



LIFE•LINE MARITIME OPTION

Safe Environment Engineering developed the **Life•line** Maritime Option to help employers comply with the new Maritime Regulations for confined space entry (29 CFR 1915 - Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment).

The **Life•line** Maritime Option integrates with the employer's existing gas detection and ventilation systems via a wireless radio link to provide a means for continuous real-time monitoring of the atmosphere within a confined space. The addition of a voice intercom system and an emergency evacuation alarm will also provide the entrants with peace of mind and security.

CHECK-IN/CHECK-OUT PROCEDURE

To help the employer ensure an accurate count of the number of persons working within a ship, each entrant will check into the **Life•line** system by running an identity card through the system's card reader and scanning a bar code map of the location in which he/she will be working. Each entrant will then be recorded by name and location on the system's computer. In the event of an emergency, the names and location of the entrants can be immediately viewed on the system's display and/or printed by the system printer.

The **Life•line** system will also provide the option for users to access the system from remote satellite locations. This satellite configuration will allow the user access to the system for checking into the system, changing his/her work location or to check-out of the system at the completion of his/her duties - - all from a remote location.

TRAINING QUALIFICATION

During the above check-in procedure, the system verifies the name of the entrant, the specific location entered, the time of entry, and the training level accomplished by the entrant. A potential entrant without the training necessary for that particular space will be denied entry. Additionally, a log of all activity (all log-on, log-off and work location changes) is kept as a permanent and printable record within the system and is always available for immediate viewing.

GAS DETECTION

An environmental monitor/gas detection system can be directly integrated with the portable **Life•line** monitor. In many facilities, this interface can be accomplished with the employer's existing portable or fixed gas detection equipment. This integrated system will provide real-time information of gas levels in the environment. These levels will be transmitted to a database contained in the main monitoring center so that exposure limits of the users and/or locations may be tracked over time. This exposure information can include ceiling, short term exposure limits and time weighted averages.

The environmental monitor/gas detection module will also interface with the **Life•line** monitor's alarm if the environment becomes contaminated or deprived of oxygen. If the gas detection system goes into alarm, an audible and visual alarm signal will be produced by the **Life•line** monitor. Both the alarm condition and concentration levels will be transmitted back to the main monitoring center where the concentration levels, affected entrants, and work location will be displayed on the system's computer screen. If there are other workers in the affected area, an evacuation alarm will be automatically initiated on the **Life•line** monitor(s) closest to the entrants' location.

INTERCOM

The voice intercom feature of the **Life•line** system can be established by either the attendant at the main console or an entrant at any of the portable **Life•line** monitors located throughout the ship. To establish voice communication, the system attendant must select the option of either communication with a single portable **Life•line** monitor, or a particular location (which can group different locations together), or all portable monitors at one time.

Voice communications may be established by the entrant by simply depressing a blue square voice request button on the portable **Life•line** monitor.

If an entrant is incapacitated, the system attendant at the main monitoring center can control the microphone of the portable **Life•line** monitor. In this condition, the attendant will be able to listen to the entrant without the need for user intervention.

VENTILATION MONITOR

The **Life•line** system will integrate with the facility's and/or work area ventilation system. In the event of failure of the ventilation system, the main monitoring center will transmit an evacuation alarm to entrants working in the affected area. The ventilation "off" or "stop" buttons will be defeated by **Life•line** until such time as all entrants have left the area that the ventilation system supports, and either logged off the system or changed their work location.

One **Life•line** custom option is the ability to monitor and control air flow, velocity, direction, and pressure. **Life•line** portable monitors can be configured to upload specific air data through the use of integral sail and differential pressure switches, as well as magnahelic and air pressure transducers. This information, along with the regular status and system information, can be printed in an end-user's definable report format. As with our gas detection option alarm, threshold levels can be set for automatic evacuation alarming of entrants in the event of an emergency.

EVACUATION ALARM

In an emergency, the attendant may select the "global alarm" feature which sends an evacuation alarm to all portable **Life•line** monitors on the system. In this condition, an audible "S.O.S" will be annunciated by the portable **Life•line** monitors and a visual emergency strobe will be activated.

An evacuation alarm can also be initiated by the entrant. A red alarm button is located on the portable **Life•line** monitor. Once depressed an entrant-requested alarm will be generated on both the portable **Life•line** monitor and the main control center. The attendant at the main control center will have the option of initiating voice communications with the entrant and/or immediately dispatching a rescue team.

ADDITIONAL INFORMATION

For additional information on the **Life•line** system, its various options, and to arrange for a demonstration of the system in your facility, please call Safe Environment Engineering, at (805) 295-5500.

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