DATE: February 16, 2018
TO: Potential Bidders
FROM: Denise Harpool, Senior Buyer
SUBJECT: Questions and Answers
RFP752-18-211976DH
Design & Install Automatic Fire Suppression System Maple Hall

This document is being issued to answer questions that have been submitted as follows:

**Questions from Pre-Proposal Meeting and Walk-through**

1. As far as the work, When will the contractors have access to the building (When will the building be closed?)
   **ANSWER:** May 14, 2018

2. Size of Generator?
   **ANSWER:** Needs to be sized to Fire Pump and additional 100kw for other systems

3. Will Generator Pad be installed by the Maple Hall Fire Suppression System Contractor?
   **ANSWER:** Yes

4. Greenhouse Power source?
   **ANSWER:** No answer available at this time.

5. UNT System Fire Marshal variance on distance of electrical and distance of mechanical room in relation to tunnel?
   **ANSWER:** Yes

6. Fire pull station to remain on the wall where they are?
   **ANSWER:** Yes
7. Will Asbestos Abatement to be done by contractor or by UNT Facilities contractor

**ANSWER:** Facilities contractor

8. Dorm rooms notification alarm must be designed so that they are not obstructed by any ceiling light

**ANSWER:** Dorm rooms to have speaker only, no visual device

9. Will the water tap for the Mean Greens Cafeteria be separate or does it have the same address as Maple Hall (there was a sign “801 S Ave C” above loading dock)

**ANSWER:** One tap for both buildings off of Maple Street.

10. This project is to be bid as NFPA 13. The use of NFPA 13R is not allowed? NFPA 13R is what this type of application would normally be listed as “Multi Family dwelling up 4 stories in height”. If NFPA 13R will not be allowed, than this would mean that all bathrooms will need to be sprinkled. During the job walk, there were discussion about not including sprinklers in the bathrooms. Please clarify.

**ANSWER:** The project is to be bid with Both NFPA 13 and NFPA 13R

11. The specs do not call out for Standpipes with 2½” Fire Hose Valves in the exit stairwells. Per code, this building is not taller than 30’ to the highest occupiable level and should not require Standpipes per NFPA 14. I just want to get clarification that UNT will not require.

**ANSWER:** Standpipes are required in Stairwells 1, 3, 5, and 7

12. I don’t see that the use of CPVC pipe is allowed. But it is not clear that it cannot be used. Please clarify.

**ANSWER:** CPVC is allowed in dorm rooms and associated areas per NFPA 13R, all other areas will require system and installation per NFPA 13

13. In the previous rendition of this RFP it was noted a stand pipe system was being required on this project. Is there still a stand pipe system being required on this project?

**ANSWER:** Yes

14. During the walk-throughs it was discussed to run power through the tunnel space and in the crawl space under Maple Hall. Would it also be acceptable to run power outside the building, underground, along the “Avenue C side” of the building?

**ANSWER:** No
**General Questions:**

1. Provide copy of asbestos report and areas of remediation.
   **ANSWER:** All asbestos testing and remediation will be handled by UNT and is not part of this RFP. Reports will be provided to awarded contractor.

2. Define what additional work (by OTHERS) will be going on in any areas of the building that could be affected during the schedule of this project?
   **ANSWER:** ADA ramp, Electrical panel change out, AHU change out, painting of 100 rooms

3. Please provide the following drawings: As-builts for building; As-builts of fire alarm; as-builts for electrical scope. CAD files, Architectural Files, if possible?
   **ANSWER:** Will provide to awarded contractor

4. Confirm that the building will be UN-Occupied for the duration of this project?
   **ANSWER:** Yes

5. Please confirm as per the drawings last provided (date?) that there have been no structural modifications to any other part of the building shown on the drawings?
   **ANSWER:** No Structural changes have been made

6. Riser Room #128 – Please provide documentation confirming ALL surfaces, finishes, walls, ceilings, floors, mastic, etc. comprising of Riser Room #128 area and associated areas that will encompass riser room have been abated for asbestos materials?
   **ANSWER:** Refer to answer to Asbestos Abatement #7 Pre-Proposal and #1 of General Asbestos Abatement Reports

7. If “HOT” (asbestos) areas of the building are determined during the installation and abatement is required (by UNT), how will delays to the project be handled regarding liquidated damages; will there be “Hold Harmless” considerations taken about this?
   **ANSWER:** No delays; yes.

