



CONSULATE GENERAL OF THE
UNITED STATES OF AMERICA
HYDERABAD, INDIA

June 19th 2019

Dear Prospective Offeror / Quoter:

The American Consulate General Hyderabad, has a requirement for a contractor to provide **Fire Detection System** at our site **as per the Scope of Work attached**. You are invited to submit a quotation. The Request for Quotations (RFQ) consists of the following sections:

1. Standard Form SF-18
2. Basic information, statement of work or specifications and technical qualifications.

The Consulate will hold the site visit on Monday July 01, 2019 at 02.00 pm

Site address: 8-2-293/82/548/A-3 Road No# 27, Jubilee Hills- Hyderabad- 500 033

Interested vendors should submit the names of their representatives attending the site visit to S.Sarveshnath Gupta by tel: +91-40-40338449, fax: +91-40-40338301, email: shatavellisg@state.gov no later than Friday June 28th 2019.

The Consulate plans to award a purchase order. You are encouraged to make your quotation competitive. You are also cautioned against any collusion with other potential offerors with regard to price quotations to be submitted. The RFQ does not commit the American Consulate to make any award. The Consulate may cancel this RFQ or any part of it.

Please read the RFQ carefully, and if you are interested, submit your quotation. Return the completed SF-18 to the address shown in Block 5a of the SF-18 by **17:00 hours of July 5th 2019**. Oral quotations will not be accepted.

Sincerely,

Steven Fox
Contracting Officer

Enclosure: As Stated.

REQUEST FOR QUOTATIONS <i>(THIS IS NOT AN ORDER)</i>		THIS RFQ <input type="checkbox"/> IS <input checked="" type="checkbox"/> IS NOT A SMALL BUSINESS- SMALL PURCHASE SET-ASIDE (52.219-4)			PAGE 1	OF 1	PAGES 5
1. REQUEST NO. 191N4719Q0003	2. DATE ISSUED 06/19/2019	3. REQUISITION/PURCHASE REQUEST NO. PR8373541	4. CERT. FOR NAT DEF UNDER BDSA REG. 2 AND/OR DMS REG. 1		RATING		
5A. ISSUED BY General Services Office, American Consulate General – 1-8-323, Chiran Fort Lane, Begumpet-Hyderabad 500 003 - India.				6. DELIVER BY (Date)			
5B. FOR INFORMATION CALL: (Name and telephone no.) (No collect calls)				7. DELIVERY			
NAME Steven Fox		TELEPHONE NUMBER		<input checked="" type="checkbox"/> FOB DESTINATION OTHER (See Schedule)			
AREA CODE 040		NUMBER 40338300					
8. TO:				9. DESTINATION			
a. NAME		b. COMPANY		a. NAME OF CONSIGNEE American Consulate General Hyderabad.			
c. STREET ADDRESS				b. STREET ADDRESS 1-8-323, Chiran Fort Lane,			
d. CITY		e. STATE		f. ZIP CODE		c. CITY Begumpet - HYDERABAD	
				d. STATE TS		e. ZIP CODE 500 003	
10. PLEASE FURNISH QUOTATIONS TO THE ISSUING OFFICE IN BLOCK 5A ON OR BEFORE CLOSE OF BUSINESS (Date) July 03, 2019			IMPORTANT: This is a request for information, and quotations furnished are not offers. If you are unable to quote, please so indicate on this form and return it to the address in Block 5A. This request does not commit the Government to pay any costs incurred in the preparation of the submission of this quotation or to contract for supplies or services. Supplies are of domestic origin unless otherwise indicated by quSoter. Any representations and/or certifications attached to this Request for Quotations must be completed by the quoter				
11. SCHEDULE (Include applicable Federal, State and local taxes)							
ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)		
1	Fire Detection System, per attached Scope Of Work		EA				
12 DISCOUNT FOR PROMPT PAYMENT		a. 10 CALENDAR DAYS %	b. 20 CALENDAR DAYS %	c. 30 CALENDAR DAYS %	d. CALENDAR DAYS		
					NUMBER	%	
NOTE: Additional provisions and representations <input type="checkbox"/> are <input type="checkbox"/> are not attached.							
13 NAME AND ADDRESS OF QUOTER			14 SIGNATURE OF PERSON AUTHORIZED TO SIGN QUOTATION		15 DATE OF QUOTATION		
a. NAME OF QUOTER							
b. STREET ADDRESS			16. SIGNER				
c. COUNTY			a. NAME (Type or print)		b. TELEPHONE		
d. CITY		e. STATE	f. ZIP CODE	c. TITLE (Type or print)		AREA CODE	
						NUMBER	

**FIRE DETECTION SYSTEM INSTALLATION AT
8-2-293/82/548/A-3, Road No # 27
JUBLEE HILLS IN HYDERABAD, INDIA
STATEMENT OF WORK
June 2019**

FIRE DETECTION SYSTEM - FIRE AND LIFE SAFETY

1.0 Brief Description

US Consulate General of Hyderabad has a requirement of hiring services of an international fire detection, design and execution company to design and install an addressable fire detection system for two buildings of the residence.

