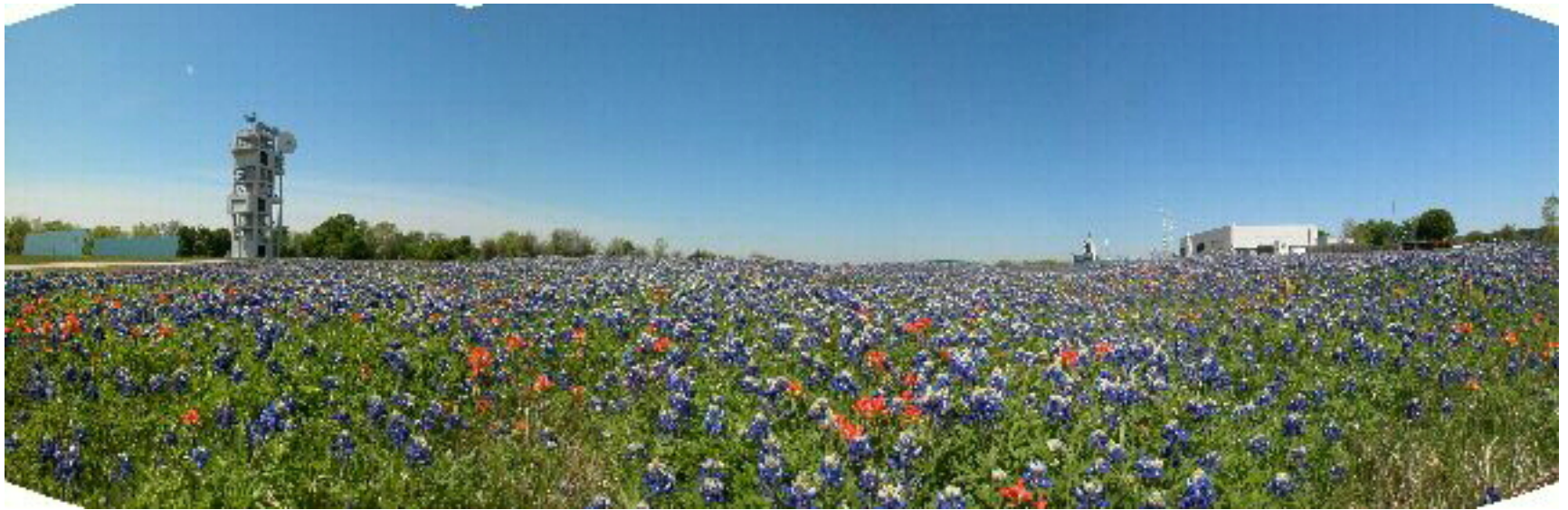


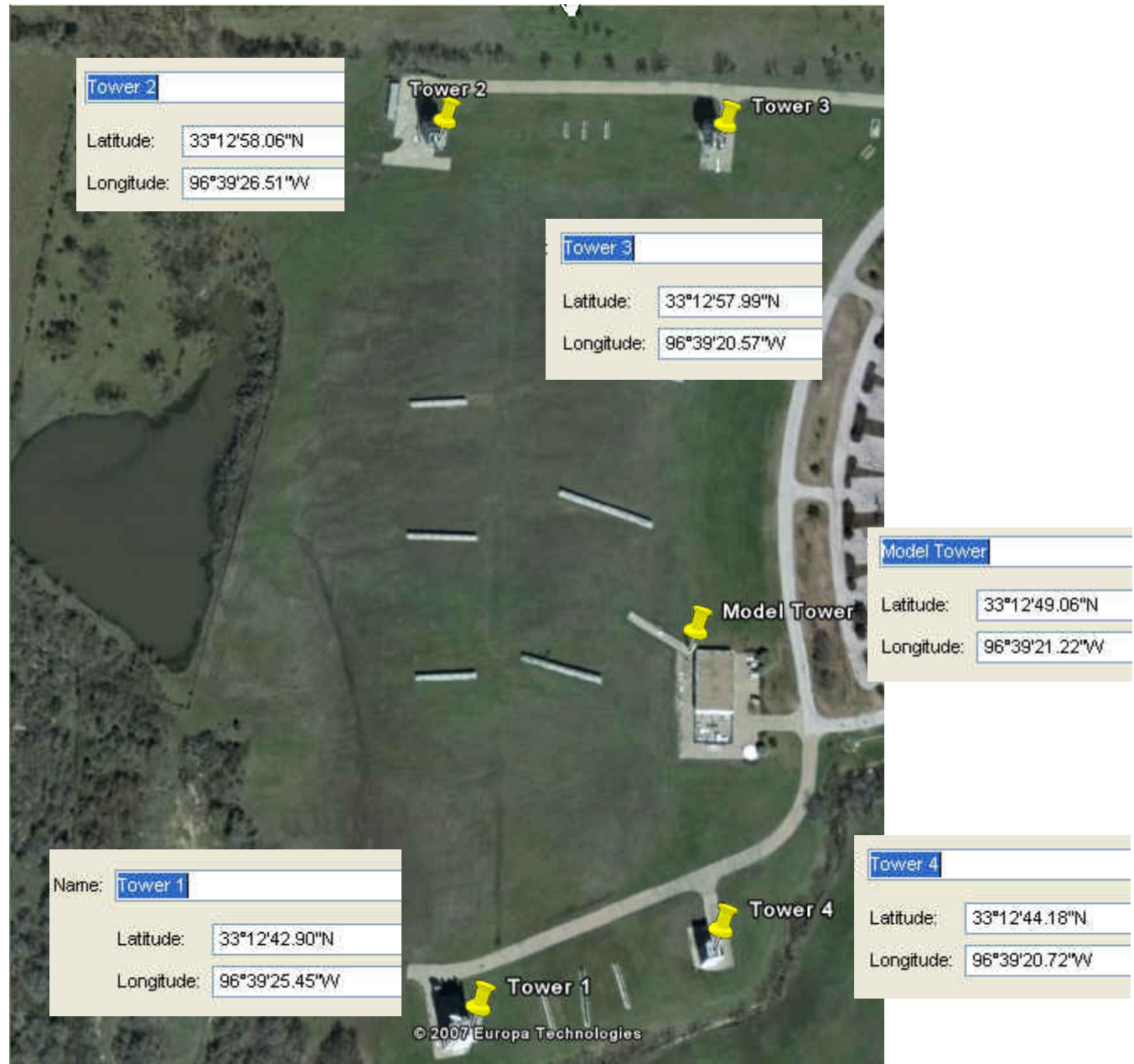


McKinney Outdoor Ranges

Antenna Inventory

Updated 9/17/2007

Coordinates
from Google
Earth on
McKinney, TX
outdoor tower
locations.



Electromagnetic Energy Inventory



Owner: David Townsend

Program: Range 4-1

Current Status: Transmit antenna
for Range 4-1

Diameter of Safety Zone:
1.7ft for $6.67\text{mW}/\text{cm}^2$

Requirement/Recommendation:
No hazard. Cannot get in front of
antenna.

Frequency: 12.4-18 GHz

Input/Output: +19dBm

Description: S/A 22A-2 reflector
w/ 23A-12/2 feed. Nominal gain
36dB. HP8672 source, HP 8349a
Amp (+19dBm)

Location: West side of Tower 4
level 4.

Electromagnetic Energy Inventory



Owner: David Townsend

Program: Range 1-4

Current Status: Receive antenna
for reference signal Range 1-4

Diameter of Safety Zone:
N/A

Requirement/Recommendation:

No hazard. Receive only

Frequency: 12.4-18 GHz

Input/Output:

Description: R-24 2' parabolic
reflector.

Location: West side of Tower 4
level 6.

Electromagnetic Energy Inventory



Owner: David Townsend

Program: Range 1-4

Current Status: Transmit antennas for
Range 1-4

Diameter of Safety Zone:

1. 1.1 ft for $6.67\text{mW}/\text{cm}^2$
2. 2.9 ft for $6.67\text{mW}/\text{cm}^2$
3. Not in use

Requirement/Recommendation:

No hazard. Cannot get in front of antennas.

Frequency:

