



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401  
New Britain, Connecticut 06051  
Phone: 827-7682

Gloria Dibble Pond  
Chairperson

### COMMISSIONERS

Energy / Telecommunications

Peter G. Boucher  
Leslie Carothers

Hazardous Waste / Low-level  
Radioactive Waste

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Executive Assistant

October 10, 1989

Captain Ronald P. Milkulka  
Deputy Commanding Officer  
Police Support Services  
Department of Public Safety  
Division of State Police  
294 Colony Street  
Meriden, CT 06450-2098

RE: State Police notice pursuant to Regulations of State Agencies 16-50j-73 of intent to erect or modify exempt telecommunications towers and associated equipment at the Southbury Training School in Southbury, in Middlebury; at Troop A in Southbury; at Troop 1 in Bethany; and at West Rock Ridge in New Haven, Connecticut.

Dear Captain Milkulka:


At a meeting on October 3, 1989, the Connecticut Siting Council acknowledged your notice of intent to erect or modify exempt telecommunications towers and associated equipment at the Southbury Training School in Southbury; at Site 20 in Middlebury; at Troop A in Southbury; at Troop I in Bethany; and at Site 27 at West Rock Ridge in New Haven, Connecticut pursuant to Section 16-50j-73 of the Regulations of State Agencies (RSA).

The proposed modifications are to be implemented as specified in your notices dated July 18, 1989, and September 25, 1989. As proposed, the modifications are in compliance with the exception criteria specified in RSA 16-50j-72 as replacement towers or for changes to an existing facility site that do not increase the tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by 6 decibels, and add radio frequency sending or receiving capability which increases the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to Section 22a-162 of the Connecticut General Statutes.

The Council is pleased to note that the shared use of an existing tower meets the Council's long-term goal and the public interest to avoid proliferation of additional tower structures.

Please notify the Council upon completion of construction.

Very truly yours,

A handwritten signature in cursive script that reads "Gloria Dibble Pond".

Gloria Dibble Pond  
Chairperson

GDP/JMR/cp

cc: Peter Seaha  
Robert F. Vacchelli

3247E

# State of Connecticut

RECEIVED

SEP 28 1989

CONNECTICUT  
SITING COUNCIL

CLARINE NARDI RIDDLE  
ACTING ATTORNEY GENERAL



## Office of The Attorney General

MacKENZIE HALL  
110 SHERMAN STREET  
HARTFORD, CONNECTICUT 06105  
TELEPHONE (203) 566-2192  
TELECOPIER (203) 523-5536

Tel: 566-7570

September 25, 1989

Honorable Gloria Dibble Pond  
Chairperson  
Connecticut Siting Council  
136 Main Street, Suite 401  
New Britain, CT 06105

RE: State Police CTS Notices of Intent to Erect  
Exempt Telecommunications Towers and/or Equipment at:

- Site 20 - Middlebury
- Site 21 - Southbury Training School
- Site 25 - Troop A
- Site 26 - Troop I
- Site 27 - West Rock Ridge

Dear Ms. Pond:

Enclosed please find an original and 20 copies of the State Police Division's Supplement to Notices of Intent in response to the Siting Council's request for additional information concerning the five project sites listed above. The State Police also take this opportunity to update the Council on recent changes in project plans for these sites, and would like to clarify that they are seeking acknowledgment from the Council that the antenna and radio changes planned are exempt from full application requirements, as well as the tower changes.

The additional information requested by the Council appears in Section A of the attached Supplement. Updates to project plans appear in Section B and discussion concerning the scope of the State Police Notices appears in Section C.

Honorable Gloria Dibble Pond  
September 25, 1989  
Page 2

If I can be of further assistance to the Council, please advise.

Very truly yours,

CLARINE NARDI RIDDLE  
ACTING ATTORNEY GENERAL

BY: 

Robert F. Vacchelli  
Assistant Attorney General

RFV/td  
enc.

RECEIVED

SEP 28 1989

CONNECTICUT  
SITING COUNCIL

STATE OF CONNECTICUT

SITING COUNCIL

Supplement to  
Notices of Intent to Erect Exempt  
Telecommunications Towers  
and/or Associated Equipment  
at State Police CTS

Site 20 - Middlebury  
Site 21 - Southbury Training School  
Site 25 - Troop A  
Site 26 - Troop I  
Site 27 - West Rock Ridge

Section A - Additional information respecting the location of the proposed towers in relation to abutting property owners, and description of services involved.

1. Locations:

Site 20 - Middlebury

The Middlebury tower facility is located on property owned by the State Department of Transportation (DOT). The land is a strip of highway right-of-way along I-84 approximately 70 feet wide. The tower is positioned 17 feet from the northern fence. Our new shelter will be about 5 feet from the fence.

The nearest residence from the tower is approximately 500 feet.

Site 21 - Southbury Training School

The Southbury Training School tower facility is located in the northern section of the Southbury Training School property which consists of approximately 1800 acres of land.

