

**SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE
DETECTION AND SUPPRESSION SYSTEM**

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INTRODUCTION AND SCOPE OF WORK

This Request for Proposal is for the interested companies to submit proposals for Supply, Installation, Testing and Commissioning of Fire Detection and Suppression System for Indira Gandhi Memorial Hospital. The Fire Fighting System includes;

- Pump House Equipment
- Fire Hydrant System
- Sprinkler System
- Fire Alarm System
- PA System

The scope of work includes;

- Removing the existing System
- Supply, Installation, Testing and Commissioning of New Fire Detection and Suppression System.

The technical documents comprise of;

- Technical Drawings
- Specification and Technical Requirement
- Bill of Quantity (BOQ)
- Whole fire system is to be done specified specifications as per the updated NFPA codes and standard

IGM Hospital is a fully functional hospital, Therefore the awarded party shall organize the work and propose the timeline keeping this point in consideration.

All bidders should provide all the technical details as per the technical Requirement and BOQ in the RFP. Any bidder who fail to comply with the technical requirement will be disqualified.

FACILITY PROFILE

IGM Hospital,

Kanba Aisarani Higun,

+960 3335105,

www.igmh.gov.mv

IGM Hospital is the tertiary care referral hospital of the Maldives. With a bed capacity of 350, IGM Hospital caters a patient load of 4000 outpatients on a daily basis. The facility is currently operating

Project Goals and Expectation

The proposed system should;

- Be compliant with NFPA codes and standards mentioned in the RFP
- Be compliant with the accreditation standards required for NABH
- Be cost effective and automated to minimize the resources used.
- Be efficient system to detect and suppress any fire hazardous condition in the hospital premises.

SYSTEM INSTALLATION AND TECHNICAL SUPPORT REQUIREMENT

- Describe and attach your typical implementation plan. Describe the length of time your engineering team will be on our site during installation and the exact scope of the work they will perform.
- Describe the experience and qualifications of your installation team.
- Describe the training provided. Include a training outline.
- Describe and Outline the AMC terms and conditions and the maintenance and support plan.
- Describe the qualifications of your technical support team.
- Describe the organization and structure of your technical support services.

SYSTEM PROPOSAL

Provide the system proposal that includes;

Details of the all the equipment (including electronic and electric components)

Description of training provided, including location and time commitment.

Describe the testing to be carried out.

Description and cost of the AMC (support service) – 5 years support service contract (yearly rate)

FIRE DETECTION AND SUPPRESSION SYSTEM TECHNICAL REQUIREMENTS

1. Pump House Equipment
2. Fire Hydrant System
3. Sprinkler System
4. Fire Alarm System
5. PA System
6. Fire Extinguishers
7. Removing existing system
8. Technical requirement details

Pump House Equipment

| S.N | PARTICULARS | Unit | Qty |
|-----|---|------|-----|
| | PUMP HOUSE EQUIPMENT | | |
| 1 | Supply, Erection, Testing and Commissioning of Horizontal, centrifugal, back pull out electric driven main fire pump, complete with suitable size electric motor, duly coupled on a common base frame with all required accessories for the following data. | Nos. | 2 |
| | 1. Capacity :137 m3/hr. | | |
| | 2. Head : 88 mt. | | |
| | | | |
| 2 | Supply, Erection, Testing and Commissioning of electric driven jockey pump, complete with suitable size electric motor , on a common base frame with all required accessories for the following data. | No. | 1 |
| | 1. Capacity : 10.8 m3/hr. | | |
| | 2. Head : 88 mt. | | |
| | | | |

