APPENDIX A-1

March 16, 2023

Alicia Harris
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Subject: Maintenance and Condition Assessment Report

FCC Designation	**ASR Number:**	1046007
MPB Designation:	**MPB Site Name:**	WMPN
Inspection Firm Designation:	**TEP Project Number:**	250673.814214
Site Data:	**4700 Oakley-Palestine Road Raymond, MS 39170 (Hinds County) Latitude N *32° 11' 30.44"*, Longitude W *90° 24' 22.55"* 1510 Foot – Guyed Tower**	

Dear Alicia Harris,

Tower Engineering Professionals (TEP) completed a periodic inspection for the above referenced site. The onsite investigation was performed by Luke Meadows, P.E., C.W.I, David Smith, and Samuel Clark of TEP during the March 6 & 7, 2023 site visits. The inspection was in accordance with the ANSI/TIA-222-H Annex J: Maintenance and Condition Assessment (Normative), including all addendums. The checklist is pages 3 thru 9 of this report.

Observations and recommendations are listed herein. The inspection included observation of tower members, bolted connections, and foundations above grade. For the purpose of this inspection, the tower legs were named by letter according to the magnetic azimuth defined by a line from the center of tower to the leg. "A" leg is the leg closest to magnetic north, followed clockwise by "B" and "C." Guy wires were numbered from the ground up. Guy wires 1 thru 8 are at 170.5-ft, 343.5-ft, 524-ft, 704-ft, 849-ft, 1060-ft, 1241-ft, and 1427-ft elevation respectively.

Thank you for the opportunity to provide this service for you. If you have any questions or comments, please contact our office.

Sincerely,

Tower Engineering Professionals, Inc. (TEP)
Luke Meadows, P.E, C.W.I.

LUKE MEADOWS
LICENSED PROFESSIONAL
ENGINEER
33134
STATE OF MISSISSIPPI
3/16/23

ANSI/TIA-222-H MAINTENANCE AND CONDITION ASSESSMENT

A. STRUCTURE CONDITION

A.1. Damaged members (legs and bracing)			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
A.2. Loose members			
☐Okay	☒Possible Improvement	☐Needs Repair	☐Not Applicable
Notes: Gaps ranging in size from 1/8" to 1/4" were observed between the flanges throughout the structure. See the Executive Summary for details and recommendations.			
A.3. Missing members			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
A.4. Loose and/or missing bolts and/or nut locking devices			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
A.5. Visible cracks in welded connections including cracks underneath canister mounts for flag poles and other similar connections (cracks in base metal may only be visible on the inside surface of a pole)			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
A.6. Pole flange and base plate cracks visible in base metal or at ends of plate stiffeners			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
A.7. Record temperature, wind speed and direction, & other environmental conditions			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes: 82°F, wind 3-5mph from the south			

B. FINISH

B.1. Paint and/or galvanizing condition			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes: See B.3 for details			
B.2. Rust and/or corrosion condition including mounts and accessories			
☐Okay	☐Possible Improvement	☒Needs Repair	☐Not Applicable
Notes: Corrosion is observed in multiple locations throughout the tower. See the Executive Summary for details and recommendations.			
B.3. FAA or ICAO color marking conditions			
☐Okay	☒Possible Improvement	☐Needs Repair	☐Not Applicable
Notes: The FAA paint is thin and weathered throughout the tower. See the Executive Summary for details and recommendations.			
B.4. Water collection in members (to be remedied, e.g., unplug drain holes, etc.)			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			

C. LIGHTING (external portions of components only)

C.1. Conduit, junction boxes, and fasteners (weather tight and secure)			
☐Okay	☐Possible Improvement	☒Needs Repair	☐Not Applicable
Notes: Multiple issues were observed with the lighting system. See the Executive Summary for details and recommendations.			
C.2. Drains and vents openings (unobstructed)			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
C.3. Wiring Condition			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
C.4. Light lenses			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
C.5. Bulb condition			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
C.6.a. Controllers (Flasher)			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
C.6.b. Controllers (Photo control)			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
C.6.c. Controllers (Alarms)			
☐Okay	☐Possible Improvement	☐Needs Repair	☒Not Applicable
Notes: Did not verify			
C.7. Obstructions to lighting system.			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			

D. GROUNDING

D.1. Grounding (Connections)			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
D.2. Grounding (Corrosion)			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
D.3. Grounding (Lightning protection)*			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes: **Lightning rods are not required for the protection of the structure in accordance with this Standard but may be required at or near the top of the structure for the protection of equipment or lighting systems.*			

