

REF: Drawings E-1 and E-2

- a) The buildings noted here (BLDG 103/104) are considered 1 structure in accordance with NFPA 780. Can we combine the systems and submit for 1 certification?

Answer: Contracted Lightning Protection Electrical Design Engineer to determine.

- b) Radon vents require DSP (direct strike protection) and are not shown in drawings, should these MLTP items be considered for protection?

Answer: Contracted Lightning Protection Electrical Design Engineer to determine.

- c) Temporary railings are in place atop BLDG 103. Will these be considered permanent structures and be required for bonding and direct strike protection?

Answer: Railings are permanent structures. Contracted Lightning Protection Electrical Design Engineer to determine whether or not the railings need to be bonded.

- d) How many electrical, generator, solar, water, sprinkler, gas, and central plant pipe systems enter the buildings?

Answer: Contractor to determine in field.

- e) The high roof is not represented accurately on the plans, will accurate info be forth coming or shall pricing be based on these structures total SQFT?

Answer: Contractor to determine in field.

- f) Should pricing include direct fastening to the roof surfaces or are there existing roof warranty tasks to be considered?

Answer: Contractor is to not make roof penetrations.

- g) Will the government provide any existing POC information for the roofing manufacturer or any other applicable areas within this regarded question?

Ref SPEC Item 3.1.1- Coordinate with the roofing manufacturer and provide certification that the roof manufacturer's warranty is not violated by the installation methods for air terminals and roof conductors.

Answer: Roof Warranty information will be issued per request from contractor.

REF: Drawings E-3

- a) Site visit field measurements have shown up to 20% added increase in total area SQFT, the difference between plan measurements and on-site measurements. Can accurate info be provided, or shall we price accordingly for actual project footprint?

Answer: Contractor to determine in field.

- b) Drawing does not show railings, stair and tower platforms, dish antennas, skywalk bridge, generator exhaust, camera and required bonds. Is dish antenna sacrificial requiring only bonding

like pole antennae or is direct strike protection required for ALL items listed within this question not shown on drawings?

Answer: Contractor to determine in field.

- c) Will terminals interfere with reception?

Answer: Contracted submitted Terminals should not interfere with reception.

- d) Plans and detail #2 does not show loop conductor. Loop is not required to receive certification. Notes indicate loop. Is loop required? NFPA 780 states structures less than 60 feet in height do NOT require 360 ground loops. Note: if excavation and full 360 ground loop is requested on all BLDG's (103, 104, and 111) this will vastly increase project cost due to soil management plan, proper disposal of contaminated soil, etc.)

Answer: Contractor to determine in field.

- e) Detail of terminal shows standing seam roof. Where does this occur?

Answer: Standing seam roof does not occur. However, the standing seam roof detail is the only method of lightning protection that does not require penetrations to existing roof.

- f) General note 5 requires bonding connections to be welded. 9/10 bonds are too thin bodies of inductance like camera, site lights, flashing and will not survive exothermic welding. Will bonding with UL96 listed fittings suffice except at steel framing of 3/16" or thicker?

Answer: Contractor to determine "if necessary."

- g) Additional construction notes #2- Bracing code requirement occurs over 24" in height. Will no bracing to center roof terminals be acceptable?

Answer: Contractor to determine in field if bracing will be required.

- h) All grounded systems and all buried metallic pipes entering the foundation require bonding. Please indicate where these bonds occur.

Answer: Contractor to determine in field.

- i) Will grade electro-mechanical units be included in the certification? Will the Marley Unit require terminals and interconnection?

Answer: Marley units are for a separate building.

- j) GN #5 indicates the use of 1/0 bonding and class 1 down cables. 1/0 is not listed in UL96. Can LPC 29-17 class 1 copper be used for all lightning conductor not mounted on or above metals having a galvanized, aluminum or zinc content?

Answer: Contracted Lightning Protection Electrical Design Engineer to determine.

REF: Drawings T-1

- a) If ladders are taken down daily, will fencing still be required or will caution barrier tape with visual signage postage suffice?

Answer: Contractor to follow all necessary requirements to work on roof. Contractor is to submit the correct paperwork (as noted in SPEC) to NUWCDIVNPT Safety Department before contractor begins work on roof.

REF: Specs

- a) Test wells with disconnects are mentioned in specs but not show anywhere on drawings. Where and how many?

Answer: Contracted Lightning Protection Electrical Design Engineer to determine.

- b) AFI 32 1065 requires testing between each component (terminal to base, base to cable, across every splicer, across every bond, from roof to ground and from electrode to earth). LPI-IP has provisions to be the third-party inspection agency for this testing and certification will reflect this. UL does not. Can LPI be used as provider of "Master Certification"?

Answer: Contracted Lightning Protection Electrical Design Engineer to determine.

- c) NFPA requires a dedicated electrode at each down conductor. Plans show a driven 10x3/4 rod welded to the cable, notes indicate loop conductor and specs mention a plate electrode. Any one of these is a valid electrode. Combining is not lowering resistance. What is required at each down cable?

Answer: Contracted Lightning Protection Electrical Design Engineer to determine.

- d) Spec mentions sch 80 PVC and we assume this to be at grade to 6' AFG to allow common bonding. Is 6' what government requires in accordance with code UL96A?

Answer: Contracted Lightning Protection Electrical Design Engineer to determine.

- e) Are down cables required to be concealed in the wall cavities as note in 3.1.2? Believe this to be a typo please confirm requests.

REF 3.1.2 Down Conductors- *"Use Schedule 80 PVC to protect down conductors. Paint the Schedule 80 PVC to match the surrounding surface with paint that is approved for use on PVC. **Down conductors are to be concealed within the wall cavities.**"* ←??

Answer: Contracted Lightning Protection Electrical Design Engineer to determine.

- f) Resistance testing to 25 ohms when a loop is not used. What is required when a loop is used?

Answer: Contracted Lightning Protection Electrical Design Engineer to determine.