Economics of Precision Fabrication - $50 to $100 M Savings per Ship

In current Navy shipbuilding programs, as much as 30 percent of the fabricated components require rework. Rework increases cost, limits interchangeability and modularity and also increases the time for delivery of the product. If precision fabrication processes were in use in today's shipyards, the Navy estimates that savings between $50 million to $100 million per ship would result. Those potential cost reductions illustrate the significant economic motivation for fabrication improvements at the Navy shipyards. However, this lack of fabrication precision condition is not restricted to shipyards but applies wherever large steel structures are fabricated - bridge structures, barge production, highway on and off ramps, offshore structures and buildings are all impacted by this condition.

A DoD sponsored program being performed at MAGLEV, Inc.'s McKeesport, Pennsylvania facilities is directed toward a solution to the problem of lack of precision. A concurrent process of recapturing the fabrication industry that has been lost to offshore industry will be the natural result. The thrust of the MAGLEV, Inc. program is to achieve 100 percent first-time-through processing. First-time-through is a measure of the efficiency of the fabrication process and is a direct measure of the number of fabricated components that, once initiated in the manufacturing process, move through the stations in the plant without requiring the component to be pulled off the line for rework.

Successful implementation of precision fabrication processes in today's industry can result in reduction of fabrication costs by as much as 20 percent. It offers a strong potential to halt the job loss to offshore industry and recover the industry position formerly enjoyed by the United States.