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USACE / NAVFAC / AFCESA / NASA **UFGS-28 26 23 (April 2006)**

Preparing Activity: NAVFAC **Replacing without change**
UFGS-13798 (February 2003)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 19 March 2007

Latest change indicated by CHG tags.
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SECTION 28 26 23

DURESS SIGNAL SYSTEM [FOR BRIG FACILITIES]
04/06

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NOTE: This guide specification covers the requirements for duress signal systems for use in brigs and detention facilities.

Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).
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NOTE: It is used to provide a printed record of officer tours through the inmate spaces.
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NOTE: The following information shall be shown on the project drawings:

1. Exact location of equipment.

2. One line diagram showing all system components.

3. Location of all alarm initiating devices.

4. Location of the master console.

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PART 1 GENERAL

1.1 REFERENCES

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NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

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The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2005; TIA 2005) National Electrical Code

UNDERWRITERS LABORATORIES (UL)

UL 50	(2003; R 2005) Standard for Enclosures for Electrical Equipment
UL 6	(2004e13) Standard for Electrical Rigid Metal Conduit-Steel
UL 797	(2004) Standard for Electrical Metallic Tubing -- Steel

1.2 SUBMITTALS

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NOTE: Review submittal description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not

complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

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Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.][for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Overall duress signal system

Duress equipment and components

Indicate how each item of equipment will function in the system and include an overall system schematic indicating the relationship of intercommunication units on one line diagram.

SD-03 Product Data

Duress equipment and components

Submit for materials and equipment to be incorporated in work.

SD-07 Certificates

Duress equipment and components

Submit manufacturer's certificates attesting that materials meet specified requirements.

SD-10 Operation and Maintenance Data

Duress signal system, Data Package 2

Submit in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA.

1.3 MAINTENANCE

Submit operation and maintenance data of entire duress signal system in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA.

PART 2 PRODUCTS

2.1 EQUIPMENT AND COMPONENTS

Equipment and components of the Duress Signal System shall conform to applicable requirements of Article 810, NFPA 70.

2.1.1 Signal Stations

Duress signal stations shall be momentary contact devices rated for operation on 24 V dc.

2.1.1.1 Wall Mounted Duress Stations

Low voltage, nonilluminated single pole, normally open, momentary contact pushbutton with silver contacts rated for two amperes at 24 V dc with 25,000 cycles minimum electrical/mechanical life. Bezel shall be black, full shroud type. Cap or button shall be blue. Device plate shall be nylon with ivory finish.

2.1.1.2 Floor Mounted Duress Stations

Install under desks where indicated, foot rest type, securely mounted to floor. Contact configuration shall be single pole double throw momentary contact rated for not less than two amperes at 24 V dc. Switch operation shall be by pressure of foot on underside of foot rest.

2.1.2 Control Panel

Provide control consoles for duress system controls. Custom build each control console for the specific area to be controlled. Mount duress system control panel in control room console panel trim provided with concealed trim clamps and flush lock and latch. Flush mount pilot lamps silencing switch and audible signal alarm on panel door. Socket mount auxiliary relays within cabinet. Provide control power supply within cabinet. Wiring within cabinet shall be in accordance with Section 26 20 00 INTERIOR DISTRIBUTION SYSTEM and shall terminate on identified terminal blocks. Terminations shall be made with crimp type lugs. Group conductors within the panel and lace with nylon tie straps.

2.1.2.1 Construction

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NOTE: Coordinate maximum dimensions required on the drawing.
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14 gage sheet steel, with 38 mm 1 1/2 inch flange on all sides, and cover for mounting devices hinged to frame at top. Hinges shall be continuous piano type hinge. Panel shall be secured to millwork with flathead, 38 mm 1 1/2 inch No. 8 flat head wood screw steel bolts on centers not exceeding 200 mm 8 inches. Overall general dimensions indicated are maximum dimensions and shall not be exceeded. Coordinate mounting dimensions and

support requirement with millwork installation.

