TOWER INSPECTION REPORT

SITE NAME: **404 NE Woods Chapel Road**

FOR: **City of Lees Summit MO**

SITE COORDINATES: **N 38.98361 W -94.37031**

FCC ID: **KNLF292**

HEIGHT / TYPE: **120**

DATE: **10/7/2021**

CUSTOMER:	City of Lees Summit MO	**INSPECTION DATE:**	10/7/2021
SITE ID:	60706	**WEATHER:**	Sunny
TOWER HT/TYPE:	120	**TEMPERATURE:**	67

	SAT.*	UN-SAT*	N/A
	X		
		* - SEE APPENDIX	
1 GENERAL SITE CONDITIONS			
A. TOWER AND BUILDING AREA IS SECURE	X		
B. GUY ANCHORS PROTECTED FROM VEHICLE, FARM MACHINERY AND CATTLE DAMAGE			X
C. NO VINES OR VEGETATION ARE GROWING ON FENCE, TOWER OR GUY ANCHORS	X		
D. ANCHOR LOCATIONS ARE READILY ACCESSIBLE TO MAINTENANCE CREW			X
E. NO LARGE TREES ARE WITHIN FALLING DISTANCE OF TOWER OR GUY CABLES		X	
F. SITE IS DRAINING PROPERLY, BUILDING AND CIVIL WORK IN GOOD SHAPE	X		
G. COMPOUND / ANCHORS IN GOOD SHAPE; ALL GATES AND LOCKS OPERABLE AND SECURE	X		
2 SHELTER			
A. SHELTER FOUNDATION FREE FROM CRACKING, SPALLING OR SHIFTING	X		
B. SHELTER BEARS PROPERLY ON FOUNDATION	X		
C. SHELTER FREE FROM SIGNS OF DAMAGE OR VANDALISM	X		
D. SHELTER ROOF AND OPENINGS PREVENT WATER AND PEST ENTRY	X		
E. AIR HANDLING UNITS CLEAN AND OPERATIONAL	X		
3 GROUNDING			
A. TOWER BASE IS GROUNDED	X		
B. INDIVIDUAL GUY CABLES ARE GROUNDED			X
C. ANCHOR HEAD PLATES OR SHAFTS ARE GROUNDED			X
D. WAVEGUIDE/COAX BRIDGE IS GROUNDED PROPERLY	X		
E. ALL GROUNDING CONNECTIONS ARE TIGHT, CLEAN AND USING CORRECT HARDWARE	X		
F. GROUND WIRES ARE ROUTED IN DOWNWARD DIRECITON WITH NO SHARP BENDS	X		
G. ALL WIRES ARE OF CONTINUIOUS LENGTH WITH NO BREAKS OR SPLICES	X		
H. SHELTER GROUNDING SYSTEM FREE FROM LOOSE, MISSING OR BROKEN COMPONENTS	X		
I. FENCE GROUNDING SYSTEM FREE FROM LOOSE, MISSING OR BROKEN COMPONENTS			X
J. LIGHTNING ROD IS MOUNTED TO UPPERMOST LOCATION ON THE TOWER	X		
K. ALL BUSS BARS MOUNTED AND GROUNDED CORRECTLY	X		
4 GUY CABLES AND CONNECTIONS			
A. TURNBUCKLES ARE OF PROPER SIZE AND ADJUSTABLE IN EITHER DIRECTION			X
B. COTTER PINS ARE IN PLACE, SECURE AND FREE OF RUST			X
C. PROPER SIZE GUY THIMBLES ARE CORRECTLY INSTALLED			X
D. CROSBY CLAMP U-BOLT IS CORRECTLY INSTALLED ON DEAD SIDE OF CABLE			X
E. CABLE ENDS PROPERLY PROJECT FROM PREFORMED DEAD END GUY GRIPS			X
F. DEAD ENDS OF CABLES ARE SERVED TO PREVENT UNRAVELLING AT TOP AND BOTTOM			X
G. PREFORMED GUY GRIPS AT ANCHORS HAVE SAFETY END SLEEVES INSTALLED			X
H. TURNBUCKLE SAFETY CABLES ARE ADEQUATELY SIZED AND PROPERLY POSITIONED			X
I. ANCHOR HEADS ARE ABOVE GRADE AND FREE OF TWIST OR BENDS			X
J. NO KINKS OR DEFORMITIES IN CABLES FROM USE OF IMPROPER GRIPS OR HANDLING			X
K. NO SPLICES IN GUY CABLES			X
L. NO STRAND FRACTURES OR RUST SHOWING ON CABLES			X
M. GUY INSULATORS, IF USED, APPEAR TO BE IN GOOD SHAPE			X
N. GUY WIRES ARE NOT RUBBING ON FENCE POSTS OR OTHER APPURTENANCES			X
O. NO EROSION OR VISIBLE SIGNS OF MOVEMENT OF GUY ANCHORS			X
P. NO LOW AREAS AROUND ANCHORS THAT COLLECT RAINWATER OR RUN-OFF			X
Q. VISIBLE PORTIONS OF ANCHOR SHAFT FREE FROM RUST OR CORROSION			X
WAS ANCHOR SHAFT EXCAVATED?	No		
DEPTH (FT):			