8. Are ALL Maple Hall stairwells heated? Will they be heated?
   **ANSWER:** Will be heated by end of March 2018.

9. Warranty for fire alarm states 18months, how long is the warranty for fire suppression and electrical?
   **ANSWER:** One (1) Year
10. Will prime contractor be allowed to bill immediately for long lead-time equipment (i.e. generator, fire pump, etc.)?  
   **ANSWER:** Not without confirmation of orders.

11. Will prime contractor be required to provide asbestos abatement insurance?  
   **ANSWER:** No.

12. Will prime contractor be required to provide builders risk insurance?  
   **ANSWER:** Yes.

13. Confirm this is a prevailing wage project?  
   **ANSWER:** Yes

14. If the utility power and the emergency power conduit have to maintain a 6-foot separation as NFPA stipulates, how will this be accomplished in the tunnel? The tunnel is NOT 6-feet wide? Will a FM variance be considered to address the issue?  
   **ANSWER:** “FOR BID PURPOSE ONLY”, the tunnel will be the designated route. a variance will be granted.

15. Will fire sprinkler main be allowed to run in the utility tunnel between Maple Hall and the boiler room? If not, where do you propose it runs?  
   **ANSWER:** Yes

**Electrical Questions:**

1. During the initial site visit UNT personnel indicated that the proposed generator may need to service additional loads for the Kitchen coolers and freezers. What extra load in amps would be required for services not included in the original fire suppression electrical needs? Please provide the extra amount of Amperage needed for these additions.  
   **ANSWER:** 120/208, 3phase voltage at 100kW (approx. 300 amps) needs to be added for additional services.

2. In order to install new devices for the fire notification requirements, holes may need to be drilled into each room. Will there be any abatement issues with the walls between the hallways and the dorm rooms that we need to be aware of? Can we get the asbestos report for these areas?  
   **ANSWER:** Refer to answer to question Asbestos Abatement #7 Pre-Proposal and #1 General Questions

3. It is my understanding that a concrete pad for the new stand-by generator will be provided by UNT. Is this correct? If, not who should provide concrete pad?  
   **ANSWER:** No, prime contractor to supply concrete pad.
4. Will there be any additional projects going on in the building during the same time frame as this project? Are there any special circumstances that we need to be aware of? (i.e.: Residents being in the building, staff still in the building, kitchen remaining open, etc.?)

   ANSWER: Yes, additional projects will be going on; no special circumstances at this time.

5. Will the greenhouse be affected by a power loss?

   ANSWER: YES, all power outages of the residential complex including greenhouse must be coordinated with UNT.

6. Specifically define the type of cable (Manufacturer – make and model) Pat Dunlap is requiring for the fire pump to generator. If additional requirements for this cable, please define.

   ANSWER: Refer to 2017 NFPA 70, Sec. 695.6(A)(2) for installation & material requirements.

7. Does the fire pump electrical go to the city transformer or to the main building switch gear?  
a. If building power, will we be required to change the main switch gear?

   ANSWER: City transformer.

8. What are the specifications of the generator and ATS?

   ANSWER: Refer to RFP, Scope of Work, Design & Engineered by awarded contractor.

9. Are there any power requirements for the fire alarm system?

   ANSWER: New 120v circuits may be needed for amplifiers and power supplies; they must be dedicated circuits.

10. What is the amperage of the heat trace tape? a. Does it need to be supplied from the boiler room power or closest existing panel?

    ANSWER: 120v dedicated and supervised circuit is need, amperage will depend on the footage of tape, either can be used.

**Fire Alarm Questions:**

11. May we get a copy of the fire alarm inspection reports for this building?
ANSWER: Can be provided to prime contractor.

12. Does the NFS2-3030 have a DVC currently?

   ANSWER: Yes

13. Is the existing Notifier 3030 with DVC to be reused for this project or replaced?

   ANSWER: Reused

14. Are there any existing Notifier DAA Amplifiers to be reused in this project? If yes, how many, and location.

   ANSWER: No. None.

