouse gases; and

WHEREAS, the Agency has identified reductions of toxic air contaminants and greenhouse gases from marine vessels as a priority to the region; and

WHEREAS, it is in the interest of WSF and the region to reduce air quality impacts associated with ferry operations.

II. AGREEMENT

NOW, THEREFORE, WSF and the Agency agree as follows;

A. PURPOSE. The purpose of this Agreement is to establish procedures for the Agency to reimburse WSF for the cost of purchasing digital voltage regulators for a fuel efficiency demonstration project on Jumbo Mark II ferries.

The demonstration project consists of reconfiguring the engine control interface on three ferries, the M/V Tacoma, Wenatchee, and Puyallup, to operate on two main propulsion engines instead of the three. In order to implement the conversion process, WSF must upgrade the propulsion generator excitation system by replacing analog voltage regulators with digital voltage regulators and install feedback controls to monitor the propulsion operation as identified in Attachment 1.

B. TERM. This Agreement shall commence on November 15, 2007 and shall terminate June 30, 2008.

C. REIMBURSEMENT. WSF may apply for reimbursement from the Agency for the costs of purchasing digital voltage regulators for the Jumbo Mark II ferries conversion project, as described in this section.

1. The maximum amount paid by the Agency under this Agreement shall not exceed \$25,000. Funding is provided through the State of Washington Department of Ecology Grants Number G0600058 for the Statewide School Bus Retrofit Program pursuant to the Agency's Diesel Solutions Marine work plan for Fiscal Year 2008.
2. WSF may submit a request for reimbursement from the Agency for the cost of purchasing the digital voltage regulators. In addition, WSF shall provide documentation supporting the reimbursement request, including invoices for purchasing the digital voltage regulators.
3. The request for reimbursement shall be sent to the Agency's Manager of Finance and Purchasing. The request for reimbursement shall be submitted no later than ten (10) working days after the termination date of this Agreement.

D. HOLD HARMLESS/INDEMNIFICATION. To the extent legally permitted, each party shall indemnify and hold harmless the other party from and against any and all claims, actions, damages, liability, and expense, including, without limitation, reasonable attorney's fees, incurred as a result of such party's actions under this Agreement; provided that, if such claims, actions, damages, liability, or expense arise from concurrent negligence of two or more of the parties, including instances where this Agreement is subject to the provisions of RCW 4.24.115, then the obligation to indemnify under this Agreement shall be effective only to the extent of each party's own negligence. No party shall be required under this section to indemnify another for its sole negligence.

E. NOTICES. All notices hereunder may be delivered or mailed. If mailed, they shall be sent to the following respective addresses:

Tom Hudson
Puget Sound Clean Air Agency
1904 3rd Ave., Ste 105
Seattle, WA 98101

Director of Legal Services & Contracts
Washington State Ferries
2901 3rd Ave. Suite 500
Seattle, WA 98121-3014

Or to such other respective addresses as either party hereto may hereafter designate in writing.

III. GENERAL PROVISIONS

A. APPLICABLE LAW. This Agreement shall be governed by the laws of the state of Washington.

B. AMENDMENTS/MODIFICATIONS. This Agreement may be amended or modified only by written agreement of the parties.

C. **ENTIRE AGREEMENT.** This Agreement contains the entire agreement of the parties hereto and no representations, inducements, promises or agreements, oral or otherwise, between the parties not embodied herein shall be of any force or effect.

IN WITNESS HEREOF, the undersigned have, on the date set next to their signatures, executed this Agreement on behalf of the parties hereto.