The nearest private residence is approximately .4 of a mile north of the tower facility, situated behind a dense row of trees. The tower is not visible from this house because of the trees. The next nearest residence is .7 of a mile east of the tower site. The tower is barely visible from this

location. There is a house across the street from the tower, which belongs to the Southbury Training School and is used for staff.

#### Site 25 - Troop A

The Troop A tower facility is located near the Troop A building on DOT property bounded by I-84, #14 E/B Ramp and Lakeside Road in Southbury. The parcel is approximately 3 acres.

The nearest residence to the tower is approximately 1,000 feet.

#### Site 26 - Troop I

The Troop I tower facility is located near the Troop I building on a parcel of land of approximately 4 acres on Route 63 in Bethany. The tower is approximately 20 feet from the Western Boundary and 15 feet from the Northern Boundary. The nearest building (offices) is approximately 200 feet north of the tower.

The closest residence is across the street from the Troop, 250 feet east of the tower.

#### Site 27 - West Rock Ridge

The West Rock Ridge tower facility is located on DOT property located in West Rock Park in New Haven. The parcel is approximately 100 feet x 150 feet. It is located within property of approximately 1,533 acres owned by the State Department of Environmental Protection (DEP).

The nearest residence is approximately 1/2 mile away, at the bottom of the hill.

The changes requested in our exemptions for the above sites should have no impact on abutting property owners due to the remoteness of the sites.

2. Services:

Site 20 - Middlebury

- a. Division of State Police - new antennas associated with the CTS digital microwave network and 800 MHz radio system.
- b. SNET Cellular - new antennas needed to improve coverage for cellular telephone systems and to have complete and improved coverage, particularly along I-84 in the western sections of Middlebury and eastern sections of Southbury and other State and local roads in the vicinity. The SNET Cellular antennas are numbers 18 and 19 on the Power Density Reports.

Site 21 - Southbury Training School

- a. Division of State Police - (same as Site 20).
- b. State Department of Education - Educational TV System to be broadcast to area public schools.
- c. U.S. Secret Service - Radio system for protection of the President and other dignitaries while in Connecticut and other related duties of the Agency.
- d. State Department of Health Services - EMS dispatching and operations for Northwest Connecticut Public Safety Communications, which provides public safety dispatching for the N/W CT. Region.

Site 25 - Troop A

- a. Division of State Police - (same as Site 20).
- b. State Department of Education - Educational TV System.

Site 26 - Troop I

- a. Division of State Police - (same as Site 20).

- b. Sheriff's Department - Prisoner Transportation System.

Site 27 - West Rock Ridge

- a. Division of State Police - (same as Site 20).
- b. Department of Transportation - CT Transit Bus Transportation System.
- c. U.S. Secret Service - (same as Site 21).

**Section B - Updated information concerning project descriptions.**

Site 20 - Middlebury

The State Police Division intends to add 9 more antennas to the existing tower, as opposed to 8 earlier reported. New antennas will include 5 whip type, 2 dish and 2 panel. New users will be the State Police Division and the Southern New England Telephone Company. Updated, near-term loading specifications and new radiation power density calculations for the site are attached.

Site 21 - Southbury Training School

The State Police Division intends to add 14 more antennas to the new tower, as opposed to 13 earlier reported. New antennas will include 7 dish, 5 whip type and 2 four dipole arrays. New users will be the State Police Division, State Department of Education, U.S. Secret Service and the State Department of Health Services. Updated, near-term loading specifications and new radiation power density calculations are attached.

Site 25 - Troop A

The State Police Division corrects its earlier representation by noting that there are currently 4, rather than 3, antennas on the existing tower: 2 whip type, 1 dish and 1 folded monopole. The previous information supplied



concerning new antennas to be added to the tower, and new users, remains the same. Corrected filings for near-term loading specifications and radiation powers density calculations are attached.

#### Site 26 - Troop I

The State Police Division intends to add 5 more antennas to the tower, as opposed to 4 earlier reported. New antennas will include 4 whip type and 1 dish. All new antennas will be utilized by the State Police Division. Updated near-term loading specifications and radiation power density calculations are attached. Also, the State Police would like to correct its description of the existing radio systems as follows: the Fairfield County Sheriff's Department currently shares a four dipole array antenna with the State Police Division. This antenna will continue to be shared in the future.

#### Site 27 - West Rock Ridge

The State Police Division intends to replace 3, not 5, of the existing antennas on the new tower. It will remove 1 whip type, 1 dish and 2 corner reflectors. It will be adding 12, not 10, more antennas: 4 dish, 6 whip type and 2 four dipole arrays. New users will be the State Police Division, State DOT and the U.S. Secret Service. New near-term loading specifications and radiation power density calculations are attached.

#### Section C - Clarification of purpose for filing Notices of Intent.

The State Police Division wishes to clarify that in all of these filings, it seeks acknowledgment