



Department of Energy
Washington, DC 20585

ASSISTANT SECRETARY OF ENERGY
FOR ENERGY EFFICIENCY AND RENEWABLE ENERGY

MEMORANDUM OF DECISION

SUBJECT: Determination of inapplicability (unreasonable cost waiver) of section 1605 of the American Reinvestment and Recovery Act of 2009 (Recovery Act Buy American provisions) to the Commonwealth Utilities Corporation's (CUC) located in the Commonwealth of the Northern Mariana Islands(CNMI), recipient of the EECBG grant DE-EE0000762, for 5 diesel engine radiators to be installed at the CUC's main power plant located at Saipan, CNMI

Under the authority of Recovery Act, Pub. L. 111-5, section 1605(b)(3), and its implementing requirements at 2 CFR 176.80(a)(2), the head of a Federal department or agency may issue a "determination of inapplicability" (a waiver of the Buy American provision) if the cost of domestic iron, steel, or relevant manufactured goods will increase the cost of the overall project by more than 25 percent. On April 25, 2011, the Secretary of Energy re-delegated the authority to make all inapplicability determinations to the Assistant Secretary for Energy Efficiency and Renewable Energy (EERE), for EERE projects under the Recovery Act. Pursuant to this delegation the Acting Assistant Secretary, EERE, has concluded that the 5 diesel engine radiators that are domestically manufactured will increase the cost of the overall project by more than 25 percent, and thus the 5 diesel engine radiators to be installed at the CUC's main power plant qualify for the "unreasonable cost" waiver determination.

EERE has developed a robust process to ascertain in a systematic and expedient manner whether or not there is domestic manufacturing capacity for the items submitted for a waiver of the Recovery Act Buy American provision. This process involves a close collaboration with the United States Department of Commerce National Institute of Standards and Technology (NIST) Manufacturing Extension Partnership (MEP), in order to scour the domestic manufacturing landscape in search of producers before making any nonavailability or unreasonable cost determinations.

The NIST MEP has 59 regional centers with substantial knowledge of, and connections to, the domestic manufacturing sector. MEP uses their regional centers to 'scout' for

current or potential manufacturers of the product(s) submitted in a waiver request. In the course of this interagency collaboration, MEP has been able to find exact or partial matches for manufactured goods that EERE grantees had been unable to locate. As a result, in those cases, EERE was able to work with the grantees to procure American-made products rather than granting a waiver.

Upon receipt of completed waiver requests for the product in the current waiver, EERE reviewed the information provided and submitted the relevant technical information to the NIST MEP. The MEP then used their network of nationwide centers to scout for domestic manufacturers.

In addition to the MEP collaboration outlined above, the EERE Buy American Team worked with labor unions, trade associations and other manufacturing stakeholders to scout for domestic manufacturing capacity or an equivalent product for the 5 diesel engine radiators contained in this waiver. EERE also conducted significant amounts of independent research to supplement MEP's scouting efforts.

As a result of EERE's efforts and MEP's scouting process, a quote was obtained from the only domestic manufacturer that has the capabilities to produce a similar item. That quote is reflected in the price cited *infra*, and supports the finding that this item, if purchased domestically, will increase the total project cost by more than 25%.

This ARRA supported project involves the Commonwealth Utilities Corporation's (CUC) main power plant-1. It was built in 1979 with the installation of four 7.2MW- 18V 40/54A diesel engines. Four larger 13.0MW- 18V 52/55B engines were installed in 1990. Over the years, radiator fin corrosion and fouling have deteriorated to a point where inadequate cooling limited generator loads to just 60% of design capacity.

Radiator deterioration on engines #5 and #6 were so advanced (generators de-rated to 30% of design capacity), the radiator sets on both engines were replaced in 2009. The performance of these new radiator sets since 2009 can be described as excellent.

The 40% reduction in loading capacity on engines #1,2,3 ,7 and 8 have cost the Utility severely in terms of fuel efficiency and cost, which unfortunately continues to be passed on to the rate-payers. This 40% loss in engine capacity plus the unavailability of engines 5 and 7 in 2008 - resulted rolling blackouts and the eventual collapse of power plant-1 in 2008.

In mid 2008, CUC contracted a rental generator company to supply 15MW of generators for a period of 12 months at a total cost of \$6,000,000 dollars.