E. APPURTENANCES SUCH AS MOUNTS, ANTENNAS, AND LINES

E.1.a. Antenna and Mounts (Proper tie-back of microwave dishes)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
E.1.b. Antenna and Mounts (Damage to supporting structure at connections)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
E.1.c. Antenna and Mounts (Defects, deformations, loose, missing members, etc.)			
☐ Okay	☐ Possible Improvement	☒ Needs Repair	☐ Not Applicable
Notes: Corroded mounting hardware was observed on antennas 1, 12, 13 and 15. See the Executive Summary for details and recommendations.			
E.1.d. Antenna and Mounts (Loose or missing hardware)			
☐ Okay	☐ Possible Improvement	☒ Needs Repair	☐ Not Applicable
Notes: Multiple issues were observed. See the Executive Summary for details and recommendations.			
E.1.e. Antenna and Mounts (Condition of antenna covers)			
☐ Okay	☒ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes: Antennas 3 and 14 are damaged. See the Executive Summary for details and recommendations.			
E.2.a. Feed Lines (Flanges, seals, dents, jacket damage, grounding, etc.)			
☐ Okay	☐ Possible Improvement	☒ Needs Repair	☐ Not Applicable
Notes: A ground at 1010-ft is installed incorrectly. See the Executive Summary for details and recommendations.			
E.2.b. Feed Lines (Properly secured/supported on the structure and mount)			
☐ Okay	☒ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes: Moderate corrosion observed on feedline hangers. See the Executive Summary for details and recommendations.			
E.2.c. Feed Lines (Hanger condition (snap-ins, bolt on, kellum grips, etc.))			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
E.2.d Feed Lines (Secured to structure (waveguide ladder)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			

F. OTHER APPURTENANCES (ICE SHIELDS, WALKWAYS, PLATFORMS, CLIMBING FACILITIES, SENSORS, FLOODLIGHTS, ETC.)

F.1. Other Appurtenances (Condition)			
☐ Okay	☐ Possible Improvement	☒ Needs Repair	☐ Not Applicable
Notes: Multiple issues were observed. See the Executive Summary for details and recommendations.			
F.2. Obstructions to climbing path or safety climb systems			
☐ Okay	☐ Possible Improvement	☒ Needs Repair	☐ Not Applicable
Notes: Multiple issues were observed. See the Executive Summary for details and recommendations.			
F.3. Other Appurtenances (Defects, deformations, loose, or missing members, etc.)			
☐ Okay	☐ Possible Improvement	☒ Needs Repair	☐ Not Applicable
Notes: Multiple issues were observed. See the Executive Summary for details and recommendations.			
F.4. Other Appurtenances (Loose or missing hardware)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
F.5. Other Appurtenances (Secured to Structure)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			

G. INSULATORS (BASE INSULATOR, AM DETUNING KITS, FIBERGLASS RODS, PROCELAIN INSULATOR, NON-METALLIC GUYS, ETC.)

G.1. Insulators (Cracking and chipping)			
☐Okay	☐Possible Improvement	☐Needs Repair	☒Not Applicable
Notes:			
G.2. Insulators (Cleanliness)			
☐Okay	☐Possible Improvement	☐Needs Repair	☒Not Applicable
Notes:			
G.3. Insulators (Spark gaps)			
☐Okay	☐Possible Improvement	☐Needs Repair	☒Not Applicable
Notes:			
G.4. Isolation transformer			
☐Okay	☐Possible Improvement	☐Needs Repair	☒Not Applicable
Notes:			
G.5. Insulators (Bolts and connection secure)			
☐Okay	☐Possible Improvement	☐Needs Repair	☒Not Applicable
Notes:			
G.6. Insulators (Delamination, UV degradation, rod slippage)			
☐Okay	☐Possible Improvement	☐Needs Repair	☒Not Applicable
Notes:			