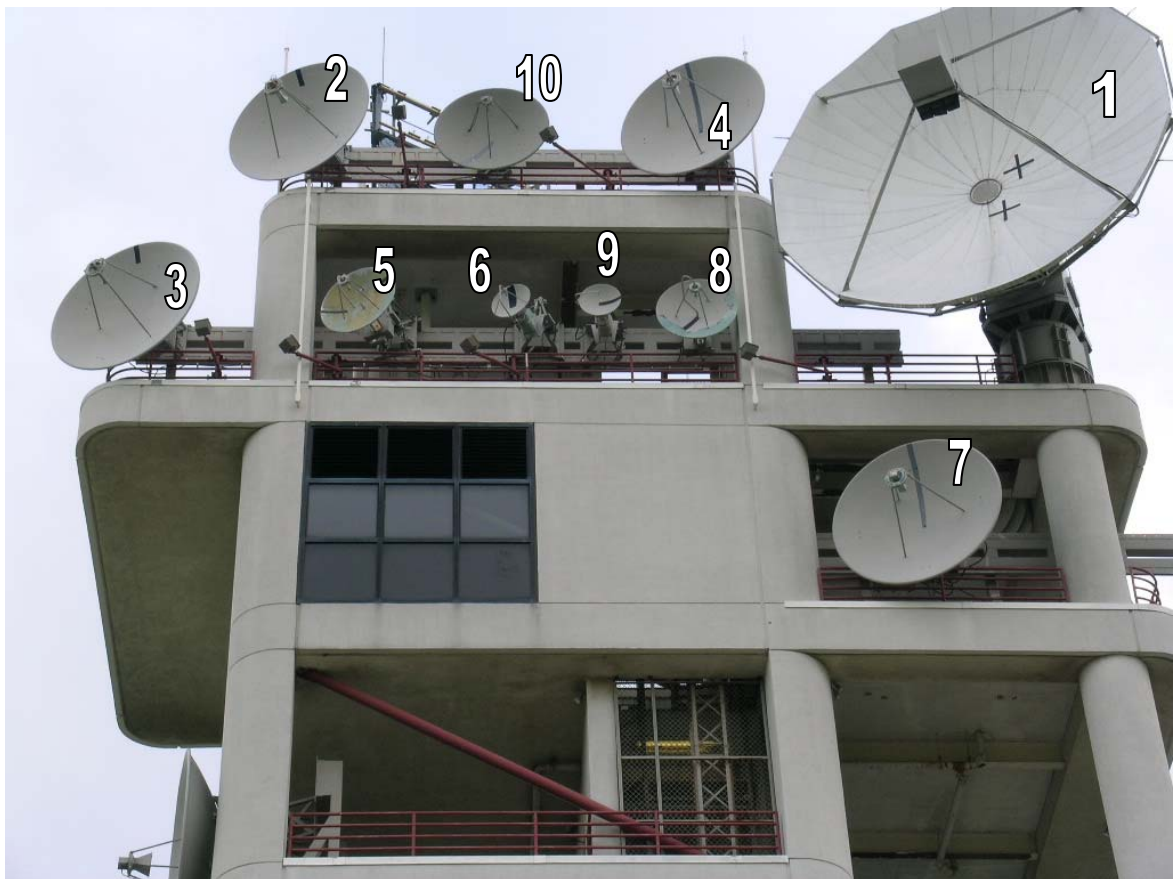
1. 0.9-1.5 GHz
2. 8.2-12.4 GHz
3. Not currently being used

Input/Output: +19dBm

Description:

1. S/A 22-10A 10' reflector w/ S/A 23-.9/10 feed. Nominal gain 31dB
2. S/A 22-4A 4' reflector w/ S/A 23-8.2/4 feed Nominal gain 39dB
3. S/A 22-8A 6' reflector w/ ????? feed.
HP 83620 source, HP 8349a Amp (+19dBm)

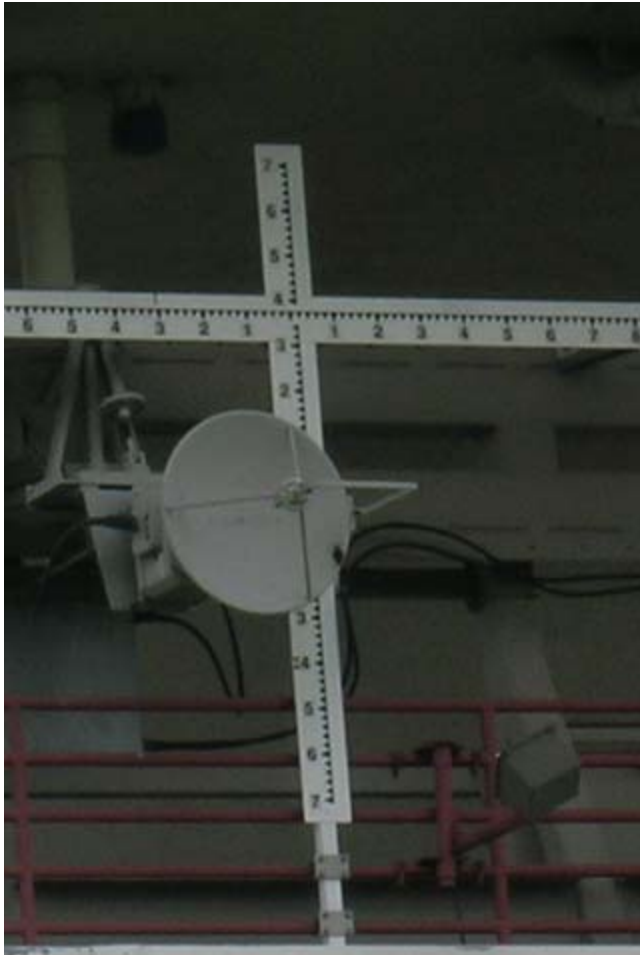
Location: East side of Tower 1 level 4.



