

## A HISTORY OF CONTAINER CRANE OPERATOR'S CAB POSITIONS

In 1959, Matson developed the world's first ship-to-shore (STS) crane. The original STS had a fixed operator's cab on the waterside leg. Since Matson controlled all the containers, they could be arranged to load from the waterside in, and unload from the landside out. This allowed the operator to see all of the containers on deck, all of the cell guides at deck level, and most of the containers below deck. When loading and unloading patterns could not be so controlled, the operator's cab on the leg was not practical. For this reason, the next STS cranes placed the operator's cab on the trolley.

Meanwhile, Sea-Land was using shipboard cranes with the operator's cabs positioned on top of the spreaders. The operator actually went in and out of the hold which must have been quite an experience! That design was quickly changed to position the operator's cab on the trolley. It may have seemed surprising that the operators were comfortable moving with the trolley, but the operators claimed to enjoy getting the feel of the crane. Sea-Land eventually positioned all operator's cabs on the trolley, which set the industry standard in the 1960's.

Ship loaders and unloaders usually have the operator's cab off the trolley, sometimes on the leg and sometimes on the truss that extends and retracts alongside the boom. This works well for loaders and unloaders since the operator needs only an approximation the load position.

The Virginia Port Authority (VPA) and Europe Container Terminal Rotterdam (ECT) dual hoist cranes were designed with a moveable operator's cab on the boom, not on the trolley. The operator could choose several operating modes: the operator's cab could move with the trolley, move a limited amount automatically, or not move, once positioned anywhere along the boom or girder. Once the operator's cab was positioned, the operator could use foot pedals to manually point his chair in any direction, or he could choose to automatically have the chair continuously point to the load. The intent was to automatically set the containers on the shore platform, but, unfortunately, the torsional motions (yawing) of the containers were difficult to control, so the setting delay was long and the cycle time was not as short as expected. The yard could not keep up with the crane. Eventually, the dual hoist system was removed and the operator's cab was placed on the trolley.

In the future, an isolated operator's cab, riding on rails alongside the trolley runway could be advantageous if used in conjunction with lasers, cameras, and semi-automated controls.