2.1.2.2 Finish

Surfaces of the console shall be prime finished with rust inhibiting paint and two coats of hammertone finish gray enamel. Apply lettering to the panel by metal etching process after required openings have been made and edges ground smooth. The panel shall then be treated with red oxide primer, metal enamel silk screening process and two coats of polyurethane.

2.1.2.3 Duress System Indicators

24 V dc Light Emitting Diodes (LEDs) mounted in cover of duress system control panel.

2.1.2.4 Auxiliary Relays

General purpose glass enclosed socket type with 24 V ac control coil and with industry standard pin arrangement. Relays shall be rated for continuous duty. Operating voltage range shall be within plus or minus 10 percent of nominal voltage. Contact arrangement shall be two pole double throw with contacts rated at not less than five amperes.

2.1.2.5 Silencing Switch

Low voltage, square, nonilluminated single pole, normally open, momentary contact pushbutton with silver contacts rated for two amperes at 24 V dc resistive with 25,000 cycles minimum electrical/mechanical life. Bezel shall be black, full shroud type. Cap or button shall be blue.

2.1.2.6 Power Supply

Provide 24 V dc power supply to the duress signal system. Output shall be not less than one and one half times the sum of the load of all the relays on the watchtour system. Provide glass cartridge fuse rated at 125 percent of full load. Power supply shall be UL listed. Power supply shall be served from 120 V ac 60 Hz circuit from the Emergency Power System.

2.1.2.7 Audible Signal

Low voltage 24 V dc buzzer for flush mounting in single gang outlet box under single gang standard toggle switch device plate.

2.2 WIRE AND RACEWAYS

Conform to UL 6 and UL 797. Cabinets and boxes shall conform to UL 50.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Power Wiring

Provide power wiring, raceway and outlet boxes for intercommunication system in accordance with Section 26 20 00 INTERIOR DISTRIBUTION SYSTEM.

3.1.2 Control Circuit Wiring

Provide control circuits in accordance with NFPA 70. Wire and number of

conductors as recommended by the duress system manufacturer.

3.1.3 Wiring

No. 16 AWG, stranded, Type MTW installed in concealed conduit. Connections to terminal blocks shall be made with crimp type lugs.

3.1.4 Back Boxes

Provide back boxes having characteristics suitable for switches mounted in them.

3.1.5 Repairs

Wherever walls, ceilings, or floors are cut for installation, repair, restore and finish to original appearance.

3.1.6 Signal Stations

The wall mounted duress station shall be mounted 1370 mm 54 inchesabove the finished floor with 6.35 mm - 20 - 25 mm 1/4 inch - 20 - 1 inch long tamper proof screw. The system shall be completely checked out and tested before installation of the fasteners.

3.1.7 Floor Station

Floor mounted duress station shall be attached to millwork on floor. When mounted under millwork, wiring shall be routed in millwork to conduit system via flexible conduit.

3.2 FIELD QUALITY CONTROL

Conduct testing specified herein in the presence of the Contracting Officer.

3.2.1 Duress System Test

An operational system test shall be performed to verify conformance of the duress system to this specification. The Contractor shall notify the Contracting Officer two weeks prior to when tests are to be performed so that tests may be witnessed by Contracting Officer. These tests shall include alarms from stations to panels.

3.2.2 Retesting

Rectify deficiencies indicated by tests and completely retest work affected by such deficiencies.

3.2.3 Inspection

Make observations to verify that units and controls are properly labeled, and interconnecting wire and terminals identified. Contracting Officer will observe system features specified.

3.3 TRAINING OPERATING AND MAINTENANCE PERSONNEL

3.3.1 Instructing Government Personnel

Upon completion of the work and at a time designated by the Contracting Officer, furnish a competent technician regularly employed or authorized by

the manufacturer of the duress system to instruct Government personnel in the proper operation, maintenance, safety, and emergency procedures of the duress system. The period of instruction shall be four eight-hour working days. Conduct training at the job site.

-- End of Section --