

ABATED CRANE COLLAPSE HAZARD

Cranes have many uses in the Navy, from lifting machinery, construction materials, and submerged objects to moving supplies and equipment onto and off ships. A crane can become unbalanced and collapse when its boom goes *out of radius*. A boom goes *out of radius* when the load on the crane's hook along with the extension of its boom, or arm, exceeds the crane's load limit and overcomes the counterbalance of the crane's cab. When that happens, the crane is at risk of falling over.

In the past, the Navy experienced a number of such mishaps with serious injuries to some of its crane operators and losses in the several millions of dollars in materials and equipment.



Collapsed crane



Navy Mobile Crane with LMI or LID

All that changed when the Navy Crane Center was funded by the Chief of Naval Operations' Hazard Abatement Program to install Load Moment Indicators (LMIs) or Load Indicating Devices (LIDs) on mobile cranes that are used by the Navy. LMIs automatically calculate the load and the boom angle to alert the crane operator that the crane is in danger of going *out of radius*. An LID provides a readout in the crane cab that informs the operator of the weight of the load on the hook so that he or she can determine when the crane is approaching its load limit. Beginning in 1998, 132 Cranes at 28 Navy activities had LMIs or LIDs installed on them.