| | | | |
|---|---|------|----|
| 3 | CONTROL PANEL FOR PUMPS | No. | 1 |
| | Supply, Erection, Testing and Commissioning of Control Panel for fabricated out of 14 SWG CRCA sheets steel, modular construction, floor mounted, front operating type, top and bottom entry for cables for Main pump, Jockey pump.& Diesel Pump | | |
| | | | |
| 4 | Supply, Erection, Testing and Commissioning of Horizontal, centrifugal, back pull out diesel engine driven pump, complete with suitable size Diesel Engine Control Panel and Battery Charger Radiator cooled, duly coupled on a common base frame with all required accessories for the following data. | No. | 1 |
| | 1. Capacity : 137 m3/hr. | | |
| | 2. Head : 88 mt. | | |
| | 3. fuel Tank, piping & accessories. | | |
| | | | |
| 5 | Supply, Erection, Testing and Commissioning of Cables and earthing From control panel to main pump, Jockey pump, pressure switch, from DG control panel to DG pump local panel for controls and battery charger with 25 x 3mm thick GI strip for earthing of the panel and motor. | LOT | 1 |
| | | | |
| 6 | Supply, erection, testing and commissioning of GI C class pipe as per IS 1239 or IS 3589 ERW, along with fittings like sockets, bends, elbows, tees, plugs, nipples, flanges, reducers etc | | |
| a | 250 mm dia. | Rmt. | |
| b | 200 mm dia. | Rmt. | 11 |
| c | 150 mm dia. | Rmt. | 16 |
| d | 100 mm dia. | Rmt. | 11 |
| e | 80 mm dia. | Rmt. | 11 |

| | | | |
|----|---|------|----|
| f | 50 mm dia. | Rmt. | 11 |
| | | | |
| 7 | Supply and installation of CS Gate Valve | | |
| a | 200 mm dia. | Nos. | |
| b | 150 mm dia. | Nos. | 4 |
| c | 100 mm dia. | Nos. | |
| d | 80 mm dia. | Nos. | 1 |
| | | | |
| 8 | Supply, Erection, Testing and Commissioning of CI Butterfly valve, SS Disc, PN 16 | | |
| a | 150 mm dia. | Nos. | |
| b | 100 mm dia. | Nos. | 3 |
| c | 80 mm dia. | Nos. | |
| d | 50 mm dia. | Nos. | 1 |
| | | | |
| 9 | Supply, Erection, Testing and Commissioning of CS Body NRV | | |
| a | 150 mm dia. | Nos. | |
| a | 100 mm dia. | Nos. | 3 |
| b | 80 mm dia. | Nos. | |
| c | 50 mm dia. | Nos. | 1 |
| | | | |
| 10 | Supply, Erection, Testing and Commissioning of Y type strainer | | |
| a | 200 mm dia. | Nos. | |
| b | 150 mm dia. | Nos. | 3 |
| c | 100 mm dia. | Nos. | |
| d | 80 mm dia. | Nos. | 1 |
| | | | |
| 11 | Supply, Erection, Testing and Commissioning of GI Ball valve | Nos. | 1 |
| | | | |

| | | | |
|----|--|------|-----|
| 12 | Supply, Erection, Testing and Commissioning of Air Release valve with isolation valve of 25mm dia | No. | 1 |
| | | | |
| 13 | Supply and installation of 100mm dial size pressure gauges with all accessories like isolation valve, bush etc. | Nos. | 4 |
| | | | |
| 14 | Supply and installation of Pressure switches for auto operation of pumps. | Nos. | 3 |
| | | | |
| 15 | 0.1M3 capacity pressure tank complete with stand, fittings, valves, gauges, pr relief valve etc connected to main fire pump delivery. MS fabricated, painted with 2 coats of fire red synthetic enamel paint as per IS 5, after degreasing and cleaning. All the welding shall be properly ground for proper surface finish. the vessel shall be hydro tested for 2 hours at 14bar | Nos. | 1 |
| | | | |
| 17 | Supply, fabrication, erection of MS for supports in pump room for various items like strainer / suction header / discharge header, exhaust pipe line for DG pump, diesel tank etc. | kg | 460 |

Fire Hydrant System

| S.N | PARTICULARS | Unit | Qty |
|-----|--|------|------|
| | HYDRANT NETWORK & RISER | | |
| 1 | Supply, erection, testing and commissioning of GI C class pipe as per IS 1239 or IS 3589 ERW, along with fittings like sockets, bends, elbows, tees, plugs, nipples, flanges, reducers etc | | |
| a | 200 mm dia | Rmt. | |
| b | 150 mm dia | Rmt. | 1215 |
| c | 100 mm dia. | Rmt. | 0 |

