APPENDIX C-1

March 10, 2023

Alicia Harris
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Subject: Maintenance and Condition Assessment Report

FCC Designation	**ASR Number:**	1041037
Client Designation:	**Client Site Name:**	WMAW
Inspection Firm Designation:	**TEP Project Number:**	327679.814192
Site Data:	**2315 County Road 20 Louin, Jasper County, MS 39338 Latitude N *32° 8' 19.0"*, Longitude W *89° 5' 35.9"* 997 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 and Clint Oestreich of TEP during the February 28, 2023 and February 29, 2023 site visit. 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 5 are at 189-ft, 384-ft, 586.5-ft, 790.5-ft, and 997-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
3/10/23

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: Material loss on C channels at guy 3 and bent members observed on the tower. See executive summary for details.			
A.2. Loose members			
☐Okay	☒Possible Improvement	☐Needs Repair	☐Not Applicable
Notes: Gaps ranging in size from 1/8" to 1/4" observed between the flanges throughout the tower. See executive summary for details.			
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: 79-81°F, North wind at 12-14 mph			

B. FINISH

B.1. Paint and/or galvanizing condition			
☒Okay	☐Possible Improvement	☐Needs Repair	☐Not Applicable
Notes:			
B.2. Rust and/or corrosion condition including mounts and accessories			
☐Okay	☐Possible Improvement	☒Needs Repair	☐Not Applicable
Notes: Moderate to severe corrosion observed throughout the tower. See executive summary for details.			
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 executive summary for details.			
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:			
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:			
E.1.d. Antenna and Mounts (Loose or missing hardware)			
☐ Okay	☒ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes: Improper mounts observed on tower. See executive summary for details.			
E.1.e. Antenna and Mounts (Condition of antenna covers)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
E.2.a. Feed Lines (Flanges, seals, dents, jacket damage, grounding, etc.)			
☐ Okay	☐ Possible Improvement	☒ Needs Repair	☐ Not Applicable
Notes: Gas leak heard from FM antenna. See executive summary for details.			
E.2.b. Feed Lines (Properly secured/supported on the structure and mount)			
☐ Okay	☒ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes: Loose coax was observed on the tower.			
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: Abandoned mounts and equipment observed throughout the tower. See executive summary for details.			
F.2. Obstructions to climbing path or safety climb systems			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
F.3. Other Appurtenances (Defects, deformations, loose, or missing members, etc.)			
☒ Okay	☐ Possible Improvement	☐ Needs Repair	☐ Not Applicable
Notes:			
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: Damaged dampener on guy 5 (anchor CCC). Corrosion was observed on guy level 3 and 4. See executive summary for details.			
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: Undersize safety loops and corroded wire rope clamps were observed at multiple anchors. See executive summary for details			
H.2.a.iii. Guy Hardware Conditions (Turnbuckles or equivalent (cracks, defects, damage, etc.))			
☐Okay	☐Possible Improvement	☒Needs Repair	☐Not Applicable
Notes: Corrosion and minor damage observed at multiple locations on Vari grips and turnbuckles. See executive summary for details.			
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: Corroded servings were observed. See executive summary for details.			
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: Corroded cotter pins and hardware were observed throughout tower and anchors. See executive summary for details.			
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. See report for locations and recommendations. ** 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: Overgrown vegetation was observed in the anchor compounds. See executive summary for details			
I.2.a. Anchorage condition (Top and bottom base plate nuts tight)			
☐ Okay	☐ Possible Improvement	☒ Needs Repair	☐ Not Applicable
Notes: Recessed anchor rod nuts observed at anchor C. see executive summary for details.			
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: Mild corrosion was observed on the anchor rod shaft at anchor CCC. See 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.1. Damaged members (legs and bracing)** **Observation:** A bent L2x2x3/16" diagonal member was observed at 26-ft, and 995' on the BC Face. Maximum deflections of 5/8" and 1", respectively, were recorded. **Recommendation:** Repair or replace the damaged diagonals.
	**A.1. Damaged members (legs and bracing)** **Observation:** Material loss and surface corrosion was observed inside C channel at guy level 3, due to contact with elevator cables. **Recommendation:** A structural engineer licensed in the state of Mississippi should review any areas of section loss to determine the appropriate course of action. Thoroughly clean all areas of corrosion and apply two coats of a cold galvanizing compound containing at least 95% zinc.
	

