

[INSTRUCTIONS: The state agency administering the CMAQ project submits this request to the FHWA Division Office for preliminary review and recommendations; the FHWA Division Office will then forward the request to Edwin at FHWA Headquarters for an in-depth review and final decision, including the public comment period]

Attn: HIPA-30
Office of Program Administration
Federal Highway Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: Buy America Waiver Request – The GenSet Revolution Project

Contact at Kentucky Department of Transportation: Jackie Jones, Office of Local Programs, Kentucky Transportation Cabinet, 502-564-2060.

Dear Mr. Okonkwo,

It is in the public interest to request a waiver permitting deviation from Buy America requirements under the provisions of 23 CFR § 635.410, which pertain to foreign steel and iron components used in the manufacture of the diesel engines and air compressor incorporated into the GenSet power modules for the GenSet Revolution Project in the State of Kentucky. The Buy America clause requires a domestic manufacturing process for all steel or iron products that are permanently incorporated in a Congestion Mitigation and Air Quality Improvement (CMAQ) Federal-aid highway construction project. A waiver is requested for the following reasons: (1) no heavy duty diesel engine for inclusion in a GenSet Locomotive is reasonably available in any quantity in the United States that satisfies Buy America steel and iron requirements; (2) the diesel engines are necessary for the GenSet power modules that operate the ultra-clean GenSet Locomotives, and therefore, procurement of the engines is in the best interest of the public; (3) these CMAQ federally funded projects all occur in air quality “nonattainment” or “maintenance” areas where diesel retrofit/repower projects are considered a program priority. Diesel retrofit/repower projects reduce fuel consumption, thereby reducing emissions and greenhouse gases, which permanently improve the air quality in large metropolitan, high freight activity areas across the country. The aforementioned three reasons cover both conditions considered for a waiver, which include (1) inconsistency with the public interest, and (2) steel and iron products not produced in the U.S. in sufficient and reasonably available quantities and of a satisfactory quality.

Project Description:

A short line railroad, the R. J. Corman Central Kentucky Lines, LLC (“RJCC”), in partnership with a local public agency, is purchasing GenSet Locomotives from Railpower, LLC as part of a project eligible for CMAQ funding. In this context, GenSet technology, short for “Generator Set,” refers to the replacement of a very old, single 1,200-3,000 horsepower, high emitting diesel engine found in the conventional locomotives with three ultra-low emission 700 hp Tier III compliant diesel engines. These engines are 80-90% cleaner in nitrogen oxide (NOx) and particulate matter (PM) and can reduce fuel use and greenhouse gases by 50% or more. Advanced computer technology allows for precise control of the engines so that each engine actually operates only when its power is needed, unlike its ancient one-engine predecessor which is overpowered for the vast majority of the work load. The GenSet Locomotives will

be utilized on RJCC's lines, each replacing a decades-old conventional locomotive, and thus improving air quality by greatly reducing harmful emissions by as much as 90 percent. Railroads from Class 3 to Class 1 are currently operating over 300 of these clean locomotives all across the country.

As part of the project PO2-628-1100002145/SAI#KY20091113-1885/CFDA#20.205, RJCC and a local public agency will partner to purchase GenSet Locomotives for a total project cost of \$3,125,000 with \$2,500,000 federal funding and \$625,000 local match.

Reasons for Waiver Request

These GenSet Locomotives are assembled, including the assembly and installation of the GenSet power modules, in the United States. However, there are no diesel engines available that can be incorporated into the GenSets that do not include some foreign iron and/or steel material manufactured outside the United States. Specifications and drawings for the diesel engines are shown in Exhibit A.

A waiver is appropriate for the diesel engines and for their inclusion in the GenSet power modules, as well as for the air compressor of the GenSet Locomotives, because there are neither heavy duty diesel engines, nor industrial grade air compressors, suitable for incorporation into the GenSet Locomotives that are manufactured entirely with domestic steel components.

Therefore, a Buy America Waiver is being requested for a 108"x74"x86" skid-mounted locomotive generator set package (GenSet) with a 600VAC alternator and 416VAC cooling fan motor, rated 500kWe up to 50° C at sea level.

The generator set package is an integral feature of a GenSet Locomotive, which uses multiple similar generator sets to supply traction power and auxiliary power. To operate in an efficient parallel manner, the generator set must be able to run variable speed and supply 500kWe at 600VAC. The short length of a GenSet Switch Locomotive limits the physical size of the generator set package, and the mechanical layout requires the generator set packages to be nested together. The generator set package must be supplied with an integral radiator, featuring a 416VAC variable speed cooling fan for fuel efficiency purposes. The engine must be able to operate in a high vibration and shock level in elevated temperatures, with full power available up to 50° C at sea level. Random vibrations up to 2.1G RPM and 1.5G at 10 to 500 Hz must be tolerated.