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	X		

** - SEE APPENDIX*

5 TOWER BASE AND MAST

	SAT.*	UN-SAT*	N/A
A. CONCRETE FOUNDATION IN GOOD SHAPE WITH NO CRACKING, SPALLING OR SETTLING	X		
B. BASE LEGS CORRECTLY LINE UP WITH TOWER CENTER AND APPROPRIATE ANCHORS			X
C. VISUAL CHECK INDICATES TOWER IS PLUMB AND FREE OF TWIST			X
D. ALL LADDER SPLICES COMPLETE AND SECTIONS FIRMLY ATTACHED TO TOWER			X
E. ALL MEMBERS INSTALLED CORRECTLY WITH NO MISSING MEMBERS	X		
F. NO BENT, BROKEN OR OTHERWISE DAMAGED MEMBERS OR ATTACHMENTS	X		
G. STRUCTURAL BOLTS INSTALLED WITH PROPER TORQUE AND LOCKING DEVICES			X
H. NO FRACTURED WELDS	X		
I. TOWER MEMBERS FREE OF SURFACE RUST	X		
J. TOWER BASE GROUT IN GOOD CONDITION	X		
K. WEEP HOLES CLEAR AND DRAIN PROPERLY	X		

6 FAA REQUIRED LIGHTING

	SAT.*	UN-SAT*	N/A
A. NO CRACKED OR BROKEN BEACON, OBSTRUCTION LIGHT OR STROBE UNIT GLASS	X		
B. INSIDE OF LAMP UNITS CLEAN WITH WIRES, TERMINALS AND SOCKETS CORROSION FREE	X		
C. LAMP UNIT CLOSURE BOLTS OR SPRING FASTENERS FUNCTIONING PROPERLY	X		
D. BEACON OR STROBE UNIT CORD IN GOOD CONDITION	X		
E. BEACOON OR STROBE UNIT CORD DRIP LOOP NOT RUBBING ON TOWER MEMBERS	X		
F. OBSTRUCTION LIGHTS CORRECTLY POSITIONED AND PROPERLY SECURED TO TOWER	X		
G. CONDUIT SUPPORTED AT MAX. 8 FT. INTERVALS AND ALL JOINTS TIGHT			X
H. WIRE CORRECTLY INSTALLED OVER WIRE SUPPORTS IN JUNCTION BOXES			X
I. JUNCTION BOX TERMINALS TIGHT AND FREE OF CORROSION			X
J. CONDUIT BREATHERS CLEAR AND CLEAN			X
K. PHOTOCELL POSITIONED SO THAT IT HAS UNOBSTRUCTED VIEW OF NORTH SKY			X
L. LIGHTING SYSTEM OPERATING PROPERLY ACCORDING TO FEDERAL REGULATIONS	X		
M. LIGHTING SYSTEM GROUNDED TO SITE GROUNDING SYSTEM	X		
N. ALL ELECTRICAL CONNECTIONS FREE FROM LOOSE OR FRAYED WIRING	X		
O. STROBE CABLE AND/OR SO CORD HAS DRIP LOOP INSTALLED CORRECTLY	X		

LIGHTING SYSTEM TYPE: Dual Red White Strobe

LIGHTING SYSTEM MANUFACTURER:

MODEL NUMBER:

LAMPS / FLASHTUBES REPLACED? No

7 ANTENNAS

	SAT.*	UN-SAT*	N/A
A. NO EVIDENT DAMAGE TO ANTENNAS OR ANTENNA COMPONENTS	X		
B. NO DAMAGED, LOOSE OR MISSING HARDWARE	X		
C. ALL STIFFARM TIEBACKS ARE PROPERLY CONNECTED TO ANTENNA AND TOWER	X		
D. NO RUST OR CORROSION PRESENT ON ANTENNA HARDWARE		X	
E. ALL APPROPRIATE FEEDHORN GUY SPRING HANGERS PROPERLY IN PLACE			X
F. NO CRACKS OR TEARS IN ANTENNA RAYDOMES	X		
G. ANTENNA MOUNT STRUCTURAL MEMBERS APPEAR ADEQUATE & SECURE	X		
H. VISUALLY CHECK ANTENNA SYSTEMS FOR PROPER TILTLS AND AZIMUTHS	X		

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	X		

* - SEE APPENDIX

8 WAVEGUIDE/COAX CONNECTIONS AND SUPPORTS

	SAT.*	UN-SAT*	N/A
A. LINE TO FEED CONNECTION SECURE WITH NO EXCESSIVE MOVEMENT ALLOWED	X		
B. LINE TO FEED CONNECTION HAS NO EXCESSIVE BENDS OR TWISTS	X		
C. ALL LINE RUNS STRAIGHT AND CONNECTIONS WEATHERPROOFED	X		
D. ALL WAVEGUIDE/COAX RUNS SUPPORTED CORRECTLY	X		
E. NO CHAFING OF LINE PROTECTIVE COTING IF "TIED" TO TOWER MEMBERS	X		
F. ALL LINES PROPERLY SUPPORTED AT TOP WITH HOISTING GRIPS	X		
G. HOISTING GRIP INSTALLED CORRECTLY AND BELOW UPPER GROUNDING KIT	X		
H. NO OBVIOUS AIRE LEAKS IN PRESSURIZED WAVEGUIDE / COAX			X
I. WAVEGUIDE / COAX PROPERLY GROUNDED	X		
J. ALL JUMPERS SECURED CORRECLTY	X		
K. ALL WEATHERPROOFING PROPERLY INSTALLED AND NOT LEAKING			

9 TOWER PAINT

	SAT.*	UN-SAT*	N/A
A. NO EXCESSIVE PEELING, FLAKING OR FADING			X
B. IF REQUIRED, PROPER FAA APPROVED COLORS AND BANDING			X
C. PAINT IS VISUALLY EFFECTIVE AS WARNING TO AIRCRAFT			X

10 SAFETY SYSTEMS

	SAT.*	UN-SAT*	N/A
A. CHECK FOR PROPERLY FUNCTIONING FALL ARREST SYSTEM	X		
B. CLIMBING LADDER, PLATFORM, SAFETY EQUIPMENT SECURELY ATTACHED	X		
C. CHECK FOR DAMAGED, MISSING OR BROKEN PARTS ON FALL ARREST SYSTEM	X		
D. CHECK FOR PROPERLY TENSIONED FALL ARREST SYSTEM	X		
E. CHECK FOR "STOP" AT TOP OF FALL ARREST SYSTEM PREVENTING SLIDING OUT	X		
F. "NO TRESPASSING" SIGNS PRESENT ON ALL FOUR SIDES OF COMPOUND FENCE		X	
G. FCCID SIGN VISIBLE FROM NEAREST PUBLIC ACCESS POINT	X		

H. ALL SIGNAGE SECURELY ATTACHED, LEGIBLE AND IN GOOD CONDITION — **Yes**

I. NFPA Hazmat Placard SIGN PRESENT ON COMPOUND FENCE — **No**

J. RF SAFETY (SMALL YELLOW) SIGN PRESENT ON COMPOUND FENCE — **No**

K. RF SAFETY (LARGE) SIGN PRESENT ON COMPOUND FENCE — **No**

RF SAFETY (LARGE) SIGN COLOR: NONE

SIZE OF SAFETY CLIMB CABLE: 3/8"