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 tower. **Recommendation:** Monitor the flange gaps during the next inspection cycle. If the conditions worsen and the gaps exceed 1/4" are observed, consult with a structural engineer licensed in the state of Mississippi to determine the appropriate course of action.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**<u>B.2. Rust and/or corrosion condition including mounts and accessories</u>** **Observation:** Moderate to severe corrosion was observed in the following locations: • Abandoned mount pipe hardware on C leg at 96-ft. • Light mounting hardware on B leg at 34-ft. • Mount hardware on CA face at 198.5-ft. • Mount hardware on A leg at 215.5-ft. • Mount hardware on BC face at 396-ft and 403-ft. • Mount hardware on BC face at 512-ft and 530-ft. • Mount hardware on B leg at 681-ft, 693-ft, 704-ft, and 712-ft. • Mount hardware on B leg at 747.5-ft. • Mount on C leg at 764-ft. **Recommendation:** Notify the equipment owner. All areas of corrosion should be thoroughly cleaned and treated with two coats of cold galvanizing compound containing at least 95% zinc. If during this process any section loss is observed, the equipment or hardware should be replaced with one of equal size and grade.

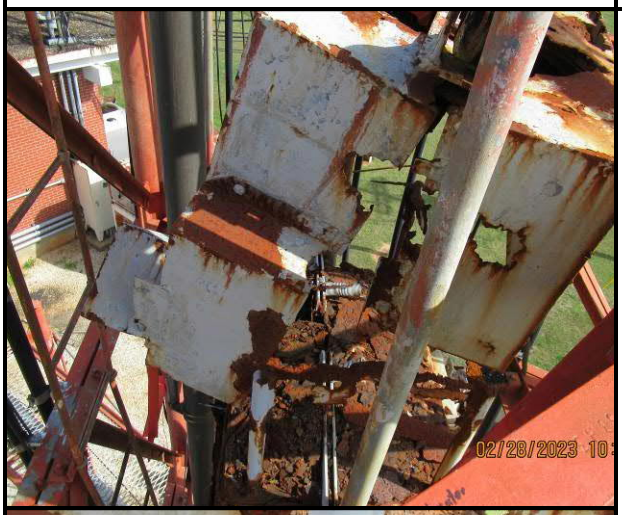
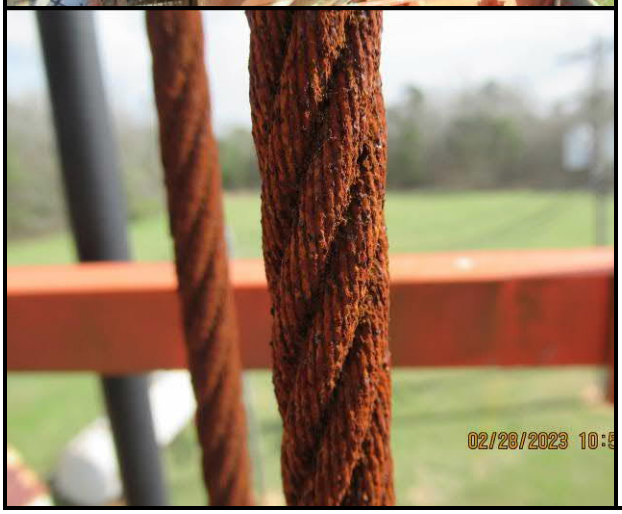
EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	**B.3. FAA or ICAO color marking Condition** **Observation:** The FAA paint is thin and weathered throughout the tower. **Recommendation:** Confirm owner marking requirements per FAA Advisory Circular AC70/7460-1M "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.
	**E.1.d. Antenna and Mounts (Loose or missing hardware)** **Observation:** Antenna mount on CA face at 198.5-ft is missing mount hardware. **Recommendation:** Secure or replace mount per manufacturer recommendations. If unused or abandoned, remove equipment, mount, and coax from tower.
	**E.1.d. Antenna and Mounts (Loose or missing hardware)** **Observation:** Skewed u-bolt on dipole at 612-ft and 637-ft on A leg. **Recommendation:** Secure or replace mount per manufacturer recommendations. If unused or abandoned, remove equipment, mount, and coax from tower.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	**E.2.a. Feed Lines (Flanges, seals, dents, jacket damage, grounding, etc.)** **Observation:** Gas leaking heard at 876-ft from FM antenna to coax connection. Could not verify precise flange. **Recommendation:** Consult broadcast operator regarding appropriate course of action.
 	**E.2.b. Feed Lines (Properly secured/supported on the structure and mount)** **Observation:** Unsecured coax at 510-ft, 764-ft, 800-ft. TEP temporarily secured all coax fall hazards. **Recommendation:** Remove the abandoned coax.

