

Tower Engineering Professionals, Inc.  
326 Tryon Road  
Raleigh, NC 27603  
(919) 661-6351  
[bhm\\_inspections@tepgroup.net](mailto:bhm_inspections@tepgroup.net)

**April 13, 2023**

Alicia Harris  
Mississippi Authority for Education TV  
3825 Ridgewood Rd.  
Jackson, MS 39211-6497  
(601) 432-6770

**Subject: Maintenance and Condition Assessment Report – Revision 1**

<b>FCC Designation</b>	<b>ASR Number:</b>	1041044
<b>Client Designation:</b>	<b>Client Site Name:</b>	WMAV
<b>Inspection Firm Designation:</b>	<b>TEP Project Number:</b>	19780.814204
<b>Site Data:</b>	<b>Near CR344</b>	
	<b>Oxford, Lafayette County, MS 38655</b>	
	<b>Latitude N 34° 17' 28", Longitude W 89° 42' 21"</b>	
	<b>1250 Foot – Guyed Tower</b>	

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 Sam Clark of TEP during the February 15, 2023 site visit and again by Sam Clark, Clint Oestreich, and Lee Contreras during the February 20, 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 7 are at 158.5-ft, 317-ft, 488-ft, 668-ft, 855-ft, 1043-ft, and 1250-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.



ANSI/TIA-222-H MAINTENANCE AND CONDITION ASSESSMENT .....	3
A. STRUCTURE CONDITION .....	3
B. FINISH.....	3
C. LIGHTING (external portions of components only).....	4
D. GROUNDING.....	4
E. APPURTENANCES SUCH AS MOUNTS, ANTENNAS, AND LINES .....	5
F. OTHER APPURTENANCES (ICE SHIELDS, WALKWAYS, PLATFORMS, CLIMBING FACILITIES, SENSORS, FLOODLIGHTS, ETC.) .....	5
G. INSULATORS (BASE INSULATOR, AM DETUNING KITS, FIBERGLASS RODS, PROCELAIN INSULATOR, NON-METALLIC GUYS, ETC.) .....	6
H. GUYS.....	7
I. CONCRETE FOUNDATIONS .....	8
J. GUYED MAST ANCHORS .....	9
K. STRUCTURE ALIGNMENT .....	9
EXECUTIVE SUMMARY .....	10
APPENDIX A: TOWER PLUMB AND TWIST MEASUREMENTS.....	25
APPENDIX B: GUY TENSIONS .....	32



## ANSI/TIA-222-H MAINTENANCE AND CONDITION ASSESSMENT

### A. STRUCTURE CONDITION

<b>A.1. Damaged members (legs and bracing)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input checked="" type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Material loss on C channels at all guy levels. See Executive Summary for details.			
<b>A.2. Loose members</b>			
<input type="checkbox"/> Okay	<input checked="" type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Gaps ranging in size from 1/8" to 1/4" were observed between the flanges throughout the tower.			
<b>A.3. Missing members</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input checked="" type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Modification is missing center U-bolt at 1158-ft on all faces. See Executive Summary for details.			
<b>A.4. Loose and/or missing bolts and/or nut locking devices</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>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)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>A.6. Pole flange and base plate cracks visible in base metal or at ends of plate stiffeners</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>A.7. Record temperature, wind speed and direction, &amp; other environmental conditions</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: 71°F, Northeast wind at 13 mph			

### B. FINISH

<b>B.1. Paint and/or galvanizing condition</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>B.2. Rust and/or corrosion condition including mounts and accessories</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input checked="" type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Mild to moderate corrosion observed throughout the tower. See Executive Summary for details.			
<b>B.3. FAA or ICAO color marking conditions</b>			
<input type="checkbox"/> Okay	<input checked="" type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: The FAA paint is thin and weathered throughout the tower. See Executive Summary for details.			
<b>B.4. Water collection in members (to be remedied, e.g., unplug drain holes, etc.)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			



