

# I PRO 307

## INTERMODAL SOLUTIONS FOR CHICAGO TARGET: 47TH STREET NORFOLK SOUTHERN YARD

### ALTERNATIVE FUELS

#### -Compressed Natural Gas (CNG)

CNG is an alternative energy source that is very useful in site-only applications, since it can be processed and stored where it is used.

-The United States produces enough natural gas nationally to sustain 90% of domestic demand, as well as its share of world demand for 60-70 years. It also boasts an extensive existing pipeline system that enables long range transportation with ease.

- The small "Hostler" tow vehicles used for yard-only container movement are well suited for conversion to CNG. Other ideal applications for CNG power are the the side-loaders and rubber tired gantry cranes used to transfer containers from trailers onto the train cars, and the yard supervisors' light pickup trucks. All of these applications have the advantage of being entirely captive to the yard.



### ALTERNATIVE ENERGY AND LIGHTING

-Wind turbines were considered as a way to reduce outside energy costs, but were found to be expensive to purchase, install, and maintain when compared to energy savings. This was especially true once the cost of batteries was considered.

-Low-energy lighting fixtures were also considered that would reduce yearly energy consumption. The cost of purchasing and installing such a system turned out to be very expensive. Due to the high efficiency of the existing lighting that was recently installed, the cost of replacement outweighs the energy savings provided for many years.

-Both solutions suffer from the common problem of a lack of storage. The yard cannot provide the space that would be necessary to house the new electrical and maintenance equipment.



### LABOR CONSIDERATIONS

-Slip seating is a term used by the trucking industry to describe transferring a container to another truck and chassis at a midway point in a long range trip, and then returning along the same route with another container on its way to the truck's origin. This practice allows truck drivers to work closer to home, due to the shorter routes required, and allows them to return home at the end of every night. It also allows a container to be shipped faster, because drivers share the driving hours required and the container never has to stop so that the driver can rest. The alternative method is to switch drivers at the midway point, but most drivers strongly dislike having to switch to a different truck.

-The "Flipper" concept is a mechanical jack that facilitates the transfer of the container from one chassis to the other efficiently. It is employed in a "truck stop" type location, so that drivers can easily exchange containers and proceed on their routes.