H. GUYS

H.1. Guy strand condition (corrosion, breaks, nicks, kinks, etc.)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
H.2.a.i. Guy Hardware Conditions (Turnbuckles or equivalent (threaded extended past body))			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
H.2.a.ii. Guy Hardware Conditions (Turnbuckles or equivalent (secure and safety properly applied))			
☐ Okay	☐ Possible Improvement	☐ Needs Repair	☒ Not Applicable
Notes:			
H.2.a.iii. Guy Hardware Conditions (Turnbuckles or equivalent (cracks, defects, damage, etc.))			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
H.2.b. Guy Hardware Conditions (Cable thimbles)			
☐ Okay	☐ Possible Improvement	☐ Needs Repair	☒ Not Applicable
Notes:			
H.2.c. Guy Hardware Conditions (Ice clips)			
☐ Okay	☐ Possible Improvement	☐ Needs Repair	☒ Not Applicable
Notes:			
H.2.d.i. Guy Hardware Conditions (Cable connectors (Cable clamps applied properly and bolts tight)			
☐ Okay	☐ Possible Improvement	☐ Needs Repair	☒ Not Applicable
Notes:			
H.2.d.ii. Guy Hardware Conditions (Cable connectors (Wire serving))			
☐ Okay	☐ Possible Improvement	☐ Needs Repair	☒ Not Applicable
Notes:			
H.2.d.iii. Guy Hardware Conditions (Cable connectors (Slippage or damaged strands))			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
H.2.d.iv. Guy Hardware Conditions (Cable connectors (Deadend grips fully wrapped, end sleeve/ice clips (on anchor end)))			
☐ Okay	☐ Possible Improvement	☐ Needs Repair	☒ Not Applicable
Notes:			
H.2.d.v. Guy Hardware Conditions (Cable connectors (Poured sockets secure and showing no separation or twisting))			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, pins, and cotter pins))			
☐ Okay	☐ Possible Improvement	☒ Needs Repair	☐ Not Applicable
Notes: Multiple issues were observed. See the Executive Summary for details and recommendations.			
H.2.e. Guy Hardware Conditions (Inspect tension rods/anchor rods welded to fan plates for fatigue cracks)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
H.3.a. Measure guy tensions			
☐ Okay	☐ Possible Improvement	☒ Needs Repair	☐ Not Applicable
Notes: Guy tensions are not within the allowable limits and tension tags mislabeled at C anchor. See Executive Summary for details. ** Minor variations in guy tensions are to be expected due to temperature, wind, speed conditions, anchor elevation differences, etc.*			
H.3.b. Record temperature, wind speed and wind direction			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes: See A.7. for temperature and wind.			

I. CONCRETE FOUNDATIONS

I.1.a. Ground condition (Settlement, movement or earth cracks)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
I.1.b. Ground condition (Erosion)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
I.1.c. Ground condition (Site condition (standing water, drainage, trees, etc.))			
☐ Okay	☐ Possible Improvement	☒ Needs Repair	☐ Not Applicable
Notes: The compound fence is damaged. See the Executive Summary for details and recommendations.			
I.2.a. Anchorage condition (Top and bottom base plate nuts tight)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
I.2.b. Anchorage condition (Nut locking device)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
I.2.c. Anchorage condition (Grout condition)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
I.2.d. Anchorage condition (Anchorages)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
I.2.e. Anchorage condition (Anchor rods)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
I.3.a. Concrete condition (Cracking, spalling, or splitting)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
I.3.b. Concrete condition (Chipped or broken concrete)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
I.3.c. Concrete condition (Honeycombing)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
I.3.d. Concrete condition (Low spots to collect moisture)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			

J. GUYED MAST ANCHORS

J.1. Guy Mast Anchors (Settlement, movement or earth cracks)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
J.2. Guy Mast Anchors (Grade sloped away from anchors)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
J.3. Guy Mast Anchors (Anchor shaft condition below grade)			
☐ Okay	☒ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes: Nearly all guy anchors exhibit surface corrosion below grade. See the Executive Summary for details.			
J.4. Guy Mast Anchors (Corrosion control measures (galvanizing, coating, concrete encasement, cathodic protection systems, etc.))			
☐ Okay	☐ Possible Improvement	☐ Needs Repair	☒ Not Applicable
Notes:			
J.5. Anchor heads above grade (clear of vegetation, obstructions, etc. and turnbuckles free to articulate)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			

K. STRUCTURE ALIGNMENT

K.1. Structure Plumb and Twist			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes: Tower twist and plumb was within ANSI/TIA-222-H recommended limits.			

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**A.2. Loose members** **Observation:** Gaps ranging in size from 1/8" to 1/4" were observed between the flanges throughout the structure. **Recommendation:** Monitor the flange gaps during the next inspection cycle. If the conditions worsen and gaps exceeding 1/4" are observed, consult with a structural engineer licensed in the state of MS to determine the appropriate course of action.