## C. LIGHTING (external portions of components only)

<b>C.1. Conduit, junction boxes, and fasteners (weather tight and secure)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input checked="" type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Broken lighting conduit and damaged coax was observed throughout the tower. See Executive Summary for details.			
<b>C.2. Drains and vents openings (unobstructed)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>C.3. Wiring Condition</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>C.4. Light lenses</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input checked="" type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Side marker is missing clip at 724-ft on B leg. See Executive Summary for details.			
<b>C.5. Bulb condition</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input checked="" type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Broken lightbulb observed at 39-ft on C leg. Side markers are out at 1015-ft and 1160-ft. See Executive Summary for details.			
<b>C.6.a. Controllers (Flasher)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>C.6.b. Controllers (Photo control)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>C.6.c. Controllers (Alarms)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes: Did not verify			
<b>C.7. Obstructions to lighting system.</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			

## D. GROUNDING

<b>D.1. Grounding (Connections)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>D.2. Grounding (Corrosion)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>D.3. Grounding (Lightning protection)*</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> 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

<b>E.1.a. Antenna and Mounts (Proper tie-back of microwave dishes)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>E.1.b. Antenna and Mounts (Damage to supporting structure at connections)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>E.1.c. Antenna and Mounts (Defects, deformations, loose, missing members, etc.)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>E.1.d. Antenna and Mounts (Loose or missing hardware)</b>			
<input type="checkbox"/> Okay	<input checked="" type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Improper mounts observed on tower. Unsecured antennas were removed from tower. See Executive Summary for details.			
<b>E.1.e. Antenna and Mounts (Condition of antenna covers)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>E.2.a. Feed Lines (Flanges, seals, dents, jacket damage, grounding, etc.)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>E.2.b. Feed Lines (Properly secured/supported on the structure and mount)</b>			
<input type="checkbox"/> Okay	<input checked="" type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Loose coax observed on tower. See Executive Summary for details.			
<b>E.2.c. Feed Lines (Hanger condition (snap-ins, bolt on, kellum grips, etc.))</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>E.2.d. Feed Lines (Secured to structure (waveguide ladder))</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			

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

<b>F.1. Other Appurtenances (Condition)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input checked="" type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Abandoned mounts and equipment observed throughout the tower. See Executive Summary for details.			
<b>F.2. Obstructions to climbing path or safety climb systems</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>F.3. Other Appurtenances (Defects, deformations, loose, or missing members, etc.)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>F.4. Other Appurtenances (Loose or missing hardware)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>F.5. Other Appurtenances (Secured to Structure)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			



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

<b>G.1. Insulators (Cracking and chipping)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			
<b>G.2. Insulators (Cleanliness)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			
<b>G.3. Insulators (Spark gaps)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			
<b>G.4. Isolation transformer</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			
<b>G.5. Insulators (Bolts and connection secure)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			
<b>G.6. Insulators (Delamination, UV degradation, rod slippage)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			



## H. GUYS

<b>H.1. Guy strand condition (corrosion, breaks, nicks, kinks, etc.)</b>			
<input type="checkbox"/> Okay	<input checked="" type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Damaged dampener present on guy 7 (anchor AA). Corrosion was observed on all guy wires. See Executive Summary for details.			
<b>H.2.a.i. Guy Hardware Conditions (Turnbuckles or equivalent (threaded extended past body))</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>H.2.a.ii. Guy Hardware Conditions (Turnbuckles or equivalent (secure and safety properly applied))</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>H.2.a.iii. Guy Hardware Conditions (Turnbuckles or equivalent (cracks, defects, damage, etc.))</b>			
<input type="checkbox"/> Okay	<input checked="" type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Corrosion was observed on the Vari grip and nuts. Vari grip is in contact with the fence. See Executive Summary for details.			
<b>H.2.b. Guy Hardware Conditions (Cable thimbles)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			
<b>H.2.c. Guy Hardware Conditions (Ice clips)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			
<b>H.2.d.i. Guy Hardware Conditions (Cable connectors (Cable clamps applied properly and bolts tight))</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			
<b>H.2.d.ii. Guy Hardware Conditions (Cable connectors (Wire serving))</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			
<b>H.2.d.iii. Guy Hardware Conditions (Cable connectors (Slippage or damaged strands))</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>H.2.d.iv. Guy Hardware Conditions (Cable connectors (Deadend grips fully wrapped, end sleeve/ice clips (on anchor end)))</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input checked="" type="checkbox"/> Not Applicable
Notes:			
<b>H.2.d.v. Guy Hardware Conditions (Cable connectors (Poured sockets secure and showing no separation or twisting))</b>			
<input type="checkbox"/> Okay	<input checked="" type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Slight material loss in epoxy at anchor CC (guy 6). See Executive Summary for details.			
<b>H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, pins, and cotter pins))</b>			
<input type="checkbox"/> Okay	<input checked="" type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Corroded cotter pins and hardware was observed throughout tower and anchors. See Executive Summary for details.			
<b>H.2.e. Guy Hardware Conditions (Inspect tension rods/anchor rods welded to fan plates for fatigue cracks)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>H.3.a. Measure guy tensions</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input checked="" type="checkbox"/> Needs Repair	<input type="checkbox"/> 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.			
<b>H.3.b. Record temperature, wind speed and wind direction</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: See A.7. for temperature and wind.			