Design has to be done by a certified engineer / registered professional engineer in line with NFPA requirements.

A conceptualization of the system has been shared in the SOW just for reference purpose. Contractors are advised to provide design basis and qualification of designers for USG reference to act as a selection criteria along with the bids.

The quantities mentioned the spread sheet are for reference only. They can vary from design to design.

There are no internal wiring provisions for fire detection system in the building at the moment hence the wiring has to be done on surface.

Once the work will be awarded, design of the detection system has to be approved by OBO FIR for actual execution. Contractor has to provide all the cut sheets / brochures for all the material considered in design to COR to get approval along with the design. It is a process and it will take some time before final approval will be accorded by OBO FIR in Washington.

Note: Any work done without a written approval from CO (Contracting Officer) shall be considered as done at contractor cost and USG shall not be charged for any such activity.

New System shall be extended to all the floors of the house till roof.

2.0 Site Visit

2.1 A site visit will be arranged for all the prospective bidders for this project to obtain an overview of the project and to understand the existing site conditions to prepare them for proper planning and facilitate them for bidding.

Contractors are advised to thoroughly go through the solicitation and come prepared with possible queries, if so required during the site visit. The prospective bidders are also to provide in writing possible queries to the Contracting Officer.

2.2 Contractor shall be informed that it is fully furnished house and all the systems are operational. Contractors are advised that the people working on the project shall not use the rest rooms inside the building and shall use the ones towards west side of the house. Any damage to the existing working systems shall be contractors responsibility and shall be restored back matching to existing at contractors own cost.

- 2.3 Contractor shall be liable towards the workmanship and performance warrantee for the material used in the fit out for a period of one year from final acceptance of the project. Any and all deficiencies / problems faced after completion shall be replaced fully with new (for material which can be replaced. Repairs are not acceptable – e.g. halogen lights etc.)) and repaired (work which cannot be replaced).

ENGINEERING SPECIFICATION 283115 – LOCALLY PROCURED FIRE ALARM SYSTEM

MARINE SECURITY GUARD QUARTERS

PART 1.0 - GENERAL

1.1 DESCRIPTION:

- A. This work shall include designing, providing, installing, and maintaining a new, complete, analog-addressable fire alarm system. The system shall include all wiring, raceways, pull boxes, terminal cabinets, outlet and mounting boxes, control equipment, alarm initiating devices, alarm notification appliances, control and monitoring interfaces, and all other accessories and miscellaneous items required for a complete operating system even though each item is not specifically mentioned or described. A single fire alarm control panel is required with terminal cabinets at each floor at each riser location. Where remote fire alarm control units are needed, they shall be provided at a terminal cabinet location. Each remote fire alarm control unit shall be powered by a wiring riser specifically for that use or from a local emergency power panel located on the same floor as the remote fire alarm control unit.
- B. The requirements of National Fire Protection Association (NFPA) 72, *National Fire Alarm and Signaling Code* shall be used as a guide except as modified and supplemented by this specification. The system shall monitor the integrity of all conductors.

1.2 SCOPE:

- A. A new analog-addressable fire alarm system shall be installed in accordance with these specifications.
- B. Initiating Devices:
 - 1. Smoke detectors shall be installed in all hallways, equipment rooms, basements, dining, and public areas. Heat detectors where ambient conditions are unsuitable for smoke detection (see NFPA 72-2010, Chapter 17).
 - 2. Smoke detectors with sounder bases shall be installed in all sleeping rooms.
 - 3. At least one manual fire alarm box shall be installed at the exit from each floor (story).
 - 4. Interface modules shall be installed to provide elevator recall. (N/A since the elevator will be disconnected completely)
- C. Audible notification appliances (i.e. bells or horns) spaced throughout to provide minimum 15dBA above loudest ambient noise levels. The effects of social functions shall be considered and used in the design.
- D. Visual notification appliances (strobes) in hallways and public areas.
- E. Basic System Functional Operation: When a fire alarm condition is detected and reported by one of the system alarm initiating devices, the following functions shall immediately occur:

1. Indicate the alarm at the fire alarm panel. All addressable devices shall indicate the floor and room of origin.
2. Activate audible and visual alarm notification appliances, to include sounder bases in sleeping rooms.
3. Provide a signal to a local monitoring service, if applicable.