| | | | |
|----|--|------|----|
| d | 80mm dia. | Rmt | 60 |
| e | 50mm dia. | Rmt | 0 |
| f | 25 mm dia. | Rmt | 24 |
| | | | |
| 5 | Supply, Erection, Testing and Commissioning of CI Butterfly valve, SS Disc, PN 16 | | |
| a | 150mm Dia | Nos. | 30 |
| b | 100mm dia | Nos. | 0 |
| | | | |
| 6 | Supply, Erection, Testing and Commissioning of GM Air release valve with isolation valve of 25mm dia | Nos. | 10 |
| | | | |
| 7 | Supply, Erection, Testing and Commissioning of GI Hydrant Valve as per IS:5290, Type-A Single headed, 63 mm dia. | Nos. | 40 |
| | | | |
| 8 | Supply, Erection, Testing and Commissioning of First Aid hose reel in red color drum with 30 mts long and 20 mm dia heavy duty rubber water hose | Nos. | 25 |
| | | | |
| 9 | Supply, Erection, Testing and Commissioning of GI Ball valve | Nos. | 28 |
| | | | |
| 10 | Supply, Erection, Testing and Commissioning of GI Branch pipe with nozzle as per IS:903 | Nos. | 40 |
| | | | |
| 11 | Supply, Erection, Testing and Commissioning of Fire hose pipe, RRL, Type-A, as per IS:636, 63mm dia x 15 mtr. long, complete with GI male and female instantaneous coupling. | Nos. | 80 |
| | | | |
| 12 | Supply, Erection, Testing and Commissioning of GI Hose box to accommodate 2 lengths of hose pipes of 15 mtr. Long & branch | Nos. | 40 |

| | | | |
|----|---|------|------|
| | pipe with front openable glass door and glass for key (750 x 600 x 150) | | |
| | | | |
| 14 | Supply and installation of 4 way fire brigade inlet with CI body and GM coupling | Set | 2 |
| | | | |
| 15 | Supply and installation of 100mm dial size pressure gauges with all accessories like isolation valve, bush etc. | Nos. | 2 |
| | | | |
| 17 | Supply, fabrication, erection of MS steel for supports of fire hydrant network going along with the MS structure of plant or from the wall for support. | kg | 2300 |

Fire Sprinkler System

| S.N | PARTICULARS | Unit | Qty |
|-----|--|------|------|
| | FIRE SPRINKLER SYSTEM | | |
| 1 | Supply, erection, testing and commissioning of GI C class pipe as per IS 1239 or IS 3589 ERW, along with fittings like sockets, bends, elbows, tees, plugs, nipples, flanges, reducers etc | | |
| a | 150 mm dia | Rmt. | 2715 |
| c | 100 mm dia. | Rmt. | 110 |
| d | 80 mm dia. | Rmt. | 198 |
| f | 50 mm dia. | Rmt. | 497 |
| g | 40 mm dia. | Rmt. | 1600 |
| i | 25 mm dia. | Rmt. | 3200 |
| | | | |
| 3 | Supply, Erection, Testing and Commissioning of CI Butterfly valve, GI Disc, PN 16 | | |
| a | 150 mm dia. | Nos | 15 |

| | | | |
|----|---|------|------|
| b | 100 mm dia. | Nos | 0 |
| | | | |
| 4 | Supply, erection, testing and commissioning of Drain Assembly with isolation valve of 25mm dia | Nos | 15 |
| | | | |
| 5 | Supply, fabrication, erection of MS steel for supports in pump for sprinkler header & branch pipes | kg | 1840 |
| | | | |
| 6 | Supply, erection, testing and commissioning of Wet alarm valve of size 150mm NB of model A at 12 bar working pressure, vertical mounting with all trimming accessories, gong bell | Sets | 4 |
| | | | |
| 8 | Hanger Supports - GI , rod dia 10mm for pipe size up to 100NB, 12 mm for larger pipes up to 200NB | | |
| a | 150NB | Nos | 230 |
| b | 50NB | Nos | 166 |
| c | 40NB | Nos | 1012 |
| d | 32NB | Nos | 0 |
| e | 25NB | Nos | 2300 |
| | | | |
| 9 | Supply, erection, testing and commissioning of Fire sprinkler nozzle @ 68 degree temp. rating QBD in Pendant mode (K -80) | Nos | 245 |
| | | | |
| 12 | Supply, erection, testing and commissioning of flexible fire sprinkler hose connection for false ceiling area. The flexible hose shall be of SS-304 and of braided style. | | |
| | 1.5 mtr. Long | Nos | 211 |
| | | | |
| 13 | 2-piece Recessed plate 1/2" Chrome finish | Nos. | 211 |
| | | | |

| | | | |
|----|--|-----|----|
| 14 | Supply, erection, testing and commissioning of Flow switch of size 150mm dia | Nos | 12 |
|----|--|-----|----|