Owner: David Townsend
 Program: Range 1-3, 1-2
 Current Status: Transmit antennas for Ranges 1-2 & 1-3
 Diameter of Safety Zone:
 See chart
 Requirement/Recommendation: No hazard.
 Cannot get in front of antennas.
 Frequency: See Chart
 Input/Output: +19dBm
 Description: Reflector antennas of various size . HP8672 source, HP 8349a Amp (+19dBm)
 Location: North side of Tower 1 various levels

Antenna	Freq (GHz)	Reflector	feed	nom. Gain (dB)	ft to 6.67 mW/cm ²
1	1.03-1.09	20' 7727-22 RMI	custom	30	1.01
2	2.6-3.95	22-8A 8'	23-2.6/8	35	1.80
3	3.95-5.85	22-8A 8'	23-3.9/8	39	2.86
4	4.0-8.0	22-8A 8'	LP	42	4.04
5	8.2-12.4	22-4A 4'	23-8.2/4	39	2.86
6	12.4-18.0	22A-2 2'	23A-12/2	36	2.02
7	2.0-4.0	22-8A 8'	28-2.0/8/10	35	1.80
8	8.2-12.4	22-4A 4'	23-8.2/4	39	2.86
9	12.4-18.0	22A-2 2'	23A-12/2	36	2.02
10	5.85-8.2	22-6A 6'	23-5.8/6	39	2.86

Electromagnetic Energy Inventory



Owner: David Townsend

Program: Range 3-2

Current Status: Transmit antenna
for Range 3-2

Diameter of Safety Zone:
1.7ft for $6.67\text{mW}/\text{cm}^2$

Requirement/Recommendation:
No hazard. Cannot get in front of
antenna.

Frequency: 12.4-18 GHz

Input/Output: +19dBm

Description: S/A 22A-2 reflector
w/ 23A-12/2 feed. Nominal gain
36dB. HP8672 source, HP 8349a
Amp (+19dBm)

Location: West side of Tower 3
level 3.

Electromagnetic Energy Inventory



Owner: David Townsend

Program: Range 2-3

Current Status: Receive antennas
for reference signals Range 2-3

Diameter of Safety Zone:
N/A

Requirement/Recommendation:

No hazard. Receive only

Frequency: 8.2-18 GHz,
26-40 GHz (currently
not used)

Input/Output:

Description: R-24 2' parabolic
reflector, S/A 22A-2 2' reflector

Location: West side of Tower 3
level 3.

Electromagnetic Energy Inventory



Owner: David Townsend

Program: Range 1-3

Current Status: Receive antennas
for reference signals Range 1-3

Diameter of Safety Zone:
N/A

Requirement/Recommendation:
No hazard. Receive only

Frequency: 1-18 GHz

Input/Output:

Description: R-24 2' parabolic
reflector, S/A 22-8A 8' reflector

Location: South side of Tower 3
levels 5 & 6.

Electromagnetic Energy Inventory



Owner: David Townsend

Program: Range 1-2

Current Status: Receive antenna
for reference signal Range 1-2

Diameter of Safety Zone:
N/A

Requirement/Recommendation:
No hazard. Receive only

Frequency: 2-18 GHz

Input/Output:

Description: R-24 2' parabolic
reflector

Location: South side of Tower 2
level 7.