1.3 SUBMITTALS:

- A. Submit two (2) complete sets of submittals. Before any work is commenced, the drawings and submittals shall be approved by the Department of State's Fire Protection Division/Overseas Buildings Operations (OBO/OPS/FIR). Deviation from the approved plans shall require permission of OBO/OPS/FIR. Any work that is conducted prior to approval shall be at the Contractor's risk.
- B. All submittals shall be in English.
- C. Shop Drawings: Submit shop drawings not smaller than 280 mm (11 inches) by 430 mm (17 inches). As a minimum, the shop drawing submittal shall include the following:
 1. Show all connections from field devices to the fire alarm control panel and remote fire alarm control units. Provide isometric drawing showing device locations, terminal cabinet locations, and all circuit layouts for all floors.
 2. Provide floor plans showing the room or area utilization (office, mechanical room, kitchen, etc.) the location of all devices and equipment.
 3. A riser diagram, showing the actual types and quantities of devices on each circuit.
 4. A legend for all symbols used.
 5. Scale used, North indication, and match lines (if applicable).
 6. Conductor and conduit identity, end of line devices, risers, conduit, junction, and pull boxes.
 7. A schedule showing the number, type, and size of all conductors and conduit planned.
 8. Identification labels, numbers, and references for all conductors. Identification labels, numbers, and references for all junction/splice boxes.
 9. Provide detailed drawings of the graphic annunciator, if applicable.
 10. Include annotated catalog data showing manufacturer's name, model, approval authority, voltage, ratings, power requirements, and catalog numbers for all equipment and components.

- D. Certifications: Together with the shop drawing submittal, submit a certification from the major equipment manufacturer indicating that the proposed supervisor of installation is an authorized representative of the major equipment manufacturer.
- E. Manuals: Provide two (2) bound copies of operation and maintenance manuals not less than thirty (30) days prior to the final completion of system installation. As a minimum, the manual shall include the following:
1. An index.
 2. Copies of all approved shop drawings and submittal materials.
 3. A complete parts list of all components, including, the manufacturer's name, the serial number of the part, an ordering number, if appropriate, and a physical and electrical description of the part.
 4. Product specification sheet (from the product package) for each component installed.
 5. Drawings and submittal materials shall be updated as necessary until contract completion to reflect as-built conditions.
- F. As-built Drawings: Within two weeks of Government acceptance of the system, submit to the Contracting Officer two (2) sets of detailed drawings showing actual installation conditions, including all changes from the original design made during installation. Include the following information, as a minimum:
1. Complete wiring diagrams showing connections between all devices and equipment, both factory and field wired.
 2. A riser diagram and drawings showing the as-built location of all devices and equipment.
 3. Show all connections from field devices to the fire alarm control panel and remote fire alarm control units. Provide isometric drawing showing device locations, terminal cabinet locations, and all circuit layouts for all floors.
 4. Provide floor plans showing the room or area utilization (office, mechanical room, kitchen, etc.) the location of all devices and equipment.
 5. A legend for all symbols used.
 6. Scale used, North indication, and match lines (if applicable).
 7. Conductor and conduit identity, end of line devices, risers, conduit, junction, and pull boxes.
 8. A schedule showing the number, type, and size of all conductors and conduit planned.
 9. Identification labels, numbers, and references for all conductors. Identification labels,

numbers, and references for all junction/splice boxes.

10. The drawings shall be prepared on uniform sized sheets not less than 600 mm (24 inches) by 900 mm (36 inches).

11. Revision number and date.

12. Name of organization and the system designer and any applicable stamps or seals.

1.4 WARRANTY:

- A. All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of at least one (1) year from the date of acceptance by OBO/OPS/FIR.
- B. If Warranty work is required, contractor shall correct the deficiency within 30 days of Government notification.

1.5 INSTRUCTION OF GOVERNMENT EMPLOYEES / TRAINING

- A. Instructor: Include in the project the services of an instructor, who shall have received specific training from the manufacturer for the training of other persons regarding the inspection, testing and maintenance of the system provided. The maintenance requirements for the system shall conform to NFPA 72, *National Fire Alarm Code* requirements. The instructor shall train the Government employees designated by the Contracting Officer, in the care, adjustment, maintenance, and operation of the fire alarm (and fire detection) system.
- B. Qualifications: Each instructor shall be thoroughly familiar with all parts of this installation. The instructor shall be trained in operating theory as well as in practical operation and maintenance work.
- C. Required Instruction Time: The instruction shall be given during regular working hours on such dates and times as are selected by the Contracting Officer. A minimum of 4 hours training is required.

PART 2.0 - PRODUCTS:

2.1 EQUIPMENT AND MATERIAL, GENERAL:

- A. The system and its components shall be Underwriters Laboratories, Inc. (UL) listed under the appropriate product standard as listed herein for fire alarm applications and shall be installed in compliance with its listing. Other local approval authorities or testing laboratories will be acceptable as a substitute only if approved by OBO/OPS/FIR/FPS.
- B. All equipment and components shall be new, and the manufacturer's current model.
- C. The Fire Alarm Control Unit (FACU) and all peripheral devices shall be manufactured by a single manufacturer (or division thereof).

