



Fail Safe Technology

Our client, a large automotive manufacturer, has assembly plants across North America and was experiencing many problems with their equipment at the loading dock. First, their trailer restraints were not working due to mechanical and electrical failures. Expensive repairs and upkeep consumed large portions of maintenance budgets. Also, their restraints required that trucks/trailers have an ICC bar. Trucks with lift gates or without an ICC bar could not be secured to the dock. Thus, 25-30% of trucks that arrived could not be secured to the dock creating safety and

logistic issues. The second problem was that there was no integration with other control systems at the dock. They had separate control systems for dock levelers, restraints, truck/trailer lifts, dock lights, and the dock door. These control systems also had shortcomings such as poor light communication, no exterior alarms, no communication that a truck is in the bay, and no indication of fault in the system. And the systems were not designed to be “fail-safe”.

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By working with our client we engineered a solution that enables them to have a FAIL-SAFE integrated control system regardless of the dock equipment they are using. We also suggested they use a wheel-focused restraint with no motors or hydraulics to maintain.

We started by installing one test system on one door in a plant in Michigan. Since their dock equipment was not functional, we installed our trailer restraint, dock leveler and impact-absorbing dock door. We supplied a single control system that integrated all of their dock equipment. This integrated dock safety system was tested for 18 months. The testing included hiring a truck driver to do pull out tests, wear tests and purposely try to pull out against the restraint. All equipment and controls held up without a need for repair. The system was deemed a success and two more control systems were installed at another location. This location had a working dock



leveler and rolling steel door with independent standard controls, but had a failed trailer restraint, so we installed the control system and new restraint. After six months of use, the only item needing attention was an adjustment of a photo-eye. We then installed the same integrated control system at one of their plants that had an indoor docking system with a truck-lift with integral wheel chocks. This system has been working perfectly. We are now installing three more complete systems at the original testing location. UAW, Corporate, Health & Safety, Engineering and Plant Management personnel have all been involved and approved of this project. We are proud that our client is working on making our Universal Integrated Dock Safety System a nationwide corporate standard for new and retrofitted dock equipment.

By using our system as a standard they will be able to control all docks in the same manner, minimizing training for dock personnel that may transfer from one plant to another. The system can work on any dock, with any equipment, in any environment—allowing them to use functional existing equipment where applicable. This fail-safe technology provides simple and sequential operation. With the self-diagnostics, when the controller detects any possible fault or danger, the system cannot be used—ensuring maximum safety. Operational benefits include improved security, ergonomics and safety, reduced operational and maintenance expenses, and standardized training for dock personnel. For more information on the operation cycle of our Universal Integrated Dock Safety System please refer to our literature on this in our Doors & Controls Division.



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