15. Is the new Fire Alarm System to have Voice Evacuation notification, including speakers in the dorm rooms?

   ANSWER: Yes

16. Is the new Fire Alarm System to have separate Mass Notification AV devices like what is currently installed?

   ANSWER: All devices are to be White non-descript devices, existing devices to be removed

17. Are all addressable devices (Smoke Detectors, Manual Pull Station, Etc.) and associated cabling to be reused? Or should all be replaced?

   ANSWER: Reused

18. Do pull stations remain in place?

   ANSWER: Yes

19. Relocating devices from wall to ceiling, can existing wire be used if possible?

   ANSWER: Yes, also patching and painting required of removed devices.

20. List of wall mounted devices (by type and quantity) that need to be removed and new installed at ceiling.

   ANSWER: Emergency-83; Fire Alarm – 98.

21. If existing wiring is used by FA contractor, does wiring have to be warrantied 18 months?

   ANSWER: No
22. Are existing Fire Alarm Power Supplies to be reused for this project, or replaced?

**ANSWER:** Reused where possible unless sync ability is an issue

23. Fire Panel – what version of firmware is it running?

**ANSWER:** 15

24. What version of software is Onyzworks running?

**ANSWER:** 3.28.108

25. Is the existing Notifier 3030 currently connected to the UNT Denton the Campus ONYXWorks workstation? a. If so, is it connected via a Fiber NotifierNet, Wired NotifierNet or IP Gateway?

**ANSWER:** Yes, IP Gateway

26. How many Pressurization Stairway Fans are in the building? Or will be added?

**ANSWER:** None

27. How many Exhaust Fans are in the building? Or will be added?

**ANSWER:** Unknown extent of AHU change out

28. How many AHU units greater than 2000 cfm are in the building?

**ANSWER:** Fourteen (14)

29. How many Fire/Smoke Dampers or Smoke Dampers are in the building? Or will be added?

**ANSWER:** Fourteen (14) will be added to the new HV/AC system.

30. Is there an existing Smoke Control System in the building?

**ANSWER:** No

31. How many Access Control Systems Power Supplies requiring Fire Alarm System interface to unlock are in the building (or will be added) and their locations?

**ANSWER:** No answer available at this time.
32. How many color graphics displays are required as specified in “Section 1.2 a.8 Color graphics displays”.

**ANSWER:** Four (4) screens will be required on the Onyxworks

33. How many Smoke Doors are in the building requiring door holders with associated smoke detectors?

**ANSWER:** None, existing

34. What style is the existing SLC circuit? Class A or Class B a. If class B, are we required to convert to Class A? b. Would UNT consider an alternate to take Class B to Class A?

**ANSWER:** Existing system is Class B.
   a. List converting to Class A as an alternate.
   b. Yes

35. Is the existing Mass Notification currently working on the ONYXWorks workstation now?

**ANSWER:** No

36. What are the requirements for this project in regards to Mass Notification regarding other building currently on the ONYXWorks Station?

**ANSWER:** To be able to remote page from Onyworks station, as well as play prerecorded messages

36. Are ADA rooms in the building? a. If so, how many ADA rooms are Hearing Impaired, Wheelchair, Blind or low vision? b. Please identify each ADA room by room number and ADA type.

**ANSWER:** a.6 rooms b.C109-C114; All ADA rooms to be the same.

**Fire Suppression Questions:**

37. Provide copy of the most current flow test.

**ANSWER:** Not available at this time. Availability expected 2/20/18.

38. Confirm exact location of FDC in the front of the building or side of building. a. Wall mounted or free standing? If wall mount will a fur-out be required inside building to accommodate piping?
ANSWER: In front, wall mount or freestanding are acceptable, must be located within 50 feet of FD access and within 100ft. of a Fire Hydrant. Use of crawl space should alleviate furring

40. Confirm location of fire pump test header in the front of the building or side of building. a. If wall mount will a fur-out be required inside building to accommodate piping?

ANSWER: In front, N.W. corner. Use of crawl space should alleviate need for furring

41. Will CPVC pipe be allowed in dwelling units and adjoining corridors?

ANSWER: Approved CPVC for fire sprinkler piping and fittings is allowed in dorm rooms and associated corridor areas per NFPA 13R; common areas and all other areas will require NFPA 13 system and installation.