2.2 CONDUIT AND WIRE:

A. Conduit:

1. Where used, conduit shall be in accordance with The NFPA 70, *National Electrical Code* (NEC) requirements. Locally manufactured (non-US) fire alarm cable shall be permitted where approved by the manufacturer of the system components and OBO/OPS/FIR.
2. Where used, conduit shall be 19 mm (3/4 inch) minimum diameter.
3. Where used, conduit shall be metal or listed limited combustible rigid plastic, except as otherwise allowed by this specification.
4. All conduit and boxes shall utilize proper fittings and support hangers.
5. Flexible conduit shall be permitted for lengths of no more than 2 m (6 feet) to initiating or notification appliances.
6. All conduit and wiring installed outdoors shall be listed or approved for wet locations.
7. Wires and cables shall be installed in a raceway and shall not be installed exposed.
8. Surface mount raceway (e.g., Panduit or Wire mold) shall be permitted in finished areas, where approved by the post facilities manager or his designee.
9. Armored or Metal Clad cable shall be permitted in unfinished and concealed areas and shall not be used in finished areas.

B. Wire:

1. All fire alarm system wiring shall be new.
2. Splices shall be made only at device terminals or on terminal strips in approved back boxes and terminal cabinets. Terminations shall be accessible.
3. Conductors and cables shall be installed in a raceway, except as otherwise permitted by these specifications.
4. Wiring shall be in accordance with NEC Article 760. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 18 AWG (1.02 mm) for initiating device circuits and signaling line circuits, and 14 AWG (1.63 mm) for Notification device circuits.
5. Color convention for low voltage field wiring shall be Red Positive, Black Negative.
6. AC Power shall be minimum 12 AWG (2.05 mm). Color-coding shall be as follows:
 - (1) Neutral – black or gray
 - (2) Hot (ungrounded) – white

(3) Grounded conductor - green.

2.3 FIRE ALARM CONTROL PANEL:

A. Fire Alarm Control Unit (FACU)

1. The FACU shall be an addressable control unit.
2. The FACU shall utilize English on all controls and operating features.
3. The FACU shall communicate with and control the following types of equipment:
 - (a) Smoke detectors
 - (b) Heat detectors
 - (c) Manual pull stations
 - (d) Alarm notification appliances (horns and strobes)
 - (e) Elevator controls (through control relays)
4. The FACU shall perform the following functions:
 - (a) Supervise and monitor all initiating device circuits and alarm notification circuits for trouble and alarm conditions.
 - (b) Detect the operation of any alarm initiating device circuit and operate all alarm notification appliances and auxiliary devices.
 - (c) Operate sounder bases in sleeping rooms for all alarm conditions.
 - (d) Visually and audibly annunciate any trouble, supervisory or alarm condition at the panel display. All written text identifiers shall be in English. Alarms shall be identified by room of origin or by sprinkler zone (floor).

B. System Circuit Supervision:

1. The FACU shall electrically monitor for integrity all circuits to annunciators and peripheral equipment, and annunciate (by trouble signals) loss of communications with these devices.
2. Loss of function of any one circuit shall not cause any other circuit or the control equipment to malfunction.
3. Each circuit shall have individual LED or alphanumeric text alarm and trouble indication.

2.4 POWER SUPPLIES:

- A. Batteries shall be as specified by manufacturer.

- B. Batteries shall have sufficient capacity to power the fire alarm system for not less than 24 hours in standby (quiescent load) plus 5 minutes of alarm upon a normal AC power failure.
- C. The batteries shall be completely maintenance free, sealed lead-acid batteries. No liquids shall be required. Fluid level checks, refilling, spills and leakage shall not be required.
- D. The AC primary power supply shall be supplied on a dedicated branch circuit. The location of the disconnecting means shall be identified at the FACU. The disconnecting means shall be labeled as FIRE ALARM CIRCUIT.

2.5 SYSTEM COMPONENTS:

A. Notification Appliances:

- 1. Audible alarm notification appliances shall be bells or horns.
- 2. Electronic sounders shall be designed for residential applications and provide an output sound level of at least 90 dBA measured at 3 m (10 feet) from the device.
- 3. Compatible sounder bases shall be used with system powered smoke detectors in each sleeping room or suite.
- 4. All visible notification appliances shall consist of strobes, utilizing a minimum 15 candela (cd) rating.
- 5. Combination audible/visible appliances shall be permitted.
- 6. All appliances shall have the word "FIRE" clearly visible in a contrasting color.
- 7. Visible notification appliances mounted on ceilings shall be listed for that purpose.

B. Manual Fire Alarm Stations:

- 1. Stations must be designed such that after an actual activation, they cannot be restored to normal except by key reset. Stations shall not have break glass or other element that requires replacement after operation.
- 2. Stations shall be suitable for semi-flush mounting on standard single gang box, and shall be installed not less than 1.1 m (42 inches) or more than 1.37 m (48 inches) above the finished floor.

C. Addressable Photoelectric Area Smoke Detectors:

- 1. Photoelectric smoke detectors shall be a 24 VDC, two wire, ceiling-mounted, light scattering type.
- 2. Each detector shall contain a remote LED output and a built-in test switch.