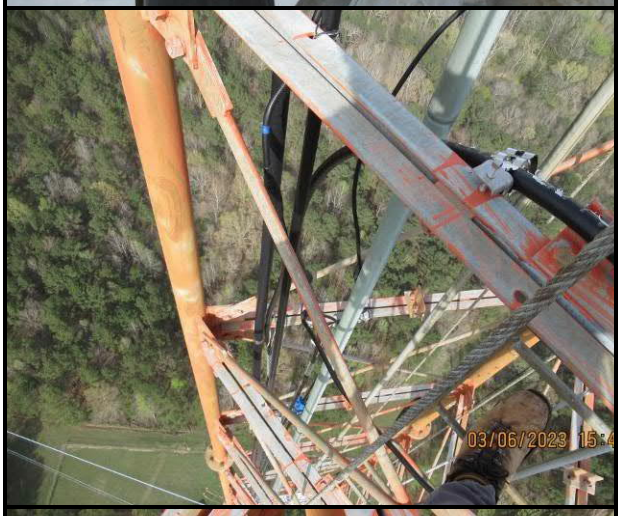
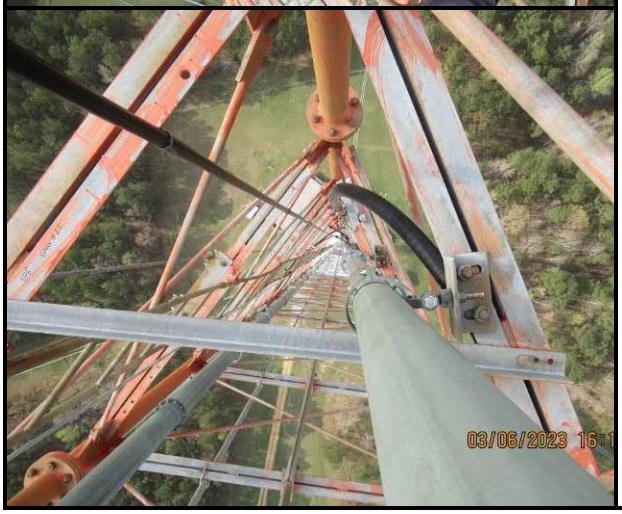
EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**B.2. Rust and/or corrosion condition including mounts and accessories** **Observation:** Surface corrosion was observed on the (flange/bracing) bolts throughout the tower. **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats of a brush on cold galvanizing compound containing at least 95% zinc. If during this process any material loss is observed, replace the hardware and ensure proper function.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**<u>B.2. Rust and/or corrosion condition including mounts and accessories</u>** **Observation:** Corrosion was observed on a horizontal brace at 879-ft due to an elevator cable rubbing against it. **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats of a brush on cold galvanizing compound containing at least 95% zinc. A cable guide should be installed to prevent the elevator cable from rubbing against the member and causing further corrosion.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**B.3. FAA or ICAO color marking conditions** **Observation:** The FAA paint is thin and weathered throughout the tower. The tower lights are functioning properly. **Recommendation:** Confirm tower marking requirements per FAA Advisory Circular AC70/7460-IM "Obstruction Marking and Lighting" and install appropriate tower lighting system. If tower marking is required, the structure and feedlines shall be re-painted to meet FAA requirements.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**C.1. Conduit, junction boxes, and fasteners (weather tight and secure)** **Observation:** Surface corrosion was observed on the lighting system feedline connection hardware and conduit at all locations. **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats of a brush on cold galvanizing compound containing at least 95% zinc.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**<u>C.1. Conduit, junction boxes, and fasteners (weather tight and secure)</u>** **Observation:** Loose mounting hardware was observed on at beacon at 340-ft. **Recommendation:** Tighten the loose nut until snug.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**C.1. Conduit, junction boxes, and fasteners (weather tight and secure)** **Observation:** Broken lens latches were observed on a beacon at 620-ft and a side marker at 1089-ft. **Recommendation:** Repair lens fasteners or replace the lights.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**<u>E.1.c. Antenna and Mounts (Defects, deformations, loose, missing members, etc.)</u>** **Observation:** Corrosion on mounting hardware was observed on antennas 1, 12, 13, and 15. **Recommendation:** Notify the equipment owner. All areas of corrosion should be thoroughly cleaned and treated with two coats of a brush on cold galvanizing compound containing at least 95% zinc. If during this process any section loss is observed, the appurtenance or hardware should be replaced with one of equal size and grade.