## I. CONCRETE FOUNDATIONS

<b>I.1.a. Ground condition (Settlement, movement or earth cracks)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>I.1.b. Ground condition (Erosion)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>I.1.c. Ground condition (Site condition (standing water, drainage, trees, etc.))</b>			
<input type="checkbox"/> Okay	<input checked="" type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Multiple issues found with the compound fence. See Executive Summary for details.			
<b>I.2.a. Anchorage condition (Top and bottom base plate nuts tight)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input checked="" type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: 3/16" gap between anchor AA baseplate and grout. See Executive Summary for details.			
<b>I.2.b. Anchorage condition (Nut locking device)</b>			
<input type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input checked="" type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Multiple issues found with the nut locking devices at the guy anchors. See Executive Summary for details.			
<b>I.2.c. Anchorage condition (Grout condition)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>I.2.d. Anchorage condition (Anchorage)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>I.2.e. Anchorage condition (Anchor rods)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>I.3.a. Concrete condition (Cracking, spalling, or splitting)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>I.3.b. Concrete condition (Chipped or broken concrete)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>I.3.c. Concrete condition (Honeycombing)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>I.3.d. Concrete condition (Low spots to collect moisture)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			





## J. GUYED MAST ANCHORS


<b>J.1. Guy Mast Anchors (Settlement, movement or earth cracks)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>J.2. Guy Mast Anchors (Grade sloped away from anchors)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			
<b>J.3. Guy Mast Anchors (Anchor shaft condition below grade)</b>			
<input type="checkbox"/> Okay	<input checked="" type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Moderate corrosion was observed on the anchor rod shaft at anchor CC.			
<b>J.4. Guy Mast Anchors (Corrosion control measures (galvanizing, coating, concrete encasement, cathodic protection systems, etc.))</b>			
<input type="checkbox"/> Okay	<input checked="" type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Surface corrosion was observed on the fanplate and grounding washer at multiple anchors. See Executive Summary for details.			
<b>J.5. Anchor heads above grade (clear of vegetation, obstructions, etc. and turnbuckles free to articulate)</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes:			

## K. STRUCTURE ALIGNMENT

<b>K.1. Structure Plumb and Twist</b>			
<input checked="" type="checkbox"/> Okay	<input type="checkbox"/> Possible Improvement	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Not Applicable
Notes: Tower twist and plumb was within ANSI/TIA-222-H recommended limits.			





## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>A.1. Damaged members (legs and bracing)</u></b></p> <p><b>Observation:</b> Material loss and surface corrosion was observed inside C channel at all guy levels due to contact with elevator cables.</p> <p><b>Recommendation:</b> 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.</p>




## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>A.2. Loose members</u></b></p> <p><b>Observation:</b> Gaps ranging in size from 1/8" to 1/4" were observed between the flanges throughout the tower.</p> <p><b>Recommendation:</b> 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.</p>
	<p><b><u>A.3. Missing members</u></b></p> <p><b>Observation:</b> Modification is missing center U-bolt at 1158-ft on all faces.</p> <p><b>Recommendation:</b> Install center U-bolts or remove the members if they are determined by structural analysis to be no longer required.</p>





## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>B. 2. Rust and/or corrosion condition including mounts and accessories</u></b></p> <p><b>Observation:</b> Mild to moderate corrosion was observed in the following locations:</p> <ul style="list-style-type: none"> <li>• 34-ft, 186-ft, 384-ft, 442-ft, and 605-ft on mount on A leg.</li> <li>• 625-ft and 643-ft on mounts on AB face.</li> <li>• 176-ft, 349-ft, 392-ft, and 542-ft on mount on B leg.</li> <li>• 214-ft on mount on BC face.</li> <li>• 60-ft, 95-ft, 138-ft, 146.5-ft, 184-ft, 190-ft, 357-ft, and 515-ft on mount on C leg.</li> <li>• 515-ft on antenna and 1040-ft on mount hardware on C leg.</li> <li>• 1250-ft to 1296-ft on mast antenna</li> <li>• 1298-ft on lighting beacon mount.</li> </ul> <p><b>Recommendation:</b> 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.</p>






## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>B. 2. Rust and/or corrosion condition including mounts and accessories</u></b></p> <p><b>Observation:</b> Mild to moderate corrosion was observed in the following locations:</p> <ul style="list-style-type: none"> <li>• Subhorizontal center connection hardware from 90-ft to 150-ft.</li> <li>• 147-ft, 440-ft, 724-ft, 1015-ft, and 1160-ft on side marker conduit.</li> <li>• Subhorizontal connection hardware from 1125-ft to 1207-ft.</li> <li>• Climbing facilities throughout tower.</li> </ul> <p><b>Recommendation:</b> Thoroughly clean all areas of corrosion and apply two coats of a cold galvanizing compound containing at least 95% zinc.</p>





## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>B.3. FAA or ICAO color marking conditions</u></b></p> <p><b>Observation:</b> The FAA paint is thin and weathered throughout the tower.</p> <p><b>Recommendation:</b> Confirm tower 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.</p>
	<p><b><u>C.1. Conduit, junction boxes, and fasteners (weather tight and secure)</u></b></p> <p><b>Observation:</b> Broken lighting conduit observed throughout tower on CA face.</p> <p><b>Recommendation:</b> Repair or remove damaged lighting conduit as part of lighting system upgrade.</p>
	<p><b><u>C.1. Conduit, junction boxes, and fasteners (weather tight and secure)</u></b></p> <p><b>Observation:</b> Damaged coax for side beacon at 579-ft, and top beacon at 1300-ft.</p> <p><b>Recommendation:</b> Repair or remove damaged coax as part of lighting system upgrade.</p>