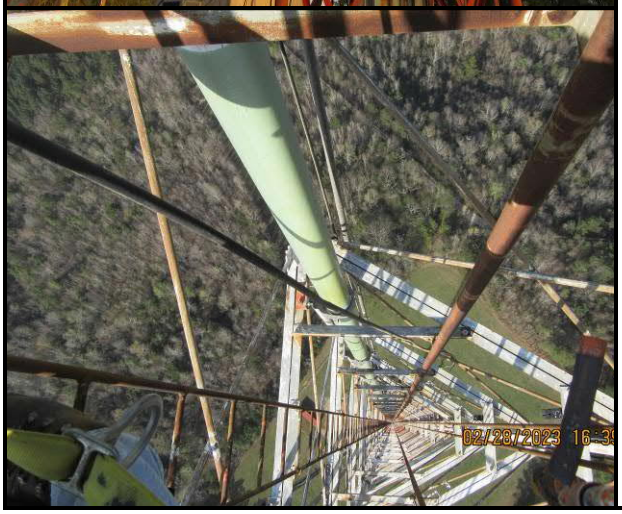
EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**F.1. Other Appurtenances (Condition)** **Observation:** Severe corrosion and damage to elevator equipment including cables, shafts, box, and machinery at top and bottom. **Recommendation:** Remove elevator and all related hardware and equipment.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**F.1. Other Appurtenances (Condition)** **Observation:** Abandoned Mounts and equipment observed at the following locations: • 96-ft on C leg • 134-ft on A leg • 215.5-ft on A leg • 344-ft on CA face • 466-ft on C leg • 484.5-ft on C leg • 497-ft on C leg • 747.5-ft on B leg • 764-ft on C leg • 768-ft on C leg • 798-ft on AB face **Recommendation:** Confirm there is no planned future use with tower owner and remove abandoned equipment, mounts, and coax.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**F.1. Other Appurtenances (Condition)** **Observation:** Abandoned and loose coax observed at the following locations: • (1) 1/4” coax from 0-ft to 81-ft • (1) 1/4” coax from 0-ft to 93-ft • (1) 1/8” coax from 0-ft to 120-ft • (1) 1/2” coax from 0-ft to 198-ft • (1) 1/8” coax from 0-ft to 200-ft • (3) 1/4” coax from 0-ft to 267-ft • (1) 1/2” coax from 0-ft to 464-ft • (1) 1/4” coax from 0-ft to 517-ft • (1) 1/4” coax from 0-ft to 758-ft • (1) 5/8” coax from 0-ft to 762-ft • (1) 3/8” coax from 0-ft to 798-ft • (1) 1-1/4” conduit from 0-ft to 800-ft • (2) 3/8” coax from 764-ft to 800-ft **Recommendation:** Confirm there is no planned future use with tower owner and remove abandoned coax.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	**H.1. Guy strand condition (Corrosion, breaks, nicks, kinks, etc.)** **Observation:** A damaged dampener on guy 5 at anchor CCC. **Recommendation:** Replace dampener and install per manufacturer's requirements.
	**H.1. Guy strand condition (Corrosion, breaks, nicks, kinks, etc.)** **Observation:** Mild to moderate corrosion was observed on guy level 3 and 4 wires coming from tower. **Recommendation:** Monitor the guy wire condition during the next inspection cycle. If cross sectional area loss is observed, replace the guy wire.
	**H.2.a.ii. Guy Hardware Conditions (Turnbuckles or equivalent (secure and safety properly applied))** **Observation:** Turnbuckle safety loop is undersize and is missing a second wire rope clamp at AA, BB, and CC anchor. **Recommendation:** Install proper sized turnbuckle safety loop with two wire rope clamps.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	**H.2.a.ii. Guy Hardware Conditions (Turnbuckles or equivalent (secure and safety properly applied))** **Observation:** Corroded wire clamps were observed at AAA, BBB, and CCC anchor. **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats od a cold galvanizing compound containing at least 95% zinc.
	**H.2.a.iii. Guy hardware Conditions (Turnbuckles or equivalent (cracks, defects, damage, etc.))** **Observation:** Damaged threads were observed on Vari grips at anchor A on guy 1, and Anchor BBB guy 4. **Recommendation:** Monitor Vari grip condition during the next inspection cycle. If condition worsens or interferes with function, replace the Vari grip.
	**H.2.a.iii. Guy hardware Conditions (Turnbuckles or equivalent (cracks, defects, damage, etc.))** **Observation:** Surface corrosion was observed on Vari grips, turnbuckles and poured sockets at anchor A, B, and C on guy 1, anchor AA, BB on guy 3, anchor AAA, BBB, and CCC on guy 4, and guy 5. **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats of a cold galvanizing compound containing at least 95% zinc.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
  	**<u>H.2.a.iii. Guy hardware Conditions (Turnbuckles or equivalent (cracks, defects, damage, etc.))</u>** **Observation:** Vari grip was skewed, and lock nut is seized and could not be moved at A anchor on Guy 1. (9242, 9259) **Recommendation:** Replace Vari grip with a new Vari grip of equivalent size.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	**H.2.d.ii. Guy Hardware Conditions (Cable connectors (Wire serving))** **Observation:** Corroded serving on Guy 5 at AAA anchor, and on guy 3 at CC anchor. **Recommendation:** Replace with stainless steel serving.
	**H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, and cotter pins))** **Observation:** Corroded cotter pins on elevated guy level 3 and 4 and at anchors AA, AAA, BB, BBB, CC, CCC. **Recommendation:** Replace cotter pins.
	**H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, and cotter pins))** **Observation:** Surface corrosion was observed on the fan plate's pin at Anchor A on guy 1 and Anchor AAA on guy 5. **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats of a cold galvanizing compound containing at least 95% zinc.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	**H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, and cotter pins))** **Observation:** Corrosion was observed on guy anchor washers at AA, B, BBB anchor. **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats of a cold galvanizing compound containing at least 95% zinc.
	**H.3.a Measure guy tensions** **Observation:** Guy tensions are not within recommended values. See Appendix B for details. **Recommendation:** Re-tension the guy wires to within recommended limits while ensuring twist and plumb are also with in recommended limits.
	**I.1.c. Ground condition (Site condition (standing water, drainage, trees, etc.))** **Observation:** Trees and other foliage were observed growing in A, AA, and CC anchor compound. **Recommendation:** Remove the vegetation and spray to prevent future growth.