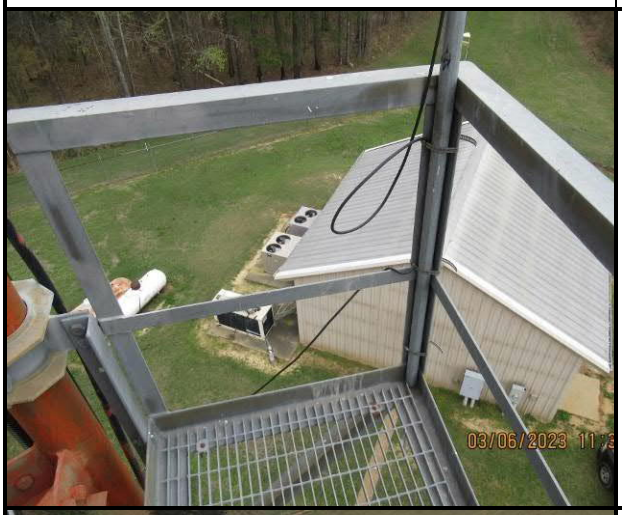
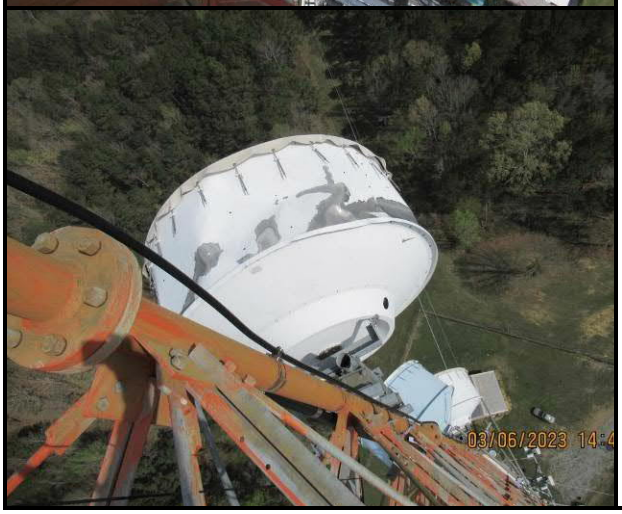
EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
 	**E.1.d. Antenna and Mounts (Loose or missing hardware)** **Observation:** A missing U-bolt was observed at approximately 1144-ft and 1333-ft for FM transmitter mounts, as there was interference with an existing gusset. **Recommendation:** Additional U-bolts should be installed in alternate location to ensure all antennas are properly secured.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
 	**E.1.d. Antenna and Mounts (Loose or missing hardware)** **Observation:** Skewed mount U-bolts were observed on antenna 1 at 26-ft and on an FM 1363-ft. **Recommendation:** U-bolts should be installed level. If any damage has occurred due to improper installation, replace hardware.

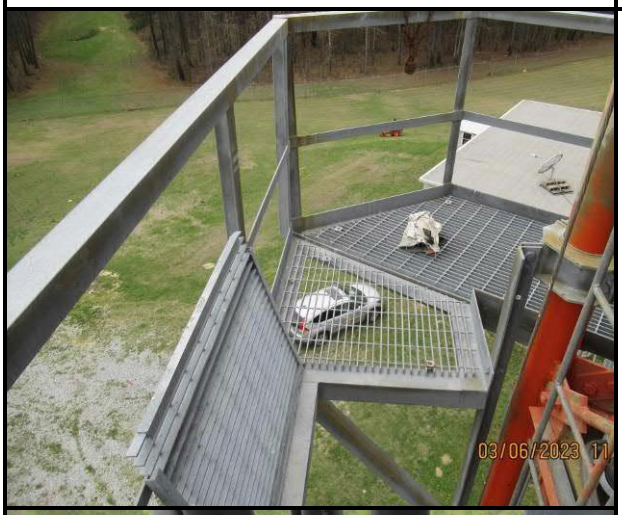
EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	**E.1.d. Antenna and Mounts (Loose or missing hardware)** **Observation:** Ant 2 mount pipe is secured with cable clamps. **Recommendation:** Re-install the mount pipe with U-bolts or manufacturer specified hardware.
	**E.1.e. Antenna and Mounts (Condition of antenna covers)** **Observation:** Antenna 3 and antenna 14 are damaged. **Recommendation:** Notify the equipment owners.
	