PUGET SOUND CLEAN AIR AGENCY

**WASHINGTON STATE
FERRIES**

By: *Paul Roberts*
~~Bill Evans~~ *Paul Roberts*
Board of Directors, Chair

By: *Traci Brewer-Rogstad*
Traci Brewer-Rogstad
Deputy Director,
Chief of Staff

Date: 2/6/08

Date: 1/28/08

Attest:

By: *Dennis J. McLerran*
Dennis J. McLerran
Executive Director

Date: 2/1/08

Approved as to Form:

By: *Laurie Halvorson*
Laurie Halvorson
General Counsel

Date: 1/31/08

Attachment 1

Washington State Ferries Fuel Conservation / Emissions Reduction Proposal

Jumbo Mk II Ferries Propulsion Generator Excitation System

POC: Jonathan Olds, WSF Environmental Program Manager 206-515-3911 olds@wsdot.wa.gov
Doug Russell, WSF Fuel Conservation Coordinator 206-515-3452 russeld@wsdot.wa.gov

Request: Washington State Ferries (WSF) requests a combined total financial collaboration from the Puget Sound Clean Air Agency (PSCAA) in the amount of \$25,000 to procure & install digital voltage regulators as a key step in updating the propulsion generator excitation systems for the propulsion diesel generators on three Jumbo Mk II ferries. Doing so will reduce toxic air contaminants and green house gas emissions from ferry operations in Puget Sound. WSF believes that a demonstration project documenting successful emissions reduction and improved fuel efficiency of proposed initiatives would help encourage legislative support for a 2008 decision package seeking financing for specific WSF emissions reduction and fuel conservation initiatives. (See How This Fits into WSF Emissions Reduction and Fuel Conservation Programs on page 3 of this proposal.)

PSCAA's collaboration in the proposed project would enable WSF to move the proposed emission reduction fuel conservation project ahead of the 2008 legislative session, demonstrating the value of the WSF emissions reduction and fuel conservation initiatives, and providing effective emissions reductions to the Puget sound region that would otherwise be delayed at least a year.

Background: Until recently, WSF Jumbo Mk II ferries normally operated with three main engines on the line providing propulsion power while they operate for an average of 18 hours a day. Although they can still achieve 18+ knots and maintain most of their schedule while operating on 2 engines they did not because of concerns regarding the ability to remain on schedule and to minimize the potential for propulsion and electrical power loss during certain ferry operations such as during landings. During recent testing and a prototype testing program the Jumbo Mk IIs were operated on two propulsion engines except during landings when a third propulsion generator was started and placed on line to minimize risks of propulsion plant loss. During this prototype period, it has been found that the vessels can remain on schedule while saving over 60,000 gallons of fuel per month for the three ship fleet.

In order to completely shift to two engine operations, the propulsion generator excitation system must be upgraded to provide more precise control of the generator voltage, better monitoring of propulsion operation, and clear indication of any problems thus providing improved propulsion plant reliability. This change will be accomplished in two stages. First, digital voltage regulators would be procured and installed by the original equipment manufacturer to provide more precise control of the excitation for the propulsion generators. Doing this enables replacement of the most problematic part of the existing propulsion system. The second stage

would be to install an excitation monitoring system that would monitor, analyze and report that status of the excitation system including providing alarm capability that notifies the watch stander in a clear fashion when a problem is detected in the excitation system. This would enable watch standers to make the right choice in making changes to the propulsion system to overcome problems especially during critical situations such as during landings. This proposal addresses the first stage of upgrading the Jumbo Mk II propulsion generator excitation system.

Proposal: Establish a contract with Kato to engineer, procure, install and test digital voltage regulators for three Jumbo Mk II ferries...M/V Tacoma, Wenatchee & Puyallup. Estimated cost is \$150,000 to accomplish the upgrade on 3 Jumbo Mk II vessels. Payback: 11 months. (See detailed budget below.)

Estimated Savings: (*Note: numbers to be refined based on review of recent testing results*)

- Estimated Emissions Savings:
 - NO_x.....63,000 lbs/yr for 3 ferries
 - CO.....7,600 lbs/yr for 3 ferries
 - VOC.....3,400 lbs/yr for 3 ferries
 - PM.....3,400 lbs/yr for 3 ferries
 - SO₂.....5 lbs/yr for 3 ferries
 - CO₂.....4,00,000 lbs/yr for 3 ferries

- Estimated Fuel Savings:
 - 181,000 gallons/year total for the three Jumbo Mk II ferries
 - \$410,000 of fuel cost savings per year (assumes 2006 average price of \$2.26/gal)
 - \$19,680,000 of fuel cost savings over 48 years of remaining service life

Budget:

Sub-contractor Cost – \$150,000 for the replacement of the analog voltage regulators with digital voltage regulators. This includes completing the design work, procurement, installation, testing, and reporting of any documentation changes.