11 INSTRUMENT CHECKS

A. TOWER PLUMBNESS CHECKED WITH TRANSIT? — No

SEE ATTACHED RECORD OF TOWER PLUMB READINGS

B. GUY CABLE TENSIONS CHECKED? — No

SEE ATTACHED RECORD OF GUY TENSIONS READINGS

METHOD USED: Dynamometer

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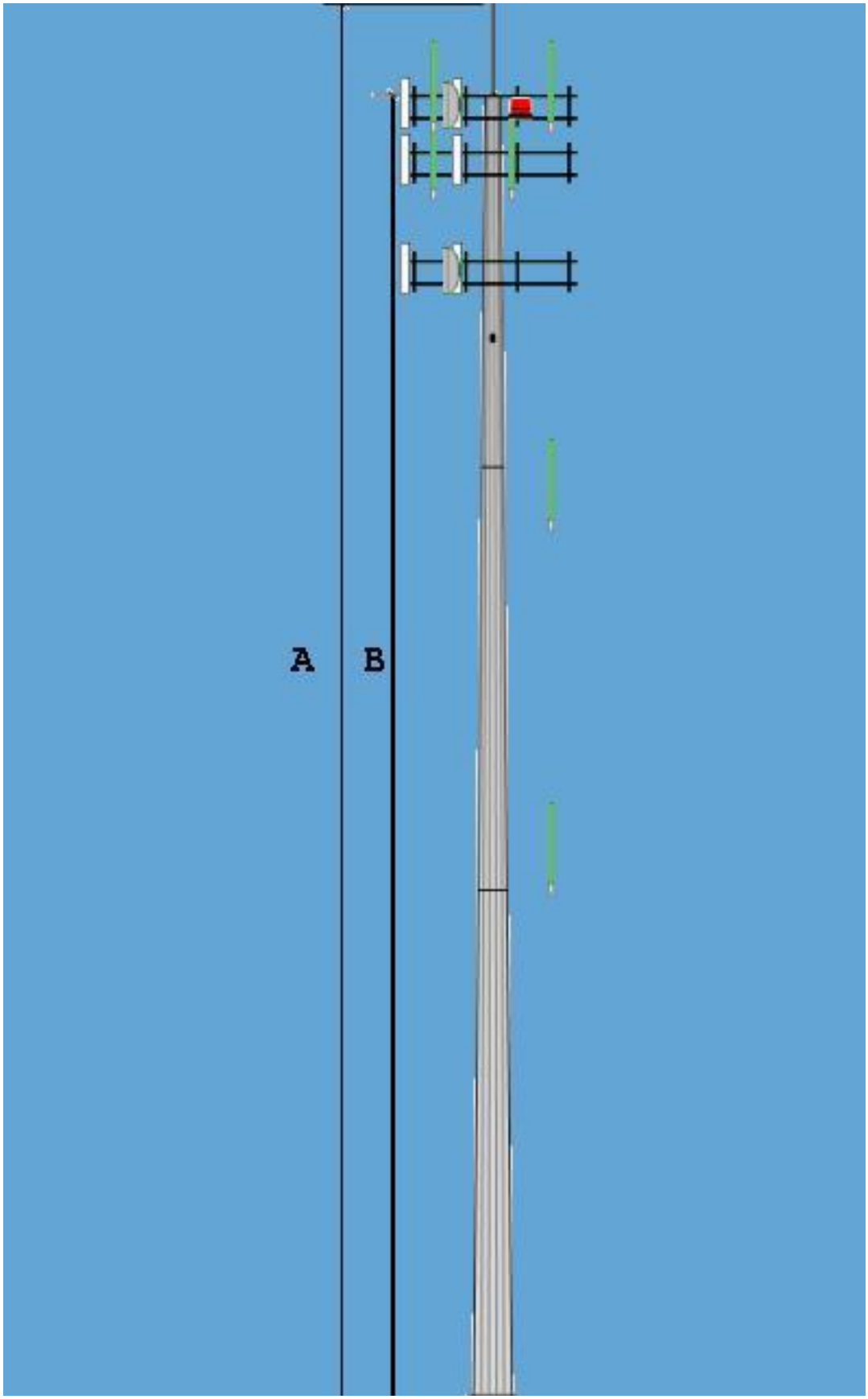
12 COMMENTS

ITEM #	COMMENT	REPAIRED COMPLETED
1E.	Large Trees WIthin Falling Distance Of Compound	
3I.	Plastic Fencing	
3J.	Di Poles Are Higher Than Lighting Rod	
6K.	Night Mode Only On Timer	
7D.	Yagi Antenna @ 85' Has Minimal Surface Rust On Chain Mount	
10F.	Signs Not Present	
I.	Hazmat Sign Not Present	
J.	RF Sign Not Presant	
K.	Large RF Sign Not Present	