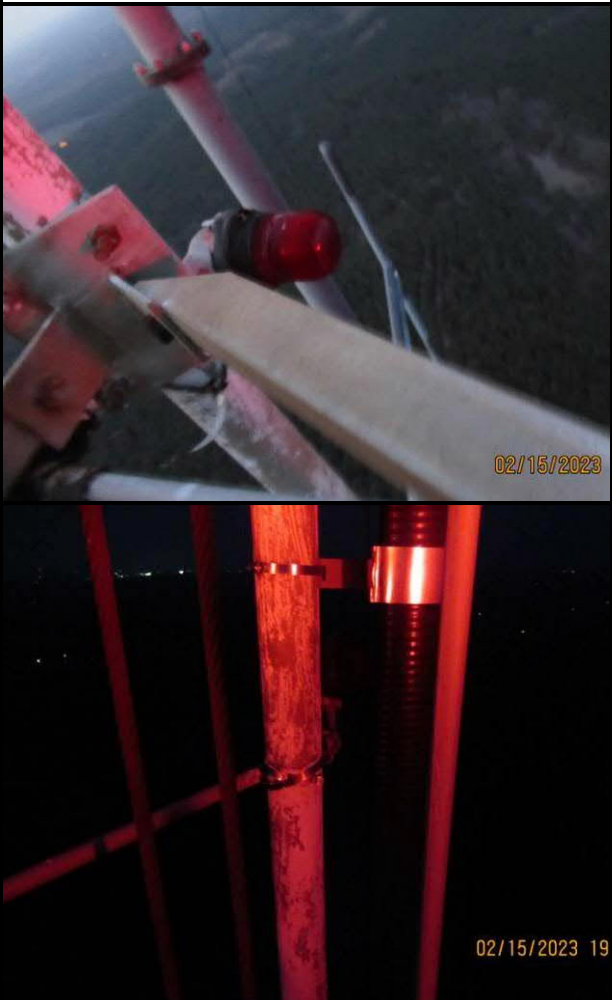


## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>C.4. Light lenses</u></b></p> <p><b>Observation:</b> Side marker is missing clip at 724-ft on B leg. Side marker cap is secured.</p> <p><b>Recommendation:</b> Repair or replace side marker as part of lighting system upgrade.</p>
	<p><b><u>C.5. Bulb condition</u></b></p> <p><b>Observation:</b> Broken compound lighting lightbulb observed at 39-ft on C leg. (Not part of tower lighting system).</p> <p><b>Recommendation:</b> If required by tower owner, replace broken lighting bulb or remove compound light from tower.</p>




## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>C.5. Bulb condition</u></b></p> <p><b>Observation:</b> Side markers are out at 1015-ft on B leg and 1160-ft on A and C legs.</p> <p><b>Recommendation:</b> Repair or replace side markers as part of lighting system upgrade.</p>






## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>E.1.d. Antenna and Mounts (Loose or missing hardware)</u></b></p> <p><b>Observation:</b> Mount at 95-ft on C leg was observed to swing freely. Temporarily secured on site.</p> <p><b>Recommendation:</b> Secure mount per manufacturer's specifications, or remove abandoned mount from tower.</p>


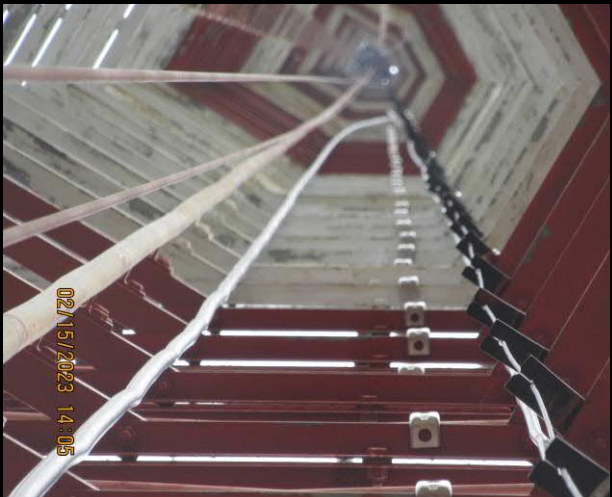


## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>E.1.d. Antenna and Mounts (Loose or missing hardware)</u></b></p> <p><b>Observation:</b> Unsecured yagi antennas at 171-ft on A and C legs. During the February 20, 2023 visit, TEP removed the unsecured antennas.</p> <p><b>Recommendation:</b> No further action required.</p>




## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>E.1.d. Antenna and Mounts (Loose or missing hardware)</u></b></p> <p><b>Observation:</b> Improperly mounted dipole at 430-ft on A leg.</p> <p><b>Recommendation:</b> Secure or replace mount per mount manufacturer recommendations. If unused, remove equipment, mount, and coax from the tower.</p>
	<p><b><u>E.2.b. Feed Lines (Properly secured/supported on the structure and mount)</u></b></p> <p><b>Observation:</b> FH 7/8 coax inside AB face not secured back to structure from 170-ft to 500-ft.</p> <p><b>Recommendation:</b> Secure coax to the tower using appropriate hardware.</p>