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	**E.2.a. Feed line condition (flanges, seals, dents, jacket damage, grounding, etc.)** **Observation:** A ground at 1010-ft was installed incorrectly beneath an A-leg flange bolt. This also prevents the flange bolt from being fully engaged. **Recommendation:** Reinstall ground in alternate location. Ensure flange bolt is tightened as per AISC turn of the nut method.
	**E.2.b. Feed Lines (Properly secured/supported on the structure and mount)** **Observation:** Moderate corrosion was observed on the feedline hangers at 299-ft. **Recommendation:** Notify the carrier of the existing conditions. All feedlines should be secured to the structure with proper coax hangers with connections spaced per the manufacturer's specifications.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**F.1. Condition** **Observation:** Trash and debris were left on the tower in multiple locations. **Recommendation:** No action is required, TEP removed while on site.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**F.1. Condition** **Observation:** Corrosion was observed on the axle associated with elevator cable pulleys. **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats of a brush on cold galvanizing compound containing at least 95% zinc. If during this process any material loss is observed, replace the axle and ensure proper function. Ensure all equipment is properly lubricated to maintain safe function of elevator.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**F.2. Obstructions to climbing path or safety climb systems** **Observation:** The following issues were observed with the safety climb #2 top termination at 1465-ft: • no cap • bolt surface corrosion • severe corrosion within the strandvise **Recommendation:** Tag out and discontinue use of the safety climb system until it can be replaced.

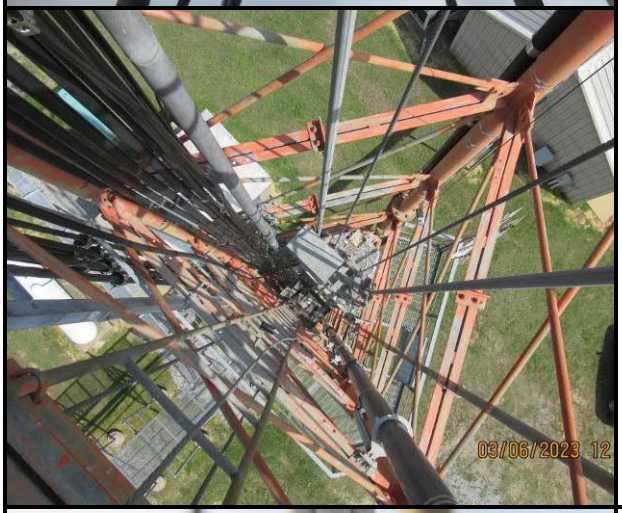
EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
 	**F.2. Obstructions to climbing path or safety climb systems** **Observation:** The bottom ladder connection bolts at the base of the tower are loose. **Recommendation:** Tighten loose nuts until snug.

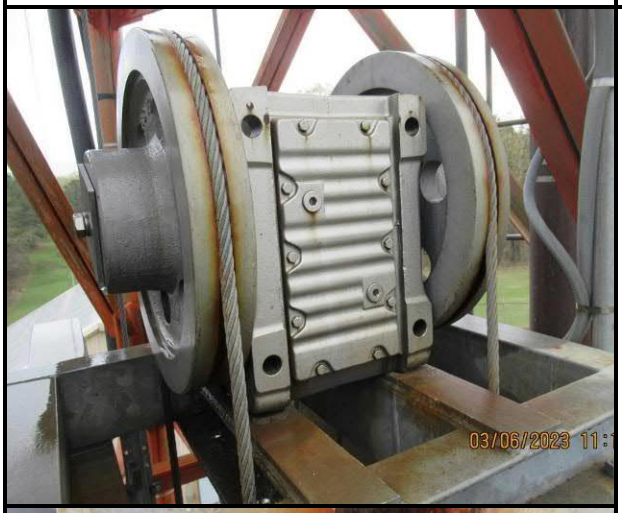
EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**F.2. Obstructions to climbing path or safety climb systems** **Observation:** The following issues were observed with the safety climb #1 top termination at 50-ft: • no cap • bolt surface corrosion • cable corrosion • debris within the upper termination • corrosion within the upper termination **Recommendation:** Tag out and discontinue use of the safety climb system until it can be replaced.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
 	**F.2. Obstructions to climbing path or safety climb systems** **Observation:** The cable for safety climb #2 is loose, and several kinks were observed.. **Recommendation:** Tighten the tension adjustment bolt at the bottom termination to remove the excess slack in the safety cable.
	**F.2. Obstructions to climbing path or safety climb systems** **Observation:** Safety cable material loss was observed at 1315-ft. **Recommendation:** Tag out and discontinue use of the safety climb system until it can be replaced.