Electromagnetic Energy Inventory



Owner: David Townsend

Program: Range 3-2

Current Status: Receive antenna
for reference signal Range 3-2

Diameter of Safety Zone:
N/A

Requirement/Recommendation:
No hazard. Receive only

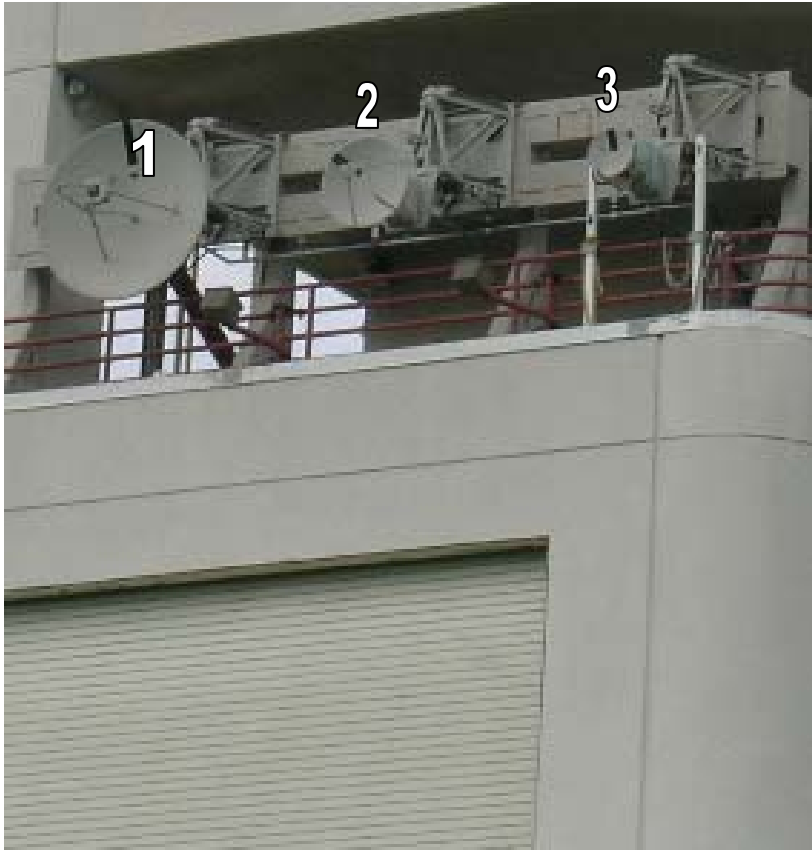
Frequency: 2-18 GHz

Input/Output:

Description: R-24 2' parabolic
reflector

Location: East side of Tower 2
level 5.

Electromagnetic Energy Inventory



Owner: David Townsend

Program: Range 2-3

Current Status: Transmit antennas for
Range 2-3

Diameter of Safety Zone:

1. 2.9 ft for $6.67\text{mW}/\text{cm}^2$
2. 2.0 ft for $6.67\text{mW}/\text{cm}^2$
3. 2.3 ft for $6.67\text{mW}/\text{cm}^2$

Requirement/Recommendation:

No hazard. Cannot get in front of antennas.

Frequency:

1. 8.2-12.4 GHz
2. 12.4-18 GHz
3. 26.5-40 GHz (currently not in use)

Input/Output: +19dBm

Description:

1. S/A 22-4A 4' reflector w/ S/A 23-8.2/4 feed. Nominal gain 39dB
2. S/A 22A-2 2' reflector w/ S/A 23A-12/2 feed. Nominal gain 36dB
3. S/A 22A-1 1' reflector w/ 23A-26/1 feed. Nominal gain 37dB

HP8672 source, HP 8349a Amp (+19dBm) Accurel 2200 freq extender

Location: East side of Tower 2 level 5.

Electromagnetic Energy Inventory



Owner: David Townsend

Program: Range 2-3'

Current Status: Transmit antenna for
Range 2-3'

Diameter of Safety Zone:

1. 1.0 ft for $6.67\text{mW}/\text{cm}^2$ (500MHz – 2 GHz)
2. 2.5 ft for $6.67\text{mW}/\text{cm}^2$ (50MHz – 1GHz w/ 50W amp)

Requirement/Recommendation:

Antenna is mounted 20' above deck. Only
access is by manlift.

Frequency:

1. 500MHz – 2 GHz
2. 50MHz – 1GHz

Input/Output: +30dBm, +47dBm w/ AR
amp

Description:

1. 8-horn array. Nominal gain 9 to 19dB
 2. Ziglog antenna, Nominal gain 10dB
- HP 83650, Amplifier Research 50W1000B amplifier

Location: Top of Tower 2.

Electromagnetic Energy Inventory



Owner: David Townsend

Program: Range Model Tower

Current Status: Variable antennas

Diameter of Safety Zone:

1. 0.9 for $6.67\text{mW}/\text{cm}^2$ (0.1-1.0 GHz)
2. 1.1 ft for $6.67\text{mW}/\text{cm}^2$ (2- 26.6GHz 1W amp w/ 20dB gain antenna)

Requirement/Recommendation:

Cannot get in front of antenna when raised for use. Make sure amp is off when changing source antennas.

Frequency:

1. 100MHz – 1.0 GHz LPD
2. 50MHz – 1GHz various dipoles

Input/Output: +30dBm, +47dBm w/ AR
amp

Description:

1. S/A log periodic dipole. Nominal gain 8dB
 2. Various tunable dipole antennas. Nominal gain 2.1dB
- Agilent PNA, +30dBm 2- 26.6 GHz, +40dBm 0.1-1.0 GHz

Location: NW corner Range Staging
Building