3. Detectors shall be provided on a twist-lock base.
4. All field wire connections shall be made to the base through the use of a clamping plate and screw.
5. Smoke detectors in sleeping rooms shall utilize and operate a sounder base to alert occupant(s) in the room.

D. Addressable Ionization Type Area Smoke Detectors:

1. Ionization type smoke detectors shall be a two wire, 24 VDC type.
2. Each detector shall contain an LED output.
3. Detectors shall be provided on a twist-lock base.
4. All field wire connections shall be made to the base through the use of a clamping plate and screw.
5. Smoke detectors in sleeping rooms shall utilize and operate a sounder base to alert occupant(s) in the room.

E. Addressable Monitor and Control Modules:

1. Monitor and control modules shall be compatible with and monitored by the FACU.
2. Monitor and control modules shall be connected to their respective systems through dry contacts, or other listed means.

2.6 SPARE EQUIPMENT:

A. The Contractor shall provide, at or before acceptance, extra materials that match products installed (as described below), packaged with protective covering for storage, and identified with labels clearly describing contents. The materials shall be inventoried with an itemized list given to the OBO/OPS/FIR representative and Post Representative. This list shall indicate the exact location, such as a room number, where the material is stored in the building(s). The Contractor shall provide the minimum specified quantity, but no less than one of each type:

1. Manual fire alarm boxes: 15% of number of manual fire alarm boxes installed.
2. Keys: five (5) keys of each type utilized on the system to include; fire alarm control panels, manual fire alarm boxes, testing/control units, and electrical terminal boxes.
3. Smoke Detectors, Fire Detectors, and Heat Detectors: 15% of number of units of each type installed.
4. Detector Bases: 15% of number of units of each type installed.
5. Notification Appliances: 15% of number of each type installed.

6. Interface (monitor & control) Modules or Relays: 15% of number of each type installed, but not less than two (2) each.
7. Program: CD copy of the complete fire alarm site-specific software program. Include all keys, codes, and passwords to access and use program to its fullest extent as required in 1.7.F.

PART 3.0 - EXECUTION

3.1 *INSTALLATION:*

- A. Installation shall be in accordance with NFPA 70, *National Electrical Code* (NEC), NFPA 72, *National Fire Alarm and Signaling Code*, and as recommended by the major equipment manufacturer.
- B. Devices and Equipment:
 1. Smoke detectors shall not be installed prior to system startup and test period. If construction is ongoing during this period, measures shall be taken to protect smoke detectors from contamination and physical damage.
 2. All fire detection and alarm system devices, control panels and remote annunciators shall be flush mounted when located in finished areas and may be surface mounted when located in unfinished areas.
 3. All Equipment shall be attached to and ceiling/floor assemblies and shall be held firmly in place. (E.g., detectors shall not be supported solely by suspended ceilings). Fasteners and supports shall be adequate to support the required load.
 4. Mark all initiating devices and notification appliances with circuit number and device or address number. Devices containing end of line resistors shall be marked "EOL".
- C. Conduit and Wire:
 1. All wiring in finished areas shall be installed in concealed locations (e.g., behind plaster or drywall) or in a raceway. Exposed cables shall not be permitted in finished areas. Metal Clad or Armored Cables shall be permitted in concealed locations.
 2. Surface mount raceway (e.g., Panduit or Wiremold) shall be permitted where approved by the post facilities manager or his designee.
 3. Where used, raceway fill shall not exceed 40 percent of interior cross sectional area.
 4. Where used, conduit shall be fastened and supported to the building structure at intervals not to exceed 1 m (3 feet).
 5. Fire alarm cables shall be fastened and supported to the building structure at intervals not to exceed 1 m (3 feet).

6. Where used, all conduit, junction boxes, conduit supports and hangers, shall be concealed in finished areas and may be exposed in unfinished areas.
7. Fire alarm circuits shall be wired Class B (NFPA Style B).
8. All wiring installed outdoors shall be listed or approved for wet locations. Equipment and wiring shall be installed so as to minimize water infiltration.

D. Main Power Supply

1. The Fire Alarm Control Panel shall be connected to a separate dedicated branch circuit, maximum 20 amperes. This circuit shall be labeled at the main power distribution panel as FIRE ALARM CIRCUIT. Fire alarm control panel primary power wiring shall be 12 AWG (2.05 mm). The control panel cabinet shall be grounded securely to either a cold water pipe or grounding rod.
2. AC power shall be by dedicated circuit breaker. Emergency circuit shall be used, if available.
3. The location of the disconnecting means shall be identified at the FACU.

3.2 DEMOLITION and PATCH AND PAINT:

- A. All existing equipment shall be removed following successful completion of acceptance testing.
- B. Patching and painting shall conform to the requirements of Annex A to these specifications.