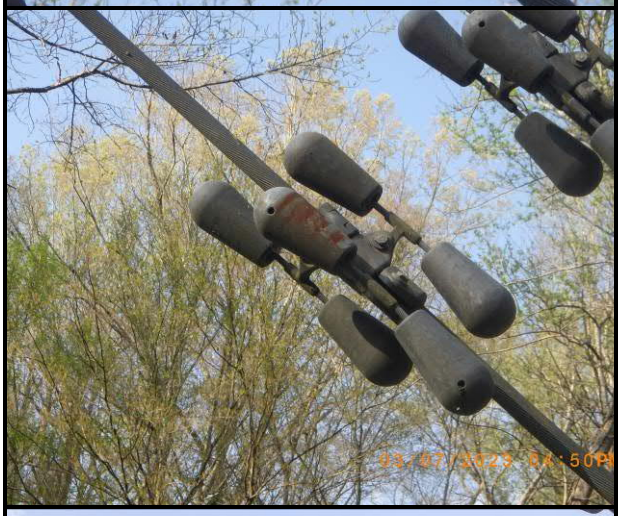
EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**F.3. Other Appurtenances (Defects, deformations, loose, or missing members, etc.)** **Observation:** The elevator pulleys and cables exhibit moderate corrosion. **Recommendation:** Elevator equipment should be inspected and serviced by a licensed technician prior to being placed back into service.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
 	**F.3. Other Appurtenances (Defects, deformations, loose, or missing members, etc.)** **Observation:** Corrosion was observed on the elevator door, as well as elevator platforms throughout. **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats of a brush on cold galvanizing compound containing at least 95% zinc.
	**H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, pins, and cotter pins secure and in good condition))** **Observation:** Corrosion was observed on a guy dampener at guy level 6 at the BB anchor. **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats of a brush on cold galvanizing compound containing at least 95% zinc. If during this process any material loss is observed, replace the dampener and ensure proper function.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, pins, and cotter pins secure and in good condition))** **Observation:** Guy dampeners for guy levels 6-8 were bent at the AA and BB anchors. Dampeners were bent or damaged at the C anchor for guys 3 and 4. **Recommendation:** Repair guy dampeners if possible. If not, replace with equivalently sized dampeners.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**<u>H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, pins, and cotter pins))</u>** **Observation:** Surface corrosion was observed on fan plate bolts, anchor pins, and vari-grip threaded rods at all anchors **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats of a brush on cold galvanizing compound containing at least 95% zinc. If during this process any material loss is observed, replace the hardware and ensure proper function.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
 	**<u>H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, pins, and cotter pins))</u>** **Observation:** Moderate corrosion observed on cotter pins at all guy levels throughout the tower and ground anchors. **Recommendation:** Replace the corroded cotter pins.
	**<u>H.3.a. Measure guy tensions</u>** **Observation:** Guy tensions are not within the allowable limits. See Appendix B for locations and recommendations. Guy level 2 and 4 tension tags are mislabeled at C anchor. **Recommendation:** Re-tension the guy wires to within recommended limits while ensuring twist and plumb are also with in recommended limits. Swap tension tags at C anchor to accurately reflect initial tensions.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
 	**<u>I.1.c. Ground condition (Site condition (standing water, drainage, trees, etc.))</u>** **Observation:** The compound fence is damaged in the North and East corners. **Recommendation:** Repair the damaged areas of the fence.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**J.3. Guy Mast Anchors (Anchor shaft condition below grade)** **Observation:** Surface corrosion below grade was observed at the following anchors: • AA • B • BB • C • CC **Recommendation:** Anchor shafts should be excavated down to top of concrete, cleaned, and material loss measured to determine extent of damage. A protective coating should be applied to the anchor shafts prior to backfilling and a cathodic protection system should be installed to prevent further corrosion. For exposed steel above grade, thoroughly clean all areas of corrosion and apply at least two coats of a cold galvanizing compound containing at least 95% zinc. Areas of material loss should be measured to determine extent of damage. Refer to the Nation Associated of Tower Erectors guideline "Inspection of Guy Anchors in Direct Contact with Soil."