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	**I.2.a. Anchorage condition (Top and bottom base plate nuts tight)** **Observation:** Locking Nuts for anchor rods are recessed at C guy anchor. **Recommendation:** A structural engineer licensed in the state of Mississippi should review the acceptability of partially threaded anchor rod nuts and determine the appropriate course of action. Clean and fill recessed area with approved epoxy to prevent standing water and corrosion.
	**J.3. Guy Mast Anchors (Anchor shaft condition below grade)** **Observation:** Mild corrosion was observed on the anchor rod shaft at anchor CCC. **Recommendation:** Thoroughly clean all areas of corrosion and apply two coats of a cold galvanizing compound containing at least 95% zinc.

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	997-ft	1.56 OK	± 29.91		
				0.66 OK	± 6.20
	790.5-ft	2.00 OK	± 23.72		
				0.67 OK	± 6.12
	586.5-ft	2.40 OK	± 17.60		
				1.21 OK	± 6.08
	384-ft	1.30 OK	± 11.52		
				0.75 OK	± 5.85
	189-ft	0.75 OK	± 5.67		
				0.75 OK	± 5.67
	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	997-ft	-0.41 OK	± 5.00		
				0.69 OK	± 5.00
	790.5-ft	-1.10 OK	± 5.00		
				-0.37 OK	± 5.00
	586.5-ft	-0.74 OK	± 5.00		
				0.51 OK	± 5.00
	384-ft	-1.24 OK	± 5.00		
				-0.83 OK	± 5.00
	189-ft	-0.41OK	± 5.00		
				-0.41OK	± 5.00
	0-ft	0.00 OK	± 0.00		

Method:
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	1-1/16”	9923	13800	12328	LOW (19.51%)
	2	1-5/16”	13769	21200	20081	LOW (31.43%)
	3	1-3/16”	16140	17200	15692	OK (2.85%)
	4	1-1/4”	16319	19200	17902	LOW (8.84%)
	5	1-1/8”	11649	15600	14787	LOW (21.22%)
B	1	1-1/16”	9997	13800	12267	LOW (18.50%)
	2	1-5/16”	19667	21200	20073	OK (2.02%)
	3	1-3/16”	13727	17200	15614	LOW (12.08%)
	4	1-1/4”	17841	19200	17833	OK (0.05%)
	5	1-1/8”	12605	15600	14745	LOW (14.51%)
C	1	1-1/16”	9036	13800	12169	LOW (25.75%)
	2	1-5/16”	17140	21200	19966	LOW (14.15%)
	3	1-3/16”	14374	17200	15544	LOW (7.53%)
	4	1-1/4”	20155	19200	17762	HIGH (13.48%)
	5	1-1/8”	12794	15600	14700	LOW (12.96%)

Note: Initial tensions on existing guy wires were assumed to be 10 percent of breaking strength because the latest structural analysis was not provided to TEP. If initial tensions were set to a different percentage than specified, TEP should be notified to provide a report revision.