3.3 TEST:

- A. Provide the service of a competent, factory-trained engineer or technician authorized by the manufacturer of the fire alarm equipment to technically supervise and participate during all of the adjustments and tests for the system.
- B. Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.
- C. Open initiating device circuits and verify that the trouble signal actuates.
- D. Open and short notification appliance circuits and verify that trouble signal actuates.
- E. Ground circuits and verify response of trouble signals.
- F. Check presence and audibility of tone at all alarm notification devices.
- G. Check installation, supervision, and operation.
- H. Verify that each initiating device alarm is properly received and processed by the FACP (Walk Test).

- I. Conduct tests from the FACP to verify trouble indications for common mode failures, such as alternating current power failure.

3.3 FINAL INSPECTION:

- A. A contract representative shall be present for the commissioning and final inspection of the fire alarm installation. OBO/OPS/FIR personnel shall witness all acceptance tests.
- B. At the final inspection a factory-trained representative of the manufacturer of the major equipment shall demonstrate that the systems function properly in every respect.

3.4 INSTRUCTION:

- A. Provide instruction as required to the building personnel. "Hands-on" demonstrations of the operation of all system components and the entire system shall be provided.

3.5 OPTIONAL MAINTENANCE CONTRACT:

- A. The Contractor shall provide alternate pricing for minimum two year maintenance and testing contract. Testing and maintenance shall conform to Chapter 14 of NFPA 72 and manufacturer's requirements.

3.6 SPECIAL NOTES:

- A. Not all aspects of this specification will comply with the codes, practices or equipment common to the local jurisdiction. Alternate technology or processes will be considered when submitted with an explanation. Denote all proposed alternate technology or processes with the section and paragraph of the specification that it is intended to replace.
- B. All deviations from these specifications must be made in writing and must be approved by OBO/OPS/FIR.

ANNEX A

CUTTING, PATCHING, AND PAINTING SPECIFICATION

1.0 GENERAL

1.1 WORK INCLUDED:

- A. Cutting, coring, or demolition, and patching of existing walls, ceilings or floors required to:
 - 1. Install the specified work.
 - 2. Remove and replace defective work or work not conforming to contract requirements.
 - 3. Remove samples of installed work as required for testing or inspection.
- B. Provide and maintain proper safety barricades and dustproof and weatherproof barriers.
- C. Painting existing construction where cutting and patching has been done to accommodate new work.
- D. Repair and replacement of suspended ceiling grids and tiles, where applicable.

1.2 SUBMITTALS

- A. Prior to any cutting, coring or demolition which affects the structural safety of the project, work of another contractor, existing occupied spaces or the safety of the public or Government employees, the Contractor shall submit written notice to the COR and Post Maintenance personnel requesting consent to proceed with the work, including the following:
 - B. Area affected.
 - C. Reason for cutting, coring or demolition
 - D. Proposed method of cutting, coring or demolition and patching.
 - E. Shop drawings, indicating work required.
 - F. Methods of protecting exposed work, the public and Government employees.
 - G.
- H. The Contractor shall not proceed with the work until Post Maintenance has approved the submittals, inspected the protection provided and given permission to proceed with the work.

1.3 PROTECTION

- A. The Contractor shall provide and maintain protection for existing construction that is to remain in place, adjacent property, the public, and Government employees.
- B. The Contractor shall provide all barricades, lights, signals and other protection, which may be required by federal and local laws or ordinances and maintain same for the full period of the operation.
- C. The Contractor shall provide and maintain temporary weather-tight and/or dust-tight protection, as approved by Post Maintenance, for openings that expose the existing or

new construction and equipment to weather or separate that portion of the existing occupancy (which will remain in operation during construction) from new construction areas.

- D. Where applicable, the Contractor shall use temporary barriers of noncombustible or flame retardant-treated materials.
- E. Where applicable, protection may be removed for working purposes and then replaced at end of each day's work.
- F. Temporary protection in the construction area shall remain in place until Post Maintenance personnel authorize removal of such protection.

1.4 JOB CONDITIONS

1.4.1 SAFETY

- A. The Contractor shall observe all required safety regulations and the manufacturer's warnings and instructions during the storage, handling and application of painting materials.
- B. The Contractor shall observe all safety rules supplied by OSHA or the EPA for fresh air supply in enclosed areas where spray painting is being conducted.
- C. The Contractor shall provide proper protective safety equipment (i.e., respirators, dust mask, hard hats, goggles). This equipment shall be worn by workers as required.
- D. The Contractor shall use only ladders and scaffolding of the type approved by the Occupational Safety and Health Administration (OSHA) for its intended purpose.
- E. The Contractor shall take all necessary precautions to protect personnel and property from hazards due to falls, injuries, toxic fumes, fire, explosion, or other harm.
- F. The Contractor shall deposit soiled cleaning rags and waste materials in metal containers approved for that purpose. The Contractor shall legally dispose of such items off the site at the end of each day's work.

