Project Report: **Great Lakes Commission**
Bulk Cargo Carrier Engine Repowers

EPA Funding Source: **American Recovery and Reinvestment Act**

Funding Breakdown:

$1,209,049	***U.S. EPA***
$735,530	***Match/Leveraged Funds***

Marine Repowers

The Great Lakes Commission, an interstate compact agency, partnered with the American Steamship Company to repower auxiliary engines/generator sets on two self-unloading bulk cargo carrier vessels that operate on the Great Lakes (the M/V Indiana Harbor and the M/V H. Lee White). Since Great Lakes vessels do not have to deal with the corrosive effects of salt, they can last many more years than their ocean going counterparts. The generator sets were original equipment on the vessels and were over 30 years old.

The original generator sets were unregulated engines that, even when new, emitted high amounts of PM, NOx, and other pollutants. These generators were replaced with engines meeting EPA's Tier II requirements. This means they emit 40% less NOx and over 70% less CO than the old engines they replaced. In addition, the repowered engines will save more than 8,000 gallons of diesel fuel per year.

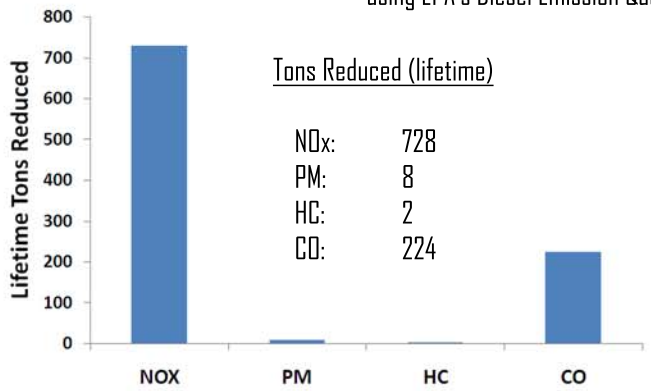
The vessels were repowered at two Wisconsin ship yards: Bay Shipbuilding in Sturgeon Bay, and Fraser Shipyards in Superior. The project generated over 14,000 person-hours of work.

Workers weld shut the access hole cut into the M/V H. Lee White at Bay Shipbuilding in Sturgeon Bay, Wisconsin

Funding for this project comes from the American Recovery and Reinvestment Act (**$1,209,049**) and from the American Steamship Company (**$735,530**). This project generated **27 full time equivalent jobs** in Wisconsin and preserved **24 sailing jobs** per vessel.

Emissions Reductions

Emissions reductions are estimated using EPA's Diesel Emission Quantifier



Tons Reduced (lifetime)

NOx:	728
PM:	8
HC:	2
CO:	224

Repowering large marine auxiliary engines can provide significant environmental benefits.

Health Benefits

Emissions from diesel engines contain pollutants that affect respiratory health. These pollutants can increase incidents of asthma, and can exacerbate existing cardiopulmonary conditions.

This project will **save $2,000,000 in health costs** as a result of reduction of PM. This represents monetary savings from: lost work days, hospital and health care bills, and other costs that will not be spent as a result of the pollution reduced from the repower of the generator sets on the M/V H. Lee White and M/V Indiana Harbor.

You can visit EPA's Diesel Emissions Quantifier at:
http://www.epa.gov/cleandiesel/quantifier

The Midwest Clean Diesel Initiative is a public-private partnership to reduce diesel emissions in the Midwest. Find out more at www.epa.gov/midwestcleandiesel