Fire Alarm System

| S.N | PARTICULARS | Unit | Qty |
|-----|--|------|-----|
| | Addressable Fire Alarm System | | |
| 1 | Supply, Installation, Testing & Commissioning of 4 Loop Panel addressable Main Fire Alarm Panel complete with battery charger for maintenance free batteries | Nos | 1 |
| | | | |
| 2 | Supply, Installation, Testing & Commissioning of Repeater Panel | Nos. | 1 |
| | | | |
| 3 | Supply, Installation, Testing & Commissioning of Smoke detector | Nos | 550 |
| | | | |
| 4 | Supply, Installation, Testing & Commissioning of Addressable Manual Call Point | Nos | 35 |
| | | | |
| 5 | Supply, Installation, Testing & Commissioning of Hooter with Strobe | Nos | 30 |
| | | | |
| 6 | Isolation Module | Nos. | 10 |
| | | | |
| 7 | Monitor Module | Nos. | 10 |
| | | | |
| 8 | Response indicators | Nos. | 10 |
| | | | |

| | | | |
|----|---|------|------|
| 9 | Supply, installation, testing and commissioning of 2Cx1.5 Sq.mm | mtr | 5500 |
| | | | |
| 10 | Supply, installation, testing and commissioning of Cable Tray 50x50, GI | mtr | 100 |
| | | | |
| 11 | Supply, installation, testing and commissioning of Beam Detectors | Nos. | 3 |

PA System

| S.N | PARTICULARS | Unit | Qty |
|-----|---|------|------|
| | Public Address System | | |
| 1 | Supply, Installation, Testing & Commissioning of amplifier with Goose neck mice (Ahuja /Bosch) | Nos | 1 |
| | | | |
| 2 | Supply, Installation, Testing & Commissioning of Speakers (Ahuja /Bosch) | Nos. | 250 |
| | | | |
| 3 | Supply, laying of speaker cable with PVC conduit | mtr | 3500 |

Fire Extinguishers

| S.N | PARTICULARS | Unit | Qty |
|-----|---|------|-----|
| | Fire extinguishers | | |
| 1 | ABC type fire extinguishers having capacity of 6kg with wall brackets as per the drawing given. | Nos. | 27 |

Removing of existing system

| Sl. No. | Description | Unit | Qty |
|----------|--|-----------------|--------|
| 1 | Removing Fire pump house existing equipment as mentioned below and arrange the space for new fire pumps and electrical panels. | | |
| a | Fire pumps | nos | 3 |
| b | Fire diesel pump | nos | 1 |
| c | Electrical Panel | nos | 1 |
| 2 | Removing existing fire piping system as mentioned below and arrange the space for new piping system. | | |
| a. | 150mm nominal dia | m | 536 |
| b. | 100mm nominal dia | m | 55 |
| c | 85 mm nominal dia | m | 55 |
| d | 65mm nominal dia | m | 42 |
| e | 50mm nominal dia | m | 27 |
| g | 32mm nominal dia | m | 504 |
| 3 | Removing existing fire hydrants and arrange the space for new fire Hydrants. | nos | 25 |
| 4 | Removing existing fire detection system including fire panels, smoke detectors, and whole wiring. | Lot | 1 |
| 5 | Ceiling area that needs to be opened and re-fixed after installation the new fire pipe system | ft ² | 15,600 |

Technical requirement details

| | |
|---|---|
| 1 | National Fire Protection Authority-NFPA codes and standard updated version should be followed for the proposal. |
| 2 | Final proposal needs to be submitted including CIF price at male port. |
| 3 | All samples approval needs to have before the signing the selected proposal. |
| 4 | Commissioning the fire system needs to be done at full load condition with no bypasses, silence, or disconnections between systems. |
| 5 | After commission the fire system, following needs to be done at hospital premises. |
| | Training the hospital fire team to attain any emergency fire condition. |
| | Conduct a fire drill and training fire team to continue fire drill as per the specified time interval. |
| | Handing over commissioning reports and SOPs |
| 6 | One year of comprehensive warranty for all electrical and electronic equipment with maintenance and free service during the period. |
| 7 | Annual maintenance contract (AMC) is to be considered after the one year of free services and maintenance. It is to be decided by the management considering the past service performance |
| 8 | Updated software version and relevant documents for the main fire control panel |
| 9 | warranty certificate for the equipment |