1.4.2 LEAD-BASED PAINT. The responsibility of compliance with Section 401 of the Lead-Based Paint Poisoning Prevention Act, as amended, is placed upon the Contractor.

1.4.3 ATMOSPHERIC AND SURFACE CONDITIONS

- A. The Contractor shall not apply exterior paint in foggy, damp or rainy weather.
- B. The Contractor shall not apply exterior paint in windy and dusty conditions.
- C. The Contractor shall apply paint to surfaces when the ambient temperature is between 7 °C (45 °F) and 32 °C (90°F); except when water-thinned paints are used, the ambient temperature shall be between 10 °C (50 °F) and 32 °C (90 °F), unless otherwise designated in the Manufacturer's printed instructions. The Contractor shall maintain these temperatures until the paint is completely dried.
- D. The Contractor shall apply paint only on clean, dry and frost-free surfaces. The Contractor shall not apply water-thinned acrylic and cementitious paints to damp (not wet) surfaces unless allowed by the Manufacturer's printed instructions.

- E. The Contractor shall not apply paint in direct sunlight or on surfaces that will soon be warmed by the sun. Concrete and masonry surfaces to which water-thinned acrylic and cement-based paints are applied shall be dampened with a fine mist of water on hot, dry days to prevent excessive suction and to cool the surface.

2.0 MATERIALS and PRODUCTS

2.1 PATCHING

- A. Replacement or repair materials shall match those of the existing adjacent surfaces.
- B. Finished surfaces shall be repaired to match existing finished surfaces.
- C. All surfaces, walls, floors and ceilings shall be repaired to maintain their integrity and fire resistance.
- D. Replace fireproofing material removed from structural steel with new fireproofing material of equal or better fire rating. New fireproofing material shall be acceptable to the COR.
- E. New replacement ceiling tiles shall be supplied by the Contractor and shall match the existing tiles.

2.2 PAINT

- A. All new paint colors and textures shall match those of the existing adjacent areas.
- B. The Contractor shall repaint the entire existing ceiling and/or wall surface that has been altered or damaged or where soffits are added due to installation of new work.
- C. Spot painting will be acceptable only if the painting matches the existing paint, to the satisfaction of Post Maintenance personnel. If the spot painting does not match, the Contractor shall repaint the entire contiguous surface.

2.3 STORAGE

- A. Painting materials shall be stored at a location approved by Post Maintenance personnel, protected by automatic sprinklers (where provided), and isolated from the construction area.
- B. Maintain space for storage and handling of painting materials and equipment in a neat and orderly condition.
- C. All materials shall be stored at the site at least 24 hours before using in order to bring their temperature to between 18 °C (65 °F) and 30 °C (85 °F).

3.0 Execution

3.1 CUTTING AND PATCHING

- A. Prior to cutting, coring, or demolition, the Contractor shall provide the following:
 - 1. Shoring, bracing and support as required to maintain structural integrity of the

project.

2. Protection from elements.
3. Other protection indicated in Paragraph 1.3 of this Annex.

B. Performance. The Contractor shall:

1. Perform operations in such manner as to avoid hazards to persons and property and interference with the use of adjacent areas or interruption of free passage to and from such areas.
2. Take care to prevent the spread of dust and flying particles.
3. Execute cutting, coring demolition and debris removal work in a careful and orderly manner. Accumulation of rubbish will not be permitted.
4. Restore work that has been cut or removed and install new products to provide completed work in accordance with contract requirements.
5. Refinish entire surfaces as necessary to provide an even finish.
6. Refinish continuous surfaces to the nearest intersection of surfaces.
7. Refinish entire assemblies.
8. Patch stair floor openings with a waterproof and fireproof sealant.
9. Not interrupt utilities without first notifying Post Maintenance personnel and having their concurrence with the interruption.
10. Shall provide temporary support for utilities whose support is disturbed by removal work.
11. Shall coordinate with related trades any disconnecting and rerouting of existing services.

3.2 PAINTING

GENERAL: PAINTING SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

1. Color and texture of finish coats shall match existing.
2. Color of priming coat shall be lighter than body coat.
3. Color of body coat shall be lighter than finish coat.
4. Primer and body coats shall be colored to mask surface imperfections and so they do not show through the finish coat.

PAINT PREPARATION.

- A. The Contractor shall thoroughly mix all painting materials to ensure uniformity of color, complete dispersion of pigment and uniform composition.
- B. Finish paint shall not be used as primer. Primers must be matched to substrate being painted:
 1. Dry wall - polyvinyl acetate primer latex.
 2. Metal - primer required by manufacturer for proper adhesion.
 3. Masonry - proper masonry sealer/primers to insure proper adhesion to substrate.
- C. The Contractor shall not thin materials, unless necessary for proper application and when finish paint is used for body and prime coats. Materials and the quantities used for thinning shall be in accordance with the manufacturer's printed instructions.