Power plant-1 rehabilitation work began in 2009 and although surplus power is now available - the 60% load limitation on engines 1,2,3 ,7 and 8 is costing CUC and its rate-payers dearly, in terms of fuel efficiency and cost.

The diesel engines utilized in the facility are designed to operate between 70% to 100% of name plate rating. Fuel efficiency is at its maximum at this load range. De-rated gen-sets 1,2,3,7 and 8 currently operate at an average fuel efficiency of 14.0 kWh per gallon of diesel. Engines operated between 70% to 100% load do so at a higher fuel efficiency of 15.0 to 15.6kWh per gallon - a 7% better fuel consumption.

CUC's power plant-1 burns an average of 1,000,000 gallons of diesel per month. Radiator replacement on engines 1,2,3,7 and 8 will enable CUC to increase the load on the affected generator sets to 70% or higher of nameplate rating, and thereby reduce fuel consumption by approximately 70,000 gallon per month. This represents a saving of \$246,000 per month or \$2.96m per year at the current fuel price of \$3.52 per gallon. This saving will automatically be passed on to the rate-payers as required by the rate setting process.

With the ability to operate generators at loads of 70% or more, fewer generators need to be on-line to supply demand. This will result in lower running hours per engine and as a result, lower maintenance cost per year. Savings in engine maintenance cost as a result of the radiator replacement project is expected to be at least \$876,000 per year.

Power plant-1 continues to be CUC's main power plant on the main island of Saipan. This radiator replacement project will reduce fuel consumption and overall engine run hours - by allowing generator loads to be operated at optimum levels. This in turn will reduce fuel and maintenance cost and provide some relief to rate payers in the CNMI, by way of electricity rate reduction.

If for some reason the design of the radiators is ineffective, the current radiators are in such a severely decayed state that they cannot be reconnected one de-commissioned. If the project does not proceed on schedule, or if there is any flaw in the design, CNMI may be forced to resort to back-up power, similar to the 2008 scenario.

The project to replace the radiators involves two 13.0MW- 18V 52/55B and three 7.2MW- 18V 40/54A diesel engines. \$2,400,000 dollars in ARRA grant funds are allocated to the project. The proposed price of the only US manufacturer to come forward with a bid was \$3 million dollars, including freight to Saipan. The proposed price by the manufacturer of the radiators used in the prior installation was \$2,167,060. The total installation cost for the radiators is approximately \$225,000.

In addition to the price concerns, the only US bidder revealed that its largest previous project was for engines with continuous rating of less than 2.0MW. In addition, the foreign manufacturer is the supplier of choice for the 24 island countries who are members of the Pacific Power Association. All these island utilities have similar type of temperatures and salty environment as in the CNMI. All 24 island countries operate diesel engines to generate electricity.

CFR 2 § 176.110 , entitled "Evaluating proposals of foreign iron, steel, and/or manufactured goods", states that if "the award official receives a request for an exception based on the cost of certain domestic iron, steel, and/ or manufactured goods being unreasonable, in accordance with § 176.80, then the award official shall apply evaluation factors to the proposal to use such foreign iron, steel, and/or manufactured goods."

Per that section, the total evaluated cost = project cost estimate + (.25 × project cost estimate).

The total cost of the project including the foreign manufactured radiators is \$2,317,060. The total evaluated cost is \$2,392,060+ (.25 x \$2,392,060) or \$2990075

The minimum cost for the project with US collectors is \$3,225,000, a cost increase of 34.8%.

Thus, the diesel engine radiators needed for this project that are domestically manufactured will increase the cost of the overall project by more than 25 percent.

This waiver determination is pursuant to the delegation of authority by the Secretary of Energy to the Acting Assistant Secretary for Energy Efficiency and Renewable Energy with respect to expenditures within the purview of his responsibility. Consequently, this waiver applies only to EERE projects carried out under the Recovery Act; and only to this project specifically, waiver requests, even for the same or similar items, will be handled individually, because individual factors apply to each project.

Issued in Washington, DC on December 6, 2011.

A handwritten signature in black ink, appearing to read "Hy Kelly", with a stylized flourish at the end.

Henry Kelly

Acting Assistant Secretary for Energy Efficiency and Renewable Energy
U.S. Department of Energy