42. Will ANY part of crawlspace or tunnel between buildings require fire sprinkler protection?

ANSWER: No

43. Will flexible stainless steel commercial fire sprinkler connections (i.e. FlexHead®) be allowed?

ANSWER: Yes

44. Room D128 and D127 will use all available space to fit fire pump, ATS and accessories, will room D105 or D106 be available to accommodate 8” backflow preventer? If not will need space to accommodate BFP.

ANSWER: BFP needs to be in same room as fire riser and pump.
UNIVERSITY OF NORTH TEXAS

PACKAGED ENGINE GENERATOR SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY
A. Provide, install, and acceptance test a complete and operable outdoor Emergency/Standby electric generating system with weatherproof housing and all devices and equipment specified herein, shown on the mechanical and electrical drawings, and required for the service. Equipment shall be new, factory tested, and delivered ready for installation. Equipment shall meet all applicable requirements of NFPA-110, Type 10.

1.2 APPROVED MANUFACTURERS
A. Generator System and Battery Charger: Onan, Caterpillar, Stewart and Stevenson and Kohler. The engine shall be manufactured in the United States.

1.3 SUBMITTALS
A. As a minimum for all equipment specified:
   1. Specification and data sheets.
   2. Manufacturer's certification of prototype testing.
   3. Manufacturer's published warranty documents.
   4. Shop drawings showing plan and elevation views with certified overall and interconnection point dimensions. Provide drawings of all accessories.
   5. Interconnection wiring diagrams showing all external connections required; with field wiring terminals marked in a consistent point manner.
   6. Manufacturer's installation instructions.

1.4 WARRANTY
A. A no-deductible warranty shall be provided for all products against defects in materials and workmanship for a five-year or 1500 hour period from the start-up date, per the manufacturer's Basic Extended Coverage Limited Warranty.

1.5 SINGLE SUPPLIER
A. The supplier shall be the manufacturer's authorized distributor, who shall provide initial start-up services, conduct field acceptance testing, and warranty service. The supplier shall have 24-hour service availability and factory trained service technicians authorized to do warranty service on all warrantable products.

PART 2 - PRODUCTS

2.1 GENERATOR SET
A. Power Plant. The generator drive motor shall be natural gas fuel engine or diesel fuel engine, as selected by Owner.
B. Generator. The generator shall be a low reactance brushless generator, torque matched excitation, automatic voltage regulator, set mounted control panel, and high ambient cooling system (50°C).

1. Ratings: Generator set ratings: as indicated on plans.
2. System voltage of: 120/208Y Volts AC, three phase, four wire, 60 hertz.

3. Site Conditions: Altitude 500 feet, ambient temperatures from -7 to 43°C.

4. Prototype Tests and Evaluation: Prototype tests shall have been done on a complete and functional unit. Component level type tests will not substitute for this requirement.

D. Performance:

1. Voltage regulation shall be ±2 percent of rated voltage for any constant load between no load and rated load.

2. Frequency regulation shall be isochronous with electronic Woodward governor from steady state no load to steady state rated load. No substitutions allowed.

3. The engine generator set shall be capable of single step load pick up of 100% nameplate kW and power factor, less applicable de-rating factors, with the engine generator set at operating temperature.

E. AC Generator:

1. The AC generator shall be of the brushless synchronous type, four pole minimum, revolving field, drip-proof construction, single pre-lubricated sealed bearing, air cooled by a direct drive centrifugal blower fan, and directly connected to the engine with flexible drive disc(s). All insulation system components shall meet NEMA MG1 standard temperature limits for Class H insulation system. Actual temperature rise measured by resistance method at full load shall not exceed 105°C when connected for full single-phase output.

2. The brushless exciter shall include semiconductor surge suppressors for protection of the three-phase, full wave silicon diode rectifiers from transient over-voltages induced by load surges.

3. A permanent magnet generator (PMG) shall provide excitation power to the automatic voltage regulator for immunity from voltage distortion caused by non-linear SCR controlled loads on the generator. The PMG shall sustain main field excitation power for optimum motor starting and to sustain short circuit current for selective operation and coordination of system over-current devices.