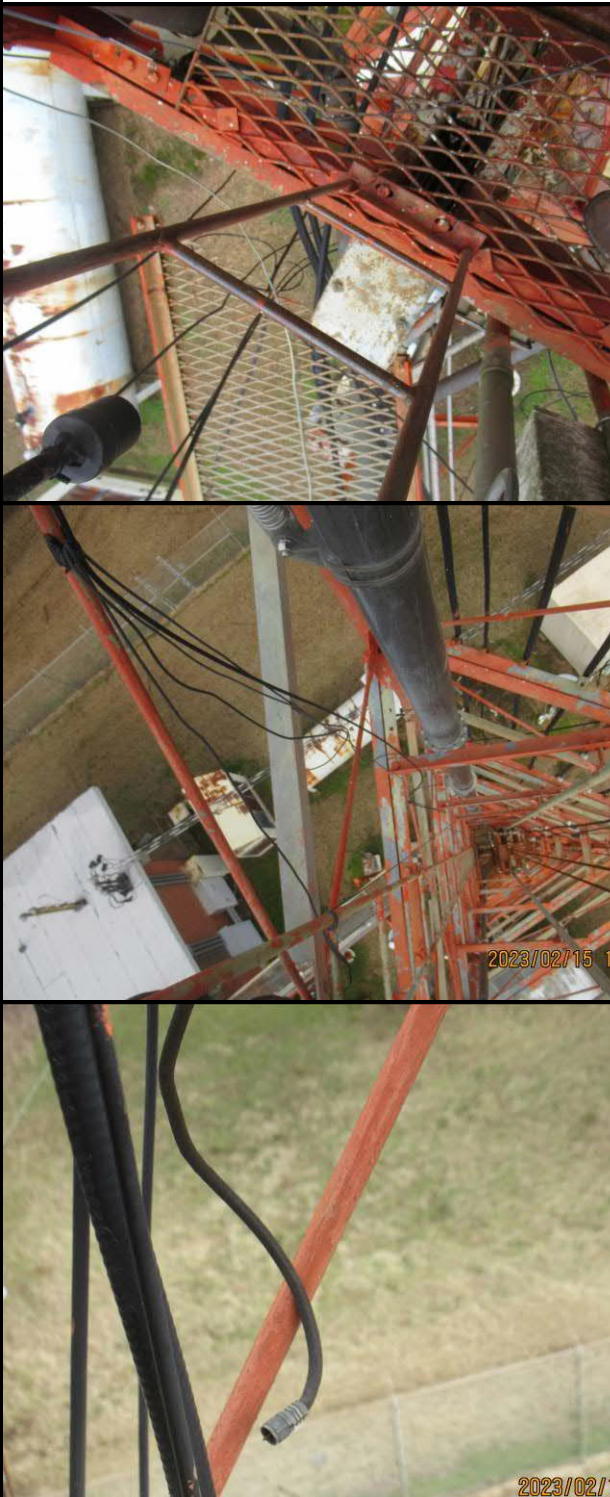


## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>F.1. Other Appurtenances (Condition)</u></b></p> <p><b>Observation:</b> Abandoned mounts and equipment observed at the following locations:</p> <ul style="list-style-type: none"> <li>• 60-ft on B leg</li> <li>• 95-ft on C leg</li> <li>• 158-ft on AB face</li> <li>• 159-ft on A leg</li> <li>• 171-ft on C leg</li> <li>• 214-ft on BC face</li> <li>• 625-ft on AB face</li> <li>• 643-ft on AB face</li> <li>• 1040-ft on C leg</li> <li>• 1045-ft on AB face</li> </ul> <p><b>Recommendation:</b> Confirm there is no planned future use with tower owner and remove abandoned equipment, mounts, and coax.</p>




## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>F.1. Other Appurtenances (Condition)</u></b></p> <p><b>Observation:</b> Abandoned and loose coax observed at the following locations:</p> <ul style="list-style-type: none"> <li>• (1) 1/4" coax from 0-ft to 40-ft</li> <li>• (3) 1/8", (5) 1/4", (1) 5/16", and (1) 3/8" coax from 0-ft to 60-ft</li> <li>• (1) 1/8" coax from 0-ft to 90-ft</li> <li>• (2) 1/4" coax from 0-ft to 169-ft</li> <li>• (1) 3/8" coax from 0-ft to 183-ft</li> <li>• (1) 3/8" coax from 0-ft to 197-ft</li> </ul> <p><b>Recommendation:</b> Confirm there is no planned future use with tower owner and remove abandoned coax.</p>