APPENDIX A: TOWER PLUMB AND TWIST MEASUREMENTS

Table A-1: Lateral Deflection Measurements

	Reference Elevation (above conc.)	Resultant Deflection (in)	Allowable Resultant Deflection (in) per TIA	Resultant Deflection Between Reference Elevations (in)	Allowable Deflection Between Reference Elevations (in) per TIA
Tower Plumb	1427-ft	1.17 OK	± 42.81		
				0.76 OK	± 5.58
	1241-ft	1.76 OK	± 37.23		
				1.00 OK	± 5.43
	1060-ft	2.48 OK	± 31.80		
				0.69 OK	± 5.43
	879-ft	3.17 OK	± 26.37		
				1.37 OK	± 5.25
	704-ft	2.66 OK	± 21.12		
				1.24 OK	± 5.40
	524-ft	1.92 OK	±15.72		
				0.83 OK	± 5.42
	343.5-ft	1.08 OK	± 10.31		
				0.00 OK	± 5.19
	170.5-ft	1.08 OK	± 5.12		
				1.08 OK	± 5.12
	0-ft	0.00 OK	± 0.00		

Table A-2: Tower Twist Measurements

	Reference Elevation (above conc.)	Twist with Respect To Base (°)	Allowable Twist with Respect To Base (°)	Relative Twist Between Reference Elevations (°)	Allowable Twist Between Reference Elevations (°)
Tower Twist	1427-ft	0.60 OK	± 5.00		
				0.26 OK	± 5.00
	1241-ft	0.34 OK	± 5.00		
				0.71 OK	± 5.00
	1060-ft	-0.37 OK	± 5.00		
				0.45 OK	± 5.00
	879-ft	-0.82 OK	± 5.00		
				-1.04 OK	± 5.00
	704-ft	0.23 OK	± 5.00		
				-0.76 OK	± 5.00
	524-ft	0.99 OK	± 5.00		
				0.43 OK	± 5.00
	343.5-ft	0.56 OK	± 5.00		
				0.00 OK	± 5.00
	170.5-ft	0.56 OK	± 5.00		
				0.56 OK	± 5.00
	0-ft	0.00 OK	± 0.00		

Method: GT

A transit was used at a distance approximately the tower height away to record the twist and plumb data. The base of the tower was used as the reference point. The relative displacement was measured at guy attachments and near the top of the tower. The transit sight was inverted and the displacement was measured again to eliminate possible discrepancies. This process was repeated at the A, B, and C legs. Overall displacement was calculated and compared to tolerances per: ANSI/TIA-222-H.

APPENDIX B: GUY TENSIONS

Table B-1

Guy Path	Guy #	Measured Guy Size (diameter in inches)	Tension at Measured Temperature (lbs)	Design Initial Tension at 60°F (lbs)	Design Tension at Measured Temperature (lbs)	Capacity Out of Range
A	1	1-1/4"	19267	24960	21791	LOW (-11.58%)
	2	1-5/8”	36672	42120	37819	OK (-3.03%)
	3	1-1/2"	23812	27600	24861	OK (-4.22%)
	4	1-1/2”	21250	27600	25620	LOW (-17.06%)
	5	1-5/8”	27439	25920	24191	HIGH (13.43%)
	6	1-5/8”	24393	25920	23203	HIGH (5.13%)
	7	1-5/8”	25140	25920	23634	HIGH (6.37%)
	8	1-5/8”	25067	25920	23984	OK (4.51%)
B	1	1-1/4"	20126	24960	21840	LOW (-7.85%)
	2	1-5/8”	35213	42120	37902	LOW (-7.09%)
	3	1-1/2"	22763	27600	24879	LOW (-8.51%)
	4	1-1/2”	26313	27600	25595	OK (2.80%)
	5	1-5/8”	25761	25920	24134	HIGH (6.74%)
	6	1-5/8”	25338	25920	23196	HIGH (9.24%)
	7	1-5/8”	23554	25920	23617	OK (-0.27%)
	8	1-5/8”	26066	25920	23961	HIGH (8.79%)
C	1	1-1/4"	21052	24960	21807	OK (-3.46%)
	2	1-5/8”	34342	42120	37841	LOW (-9.25%)
	3	1-1/2"	25663	27600	24859	OK (3.24%)
	4	1-1/2”	20571	27600	25602	LOW (-19.65%)
	5	1-5/8”	27566	25920	24161	HIGH (14.09%)
	6	1-5/8”	23004	25920	23203	OK (-0.86%)
	7	1-5/8”	25124	25920	23630	HIGH (6.32%)
	8	1-5/8”	24913	25920	23978	OK (3.90%)

Note: Initial tensions on existing guy wires were taken from Modification Design/Structural Analysis Report by GPD, dated 1/30/2020. Guy level 1 initial tension is 13%, level 2 is 13%, level 3 is 10%, level 4 is 10% and all others are 8% initial tension.