4. The automatic voltage regulator shall be temperature compensated, solid-state design. The voltage regulator shall be equipped with three phase RMS sensing. The regulator shall control buildup of the AC generator voltage to provide a linear rise and limit overshoot. The regulator shall include an under frequency roll-off torque matching characteristic, that shall reduce output voltage in proportion to frequency below a threshold of 58 Hz. The torque matching characteristic shall include differential rate of frequency change compensation to use maximum available engine torque and provide optimal transient load response.

E. Engine - Generator Set Control:

1. The control shall have automatic remote start capability from a panel mounted three-position (Stop, Run, Remote) switch.
2. Provide cycle cranking of 15 SEC (ON)/15 SEC (OFF) for three attempts (75 SEC). If engine fails to start, lockout the engine and indicate overcrank on alarm status panel.

3. The control shall shut down and lock out upon: failing to start (overcrank), over-speed, low lubricating oil pressure, high engine temperature, or operation of a remote manual stop station. Provide a set of dry contacts for alarm output signals to the building DDC System for the following: Not in Automatic Start Mode, Run Status, High and Low Fuel Oil Tank Alarms. A panel-mounted switch shall reset the engine monitor and test all the lamps.

Provide lamp indications on the control panel according to NFPA 110, Table 5.6.5.2 for Level 1.

4. The NEMA 3R enclosed control panel shall be isolated from engine/generator vibration by vibration isolator. A front control panel illumination lamp with ON/OFF switch shall be provided. Control panel mounted indicating meters and devices shall include: Engine Oil Pressure Gauge, Engine oil Temperature Gauge, Engine Tachometer, Coolant Temperature Gauge, DC Voltmeter, and Running Time Meter (hours); Voltage adjusting rheostat, locking screwdriver type, to adjust voltage ±5% from rated value; Analog AC Voltmeter, dual range, 90 degree scale, 2% accuracy; Analog AC Ammeter, dual range, 90 degree scale, 2% accuracy; Analog Frequency/RPM meter, 45-65 Hz, RPM, 90 degree scale, ±0.6 Hz accuracy; Analog Wattmeter, 90 degree scale, 2% accuracy. Seven position phase selector switch with OFF position to allow meter display of current and voltage in each generator phase. Solid-state meters with better accuracy than analog units described above, approved for mounting on engine control panel are acceptable.

5. Provide a generator trouble alarm and connect to the Building Energy Management System.

F. Engine:

1. Engine shall be American Made with forged steel crankshaft and connecting rods. The cylinder block shall be cast iron.

2. Engine shall include an isochronous electronic governing system.

G. Cooling System. Engine shall be radiator cooled by unit-mounted closed loop radiator system including thermostat temperature control. See paragraph J9 for exhaust scoop option. The equipment supplier shall provide 50% ethylene glycol antifreeze solution to fill engine-cooling system. Rotating parts shall be guarded against accidental contact.

H. Engine Accessories:

1. The engine generator set shall include the engine accessories as follows:
   a. A 24 volt DC, solenoid shift, electric starter as required by manufacturer.
   b. Positive displacement, mechanical full pressure lubrication oil pump, full flow lubrication oil filters with replaceable elements, pressure relief valve, dipstick oil level indicator, and oil drain valve with hose extension. Dry element air cleaner with restriction indicator and with replaceable element. Engine driven battery charging alternator, with solid-state voltage regulator.
d. Where engine selection is diesel, provide a UL 142 listed sub-base day tank with minimum 8 hours of fuel capacity for engine size selected.

I. Base. Each engine generator set shall be mounted on a heavy-duty steel base to maintain alignment between components, and shall include vibration isolators between generator set and base that are provided by the manufacturer. The base shall include a battery tray with battery hold down clamps within the rails.

J. Generator Set Options and Accessories:

1. Generator main circuit breakers (3): set mounted and wired, UL listed, molded case thermal magnetic type, as indicated on plans. One breaker serves the emergency switchboard. This breaker shall be electronic trip, (LSIA-Alarm for ground fault) and rated for 100% operation. No derating. The second breaker serves the fire pump and the third breaker serves the load bank. Fire pump breaker will be LS and load break breaker will be LSIG. See plans for sizes.