- Cost to Implement:
 - Digital voltage regulators that replace existing analog voltage regulators
 - Components: \$20,000 per vessel – hardware procurement w/any necessary design
 - Installation: \$20,000 per vessel – labor to install by original equipment manufacturer’s technical representatives
 - Documentation: \$10,000 per vessel – engineering/admin labor plus cost to reproduce data deliverables
 - Costs by Financial Contributor:
 - Components: \$60,000 – **PSCAA/WSF Maintenance**
 - Installation: \$60,000 – **WSF Maintenance**
 - Documentation: \$30,000 – **WSF Engineering**

Schedule:

- Sep-Oct 2007 – WSF / PSCAA / WSDoE enter agreement
- Nov 2007 – WSF award contract to Kato to design, procure, install & test digital voltage regulators on Jumbo Mk II ferries
- Winter 07-08– Incorporate / test changes on M/V Wenatchee during Feb-June maintenance period
- Summer 08 – Incorporate / test changes on M/V Puyallup during June-Oct maintenance period.
- To be determined– Install on M/V Tacoma

How This Fits Into WSF Fuel Conservation & Emissions Reduction Programs: WSF is employing a multi-faceted approach towards reducing fuel consumption and air emissions. WSF has, through implementation of a disciplined approach to developing an existing fuel consumption baseline, identified a number of areas where the ferries can be operated in a more efficient manner without interrupting or reducing customer service. Not surprisingly, the majority of fuel consumed is utilized for propulsion power. WSF has identified a series of initiatives that will enable the three largest ferry classes to operate in a more efficient manner thus achieving significant fuel savings and emissions reductions. This particular initiative will enable the Jumbo Mk II ferry class to achieve considerable fuel savings & emissions reductions.

Other initiatives currently being investigated that will also allow the Jumbo Mk II ferries to operate more efficiently are:

- incorporate the use of positive restraint during loading operations,
- enable connection to shore power during nightly tie-up, and
- development of best operational practices.

WSF is preparing a decision package for the 2008 legislative session that will seek state funding to implement emissions reduction and fuel conservation initiatives including replacement of boiler fed steam heating with heat recovery, engine and associated system upgrades, and design and construction of prototype positive restraint system for ferries while loading and off-loading vehicles, and recovering costs of this proposed project.

Successful implementation of this proposal will assist in building support in the state legislature, by demonstrating significant emissions reduction and fuel savings, and effective program implementation. Legislative support will be necessary to advance additional emissions reduction and fuel conservation measures like the initiatives presented in the 2008 decision package and for the Jumbo Mk II ferries listed above.

Note: Supplemental funding for this initiative has also been requested via a recent decision package submittal which is under review in Olympia.

EPA Project Control Number

U.S. Environmental Protection Agency
Washington, D.C. 20460

Certification Regarding
Debarment, Suspension and Other Responsibility Matters

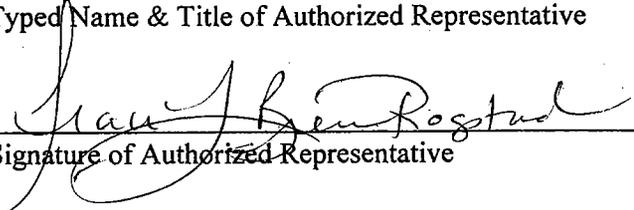
The prospective participant certifies to the best of its knowledge and belief that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Traci Brewer-Rogstad, Deputy Director, Chief of Staff

Typed Name & Title of Authorized Representative



Signature of Authorized Representative

1/28/08

Date

I am unable to certify to the above statements. My explanation is attached.