Efforts were made to locate diesel engines made with domestically manufactured steel product for inclusion in the Stauffer GenSet package. The search of available diesel engines did not identify any heavy duty engines made with steel or iron components entirely from the United States. The companies that produce the heavy duty diesel engines suitable for inclusion in the GenSet Locomotive power modules (GenSet) include Cummins, which incorporates steel components in its engines manufactured in Brazil; Deutz, which incorporates steel components in its engines manufactured in Germany, and Caterpillar, which also uses foreign steel components in its engine, and is manufactured by and featured in a direct competitor's standard GenSet locomotive product offering. The diesel engines that could be incorporated into the GenSet for inclusion in GenSet Locomotives are not produced in the United States in sufficient or reasonably available quantities that are of a satisfactory quality.

Supporting our request is the recent partial waiver approved for the project CML-6272(033)/EA 04-985764 in San Francisco and Berkeley for the steel and iron used in hybrid vehicles for the very same

reason that we are requesting in this document. The letter stated, "...in today's global industry, it is unlikely that any vehicle manufacturer would be able to certify that a vehicle meets a 100 percent domestic iron and steel content standard." The assembly of the GenSet power modules and the entire locomotive re-power assembly process take place in the U.S., creating and maintaining many domestic jobs due to all the small U.S. businesses that supply GenSet Locomotive parts for this and other like projects now in the works across the country.

A waiver is also appropriate for the air compressors used on GenSet Locomotives. A Buy America Waiver is being requested for a 75"x32"x45" locomotive-rated rotary screw air compressor package with a 416VAC 50hp motor, capable of 146 cfm at 140 psi.

The air compressor is a vital part of the GenSet Locomotive, used to supply compressed air for safe locomotive and train brake operation. The compressor is typically specified by railroads to supply 146 cfm at 140 psi. The short length of a GenSet Switcher Locomotive limits the physical size of the compressor package to 75" long, 32" wide, and 45" tall. The physical size limit points to a rotary screw, not reciprocating, compressor. To achieve the optimal and required fuel economy, the air compressor must be electrical drive, typically 50hp. The compressor must be able to operate in a high vibration and shock level in elevated temperatures. Random vibrations up to 2.1G RMS and 1.5G at 10 to 500 Hz must be tolerated, all while operating up to a 70° C environment.

Only two compressor suppliers have demonstrated locomotive-rated rotary screw compressors of this size; Rotocomp (Airplus) and Atlas Copco, neither of which meet Buy America requirements. Efforts to find a domestically manufactured air compressor were amade in the same diligent fashion as for the diesel engines, but the search did not turn up any U.S. options that met the technical specifications.

Because no suitable diesel engines nor air compressors were found that included 100 percent domestic components (steel and iron), re-design of the GenSet Revolution Project's GenSet Locomotives using alternate or approved equal product made of domestic steel material is not feasible nor possible, as there is no alternate or equal that can be incorporated into the aforementioned power modules.

Waiver Item Cost:

The components covered under this waiver request are incorporated into heavy duty diesel engines that have an approximate value (excluding installation) as follows:

Item	Quantity	List Price (Each)
Stauffer GenSet	3 Deutz Diesel Engines per GenSet	\$90,350
Stauffer GenSet	3 Cummins Diesel Engines per GenSet	\$186,000
Rotocomp Air Compressor	1 Air Compressor per Locomotive	\$23,500
Atlas Copco Air Compressor	1 Air Compressor per Locomotive	\$29,200

A Buy America Waiver is appropriate for foreign steel and iron components used in the GenSet Revolution Project in the State of Kentucky as related to the manufacture of the diesel engines incorporated into the power modules, and as related to the air compressors, due to the lack of availability of suitable domestic components at a sufficient or reasonable level. Please take note that all other

components predominantly comprised of steel and iron in the GenSet locomotive are made using domestic steel and iron, making the entire locomotive 85.6% domestic components based on cost. Additionally, the manufacturing processes to perform final assembly of the locomotives occur in the U.S., as well. It is in the public's best interest to approve this waiver request, allowing for improved air quality in and around the GenSet locomotives' operating environment, and creating and maintaining U.S. jobs to promote a stronger economy.

Sincerely,

[Signature block]

Exhibit A

