FireVac IV Voice Evacuation System **Version 1.8**
Engineer/Architect Specification Modified June 3, 2004
Part No. 9020-0511

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SECTION ONE: GENERAL

SECTION INCLUDES

WORK INCLUDED.

Furnish components for a complete Voice Evacuation System.

Provide hardware and software necessary to comply with the operation detailed in this specification.

APPROVALS

The system shall maintain the following listings and/or approvals from the following agencies:

1. (UL) Underwriter's Laboratory

REFERENCES

NFPA 70: National Electrical Code, 1996 Edition.

NFPA 72: National Fire Alarm Code, 1996 Edition.

NFPA 101: Life Safety Code

UL 864: UL Standard for Fire Alarm Control Equipment

UL 1481: UL Standard for Power Supplies for Fire Protective Signaling

UL 1638: UL Standard for Visual Signaling Appliances

UL 1971: UL Standard for Signaling Devices for the Hearing Impaired

Applicable Local / State Building Codes

SYSTEM DESCRIPTION

The voice evacuation panel shall be compatible with the FACP to which it is attached. The system shall contain a voice evacuation system to supervise and operate UL listed voice evacuation speakers. The system shall have a built in UL listed power supply. The system shall be capable of supporting an optional UL listed zone splitter that can be housed in the main voice control cabinet. In addition, the system will issue pre-recorded voice commands locally for purpose of evacuation. The system must support a minimum of two pre-recorded messages and have the capability of adding application specific messages through the use of a PC. The voice evacuation system shall have the ability to provide a supervised microphone for the purpose of audible local instructions that will override the pre-recorded messages. The system shall contain a dead front panel inside the enclosure to protect the circuitry from exposure by the operator and to protect the operator from hazardous voltages.

SUBMITTALS

Product Data: Provide data for each system component and software module.

Shop Drawings:

Riser diagram showing voice evacuation system unit locations, and conductors.

List connection points of all voice evacuation system units.

Provide system graphics indicating monitored systems, data (connected and calculated) and operator notations.

Show system configuration with peripheral devices, batteries, power supplies, diagrams, and interconnections.

Indicate description and sequence of operation of operating, user, and application software.

Project Record Documents: Record actual locations of control components.

Revise shop drawings to reflect actual installation and operating sequences.

Include data specified in "Submittals" in final "Record Documents" form.

Operation and Maintenance Data:

Include interconnection wiring diagrams complete field installed systems with identified and numbered, system components and devices.

Include illustrations and step-by-step procedures indexed for each operator function.

Warranty: Submit manufacturers warranty and ensure forms have been filled out in Owners name and registered with manufacturer.

QUALITY ASSURANCE

Manufacturer Qualifications: Company specializing in manufacturing the fire alarm / life safety products with minimum 10 years [documented] experience.

Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years [-documented] experience.

PRODUCTS

GENERAL

All equipment supplied for this project shall be new and unused except for existing equipment being reused.

All equipment shall be designed for continuous duty

VOICE EVACUATION SYSTEM HARDWARE

Provide a complete and electrically supervised voice evacuation system.

The voice evacuation system shall have a 50 watt supervised amplifier with a built in Digital Message Repeater and a supervised microphone. The voice evacuation system shall have two alarm inputs, one triggered by reverse polarity and one by supervised dry contact trigger. The voice evacuation system shall have a speaker output line voltage of 25 VRMS with provisions for a 70.7 VRMS option. This speaker output must also be field selectable for class A or class B operation. The alarm inputs shall be programmable to provide one of two prerecorded audio messages. The voice evacuation system shall provide for field programming of custom messages via the built in microphone, line level input of an audio message and the downloading of message files from a PC.

The voice evacuation system shall have a built in UL approved power supply. The system shall allow up to 18 amp/hour batteries to be housed in the main cabinet, larger batteries up to 33 amp/hours will require the use of a UL listed battery cabinet. The power supply shall be power limited and rated to operate the voice evacuation system under normal operation including battery charging current for the use of up to 33 amp hour backup batteries, per UL specifications at full rated current draw in order to maintain system integrity.

The voice evacuation system shall have an optional zone splitter capable of dividing the speaker output of the amplifier into 4 class B or 4 class A outputs. Selection of the zones shall be accomplished via toggle switches on the splitter or inputs from the FACP. The zone splitter shall also have an all call toggle switch that when activated will turn on all speaker zones regardless of the individual toggle switch settings. Each speaker zone of the zone splitter shall be capable of supporting the full output of the amplifier. The zone splitter shall maintain supervision of the speaker circuits.

The control shall be equipped with two auxiliary relays; one shall operate on alarm and the other on trouble. The relays shall continue indicating until the condition is cleared. The system shall also be capable of passing a trouble condition back through the FACP notification output in lieu of the trouble relay.

The system shall contain the following visual indicators – Speaker Trouble, Alarm, Microphone Trouble, Dry Contact Input Trouble, Auxiliary Device Trouble, and Power.

MANUFACTURER

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EXECUTION

GENERAL

Provide design and commissioning for a complete system.

Install all components in accordance with manufacturer instructions.

Install control units and other hardware in position on permanent walls where not subject to excessive vibration or moisture. Leave adequate space for access.

Implement all features of software to specified requirements and appropriate to sequence of operation. Power up and test all system devices to ensure correct operation.

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EXAMINATION

TESTING AND CERTIFICATION

All connected hardware and programmed software functions shall be tested to conform to the specifications.

A technician certified by the National Institute for Certification in Engineering Technologies (NICET) shall conduct final checkout of all system functions. The technician shall have current certification of at least level 2 in the field of Fire Protection Engineering Technology.

END OF SECTION