- D. The Contractor shall remove all paint skins, then strain paint through commercial paint strainer to remove all lumps and other particles.
- E. Two-component and two-part paint and those requiring additives shall be mixed in such a manner as to be uniformly blended in accordance with the manufacturer's printed instructions.
- F. The Contractor shall use color pigment recommended by the paint manufacturer for tinting required to produce exact shades specified,

3.2.3 SURFACE PREPARATION

A. General.

- 1. The Contractor shall remove radiators, lighting fixtures and similar items for complete painting of such items and adjacent areas.
- 2. The Contractor shall verify the requirements for surface conditions and prime coat.
- 3. Surfaces to be finished shall be dry, clean, smooth and prepared as specified.
- 4. Materials and methods used for cleaning shall be compatible with the substrate and specified finish. Remove any residue remaining from cleaning agents used.
- 5. Method of surface preparation is optional provided results of finish painting produce solid even color and texture specified.

A. Masonry, Concrete, Cement, Plaster and Stucco.

- 1. The Contractor shall remove all dust, dirt, oil, grease efflorescence, and other deterrents to paint adhesion.
- 2. The Contractor shall use emulsion-type-cleaning agents to remove oil, grease, paint and similar products. The use of solvents, acid, or steam is not permitted.
- 3. The Contractor shall remove all loose mortar in masonry work.
- 4. The Contractor shall replace mortar and fill all open joints, holes, cracks and depressions with patching compound, finished flush with adjacent surface, with texture to match texture of adjacent surface.
- 5. Concrete floors to be painted shall be neutralized by washing with a solution of three pounds of zinc sulphate crystals dissolved in one (1) gallon of water, allowed to dry three days and brushed thoroughly free of crystals.
- 6. The Contractor shall repair all concrete with broken and spalled edges with patching compound to match adjacent surfaces. The Contractor shall remove projections to level of adjacent surface by grinding or similar methods.

B. Gypsum, Plaster, and Drywall.

- 1. The Contractor shall remove efflorescence, loose and chalking plaster, dust, dirt, and other deterrents to paint adhesion.
- 2. The Contractor shall fill holes, cracks and other depressions with patching

compound, finished flush with adjacent surface, with texture to match texture of adjacent surface.

C. Primers.

1. After surface preparation, the Contractor shall apply a primer coat to various materials as follows:
 - a. Cement, plaster, concrete and masonry: latex emulsion, except use two coats of latex primer when substrate has aged less than six months.
 - b. Drywall: latex primer, except use pigmented sealer in shower rooms.

3.2.4 APPLICATION

- A. Unless otherwise specified, paint shall be applied in three coats: prime, body, and finish. When the two coats succeeding the prime coat are the same, the first coat applied over the primer shall be considered as the body coat, the second coat as the finish coat.
- B. Before application of body and finish coats, surfaces shall be primed except as otherwise specified.
- C. The Contractor shall retouch damaged and abraded painted surfaces before applying succeeding coats.
- D. Each coat shall be evenly applied to fully cover the area.
- E. No less than 48 hours shall elapse between application of succeeding coats, except as allowed by the Manufacturer's printed instructions, and approved by Post Maintenance personnel.
- F. Finished painted surfaces shall have solid even color, free from runs, lumps, brush marks, laps, holidays, or other defects.
- G. To prevent the items from sticking in the shut position, operable items such as access doors and panels, window sashes, rolling doors, and similar items shall not be painted when in the closed position.
- H. All necessary precautions shall be taken to prevent painting of sprinklers. Painted sprinklers shall be replaced by the Contractor at no additional cost to the Government.
- I. Paint shall be applied by brush, roller or spray, except as otherwise noted.
- J. Spray painting will not be allowed unless approved by Post Maintenance personnel.
- K. Painting materials specifically required by the Manufacturer to be applied by spraying shall be so applied.
- L. In areas where paint is applied by spray, all items not to be painted shall be masked, or enclosed with polyethylene, or similar airtight material with all edges and seams continuously sealed.

3.2.5 PROTECTION

The Contractor shall protect all work from paint droppings and splattering by use of masking, drop cloths, removal of items or by other approved methods.

3.2.6 CLEAN-UP

- A. Upon completion, the Contractor shall clean paint from all hardware, glass and other surfaces and items not required to be painted.
- B. Before final inspection, any work that has become damaged or discolored shall be touched up or refinished by the Contractor in a manner to produce solid even color and finish texture, free from defects.
- C. The Contractor shall be responsible for replacing and/or repairing any and all areas damaged during the execution of this work.

3.2.7 OWNERSHIP AND DISPOSAL OF REMOVED MATERIALS

- A. Unless otherwise stated in the task order, removed materials shall become property of the Contractor. Existing equipment and construction debris shall be removed from the premises and legally disposed of.

3.2.8 CLEAN-UP

The areas of cutting, coring, demolition, debris removal, and painting; the inside and outside of the building shall be left in a safe and clean condition suitable for the installation of new work.