## EXECUTIVE SUMMARY

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





## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>H.1. Guy strand condition (corrosion, breaks, nicks, kinks, etc.)</u></b></p> <p><b>Observation:</b> Damaged dampener on guy 7 at anchor AA.</p> <p><b>Recommendation:</b> Replace dampener and install per manufacturer's requirements.</p>
	<p><b><u>H.1. Guy strand condition (corrosion, breaks, nicks, kinks, etc.)</u></b></p> <p><b>Observation:</b> Mild to moderate corrosion was observed at all guy wires coming from the tower.</p> <p><b>Recommendation:</b> Monitor the guy wire condition during the next inspection cycle. If cross sectional area loss is observed, replace the guy wire.</p>
	






## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>H.2.a.iii. Guy Hardware Conditions (Turnbuckles or equivalent (cracks, defects, damage, etc.))</u></b></p> <p><b>Observation:</b> Vari grip is in contact with fence at anchor B (guy 1). Surface corrosion was observed on the Vari grip at anchor AA and BB on guy 4 and the nuts for the Vari grips at all anchors.</p> <p><b>Recommendation:</b> Thoroughly clean all areas of corrosion and apply two coats of a cold galvanizing compound containing at least 95% zinc. Monitor point of contact with fence post for material loss during the next inspection cycle. If material loss or excessive corrosion are observed, the fence post should be relocated.</p>
	<p><b><u>H.2.d.v. Guy Hardware Conditions (Cable connectors (Poured sockets secure and showing no separation or twisting))</u></b></p> <p><b>Observation:</b> Slight material loss in epoxy at anchor CC (guy 6).</p> <p><b>Recommendation:</b> Monitor the epoxy condition during the next inspection cycle. If significant material loss is observed, repair or replace per the manufacturer's specifications.</p>








## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, pins, and cotter pins))</u></b></p> <p><b>Observation:</b> Corroded cotter pins at all guy anchors and elevated guy levels.</p> <p><b>Recommendation:</b> Replace the cotter pins.</p>
	<p><b><u>H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, pins, and cotter pins))</u></b></p> <p><b>Observation:</b> Corrosion was observed on the fanplate pin's locking pin at all anchors.</p> <p><b>Recommendation:</b> Thoroughly clean all areas of corrosion and apply two coats of a cold galvanizing compound containing at least 95% zinc.</p>
	<p><b><u>H.2.d.vi. Guy Hardware Conditions (Cable connectors (Shackles, bolts, pins, and cotter pins))</u></b></p> <p><b>Observation:</b> Surface corrosion was observed on the fanplate's pin at anchor A</p> <p><b>Recommendation:</b> Thoroughly clean all areas of corrosion and apply two coats of a cold galvanizing compound containing at least 95% zinc.</p>




## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>H.3.a Measure guy tensions</u></b></p> <p><b>Observation:</b> Guy tensions are not within recommended values. See Appendix B for details.</p> <p><b>Recommendation:</b> Re-tension the guy wires to within recommended limits while ensuring twist and plumb are also within recommended limits.</p>
	<p><b><u>I.1.c. Ground condition (Site condition (standing water, drainage, trees, etc.))</u></b></p> <p><b>Observation:</b> A hole is present on the southwest side of the compound fence. Limbs are present on the northwest side of the compound fence. Loose barbed wire is present on south side of the compound fence.</p> <p><b>Recommendation:</b> Remove vegetation and repair the fence.</p>
	







## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
 <p>02/20/23</p>	<p><b><u>I.2.a. Anchorage condition (Top and bottom base plate nuts tight)</u></b></p> <p><b>Observation:</b> 3/16" gap between anchor AA baseplate and grout.</p> <p><b>Recommendation:</b> Monitor gap during the next inspection cycle to determine if any movement has occurred. If the gap is found to be larger than 3/16", removal of grout for further inspection may be required.</p>
 <p>02/20/2023</p>  <p>02/20/2023</p>	<p><b><u>I.2.b. Anchorage condition (Nut locking device)</u></b></p> <p><b>Observation:</b> Loose nut-locking device at anchor CC on anchor rod bolt. Missing nut-locking devices (2) on anchor rod bolts at anchor CC.</p> <p><b>Recommendation:</b> Install and tighten all anchor rod nuts per Section 4.9.9 of ANSI/TIA-222-H.</p>




## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>I.2.b. Anchorage condition (Nut locking device)</u></b></p> <p><b>Observation:</b> Locking nuts for anchor rods are recessed at all guy anchors.</p> <p><b>Recommendation:</b> Remove the top nuts to prevent water collection and corrosion on the anchor rods. Install monitor lines on the anchor nuts and monitor annually to ensure the nuts are not backing off the anchorages.</p>
	<p><b><u>I.3. Guy Mast Anchors (Anchor shaft condition below grade)</u></b></p> <p><b>Observation:</b> Moderate corrosion was observed on the anchor rod shaft at anchor CC.</p> <p><b>Recommendation:</b> Thoroughly clean all areas of corrosion and apply two coats of a cold galvanizing compound containing at least 95% zinc.</p>



## EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p><b><u>J.4. Guy Mast Anchors (Corrosion control measures (galvanizing, coating, concrete encasement, cathodic protection systems, etc.))</u></b></p> <p><b>Observation:</b> Surface corrosion was observed on the fanplate at anchors BB, A, and AA. Surface corrosion was observed on the washer for grounding at anchor A and C.</p> <p><b>Recommendation:</b> Thoroughly clean all areas of corrosion and apply two coats of a cold galvanizing compound containing at least 95% zinc.</p>





## 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	1250-ft	1.00 OK	± 37.50		
				0.25 OK	± 6.21
	1043-ft	1.25 OK	± 31.29		
				0.08 OK	± 5.64
	855-ft	1.33 OK	± 25.65		
				1.34 OK	± 5.61
	668-ft	2.48 OK	± 20.04		
				0.35 OK	± 5.40
	488-ft	2.15 OK	± 14.64		
				1.19 OK	± 5.13
	317-ft	1.04 OK	± 9.51		
				1.04 OK	± 4.76
	158.5-ft	0.00 OK	± 4.76		
				0.00 OK	± 4.76
	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	1250-ft	-0.55 OK	± 5.00		
				0.14 OK	± 5.00
	1043-ft	-0.69 OK	± 5.00		
				0.05 OK	± 5.00
	855-ft	-0.74 OK	± 5.00		
				-0.93 OK	± 5.00
	668-ft	0.20 OK	± 5.00		
				-0.20 OK	± 5.00
	488-ft	0.39 OK	± 5.00		
				0.49 OK	± 5.00
	317-ft	-0.10 OK	± 5.00		
				-0.10 OK	± 5.00
	158.5-ft	0.00 OK	± 5.00		
				0.00 OK	± 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 @ 60°F (lbs)	Design Tension at Measured Temperature (lbs)	Capacity Out of Range
A	1	13/16"	8618	8000	7419	HIGH (16.15%)
	2	1"	9964	12200	11646	LOW (14.44%)
	3	1-1/16"	12754	13800	13414	OK (4.92%)
	4	1"	12178	12200	11484	OK (6.05%)
	5	1-1/16"	14585	13800	13139	HIGH (11.00%)
	6	1-3/16"	12718	17200	16534	LOW (23.08%)
	7	1-1/16"	12995	13800	13358	OK (2.72%)
B	1	13/16"	7128	8000	7421	OK (3.95%)
	2	1"	10749	12200	11639	OK (7.64%)
	3	1-1/16"	11354	13800	13402	LOW (15.28%)
	4	1"	11735	12200	11479	OK (2.23%)
	5	1-1/16"	10613	13800	13132	LOW (19.18%)
	6	1-3/16"	13337	17200	16523	LOW (19.28%)
	7	1-1/16"	11792	13800	13349	LOW (11.66%)
C	1	13/16"	10160	8000	7418	HIGH (36.96%)
	2	1"	11610	12200	11648	OK (0.32%)
	3	1-1/16"	12554	13800	13419	LOW (6.44%)
	4	1"	13054	12200	11474	HIGH (13.77%)
	5	1-1/16"	14083	13800	13123	HIGH (7.31%)
	6	1-3/16"	17123	17200	16511	OK (3.71%)
	7	1-1/16"	14810	13800	13339	HIGH (11.03%)

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.