Tower Elevation

Total Height AGL (A)	130
Height of Structure (B)	120



Tower Attachment Identification

#	Attachment	CL Elev (ft)	Make	Model	Type	Azimuth	Downtilt	Tower Leg	Mount Location	Feedline size	Line Color Code	Coax Face
1	Panel Antenna Left Outer	105	AT&T Sector 1						A 1			
2	Panel Antenna Left Inner	105	AT&T Sector 1						A 2			
3	Panel Antenna Left Outer	105	AT&T Sector 1						B 1			
4	Panel Antenna Left Inner	105	AT&T Sector 1						B 2			
5	Panel Antenna Left Outer	105	AT&T Sector 1						G 1			
6	Panel Antenna Left Inner	105	AT&T Sector 1						G 2			
7	Dish Left	105	AT&T Sector 1						A 3			
8	Wifi Antenna Right	115	AT&T Sector 2						A 1			
9	Panel Antenna Left Inner	115	AT&T Sector 2						A 2			
10	Panel Antenna Left Outer	115	AT&T Sector 2						A 3			
11	Omni Antenna Upright Left	115							B 1			
12	Panel Antenna Left Inner	115							B 2			
13	Panel Antenna Left Outer	115							B3			
14	Wifi Antenna Right	115							G 1			
15	Panel Antenna Left Inner	115							G 2			
16	Panel Antenna Left Outer	115							G 3			
17	Panel Antenna Left Outer	120							A 1			
18	Panel Antenna Left Inner	120							A 2			
19	Panel Antenna Left Outer	120							B 1			
20	Panel Antenna Left Inner	120							B 2			

Dish Left 120 B 3

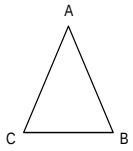
Omni Antenna Upright Right

Omni Antenna Upright Left 121

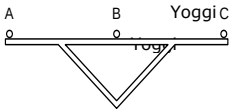
Omni Antenna Upright Left 121

Omni Antenna Upright Right 52 South

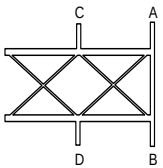
Omni Antenna Upright Right 85 South



1 – Tower Leg



2 – Sector Mount



3 – Boom Arm

APPENDIX:

EXPLINATION OF COLUMN HEADINGS:

"SAT."

SATISFACTORY; item is judged to be acceptable in all categories, including installation, condition, function and structural integrity.

"UNSAT"

UNSATISFACTORY; item is judged to be unacceptable in its present condition and should be corrected. The deficiency is adversly affecting either the performance or its overall structural integrity.

EXPLANATION OF BOLT TORQUE CHECK:

Structural bolt connections are "sampled" at the rate of at least 10 bolts per each 20 vertical feet of tower height. The tower is considered to be in an acceptable condition if the number of undertorqued bolts is found to be 5% of the total sampled, or less.The tower is said to have a "maintenance deficiency" if the number of undertorqued bolts are from 6% to 30% of the total sampled. If this is the case, the tower should be regularly rechecked at least annually; the theory being that since each undertorqued bolt found during therandom sampling process is retightened to the proper level, eventually the number of undertorqued bolts will drop back down under the acceptable 5% level. If the number of undertorqued bolts found are greater than 30% of the total sampled, the tower is said to be in astructurally unacceptable condition and all bolts should be checked and retightened to correct levels.The controlling bolt torque values used are:

Bolt Diameter:	**Min. Torque (ft-lbs)**
3/8"	20
1/2"	45
5/8"	90
3/4"	125

HARDWARE STANDARDS USED:

NOMINAL GUY CABLE DIA.	MIN TURNBUCKLE SIZE	THIMBLE SIZE W/FIST GRIPS OR CROSBY CLAMPS	THIMBLE SIZE W/PREFORMED DEAD END GRIPS
3/8 EHS	3/4 X 12	3/8"	1/2"
7/16 EHS	3/4 X 12	7/16"	9/16"
1/2 EHS	7/8 X 12	1/2"	5/8"
9/16 EHS	1 X 12	9/16"	5/8"
5/8 EHS	1 X 12	5/8"	3/4"
3/4 EHS & BS	1-1/4 X 12	3/4"	7/8"
7/8 BS		7/8"	1"