2. Coolant heater: Engine mounted, thermostatically controlled, water jacket heater for engine. Heater voltage shall be 120 Volt single-phase.

3. Starting and Control Batteries:
   a. For diesel motors, a 24 volt DC starting system consisting of at least two lead-acid type, 12 volt DC batteries, sized as recommended by the generator set manufacturer.
   b. For natural gas engines, a 12 volt DC starting system with one lead-acid type, 12 volt battery sized as recommended by the generator set manufacturer.

4. Generator sets shall be supplied with battery cables and connectors.

5. Exhaust muffler shall be provided for engine, size and type as recommended by the generator set manufacturer. The muffler shall be residential grade with center connection to engine. Exhaust system shall be installed according to the generator set manufacturers recommendations and applicable codes and standards. Mount muffler external to weather enclosure.

6. Remote Annunciator: Provide a remote alarm annunciator located where shown on the drawings. The remote annunciator shall provide all the indications and audible alarms listed in NFPA Standard 110, Table 5.6.5.2 Level 1 for remote audible. Alarm silence and lamp test switches shall be provided. Annunciator shall connect to the generator panel via #18/2 TWT Shld conductors. Annunciator shall also connect to the energy management system (DDC) with #18/2 TWT Shield utilizing MODBUS protocol.

7. AC generator anti-condensation heater, sized as required, 120 volts, single phase: generator mounted.
8. Provide a 120/240V (connected for 120/208V operation) panelboard. Connect battery charger, heaters, fuel return pump, etc. to this panelboard at the factory. Contractor will provide electric service to a single point of connection on the panel.

9. Weather-Protective Housing. Outdoor weather-protective housing, factory assembled to generator set base and radiator cooling. Housing shall provide ample airflow for generator set operation. The housing shall have hinged side-access doors and rear control door. All doors shall be lockable. All sheet metal shall be primed for corrosion protection and finish painted with the manufacturer’s standard color. The housing walls shall be lined with 1-inch thick acoustical sound materials. Materials for the sound absorption shall equal the Korfund FM series acoustical foam. Materials shall be secured to the housing walls without interfering with the normal set operation. The residential rated muffler shall be factory mounted on top of the enclosure. Enclosure to have sloped roof to drain any water accumulation.

10. Provide a radiator discharge elbow for the generator enclosure to direct radiator exhaust upward. The scoop shall add approximately 6.5’ to the end of the enclosure. Provide a bird screen at the top and a drain at the bottom for water.

2.3 BATTERY CHARGER
   A. Provide a float charge battery charger rated as required. DC output voltage shall be as required for the starting batteries. An ammeter shall display charging current. The battery charger shall have fused AC input and fused DC output. Include fault indications and Form C contact for AC Fail, High Battery Voltage, and Low Battery Voltage.

PART 3 - EXECUTION

3.1 INSTALLATION
   A. Installation shall comply with applicable state and local codes as required by the authority having jurisdiction. Install equipment in accordance with manufacturer's instructions and instructions included in the listing or labeling of UL listed products. The installer shall provide the electrical power wiring circuits to all heaters on the generator set. Completely fill day tank with No. 2 diesel fuel after on-site acceptance test.

3.2 FACTORY TESTS
   A. Generator set factory tests on the equipment to be shipped, shall be performed at rated load and rated PF. Tests shall include: run at full load, maximum power, voltage regulation, transient and steady state governing, single step load pickup, and safety shutdowns.

3.3 ON-SITE ACCEPTANCE TEST
   A. The complete installation shall be tested for compliance with the specification following completion of all site work. Testing shall be conducted by representatives of the manufacturer, with required fuel supplied by Contractor. The Owner shall be notified in advance and shall have the option to witness the tests. Installation acceptance tests to be conducted on site shall include a "cold start" test, a four-hour full load test, and a one step rated load pickup test in accordance with NFPA 110. Provide a resistive load bank and make temporary connections for full load test, as required. During the test the manufacturer shall record water temperature, oil pressure as well as volts and amps. After successful completion of test refill fuel tank.

END OF SECTION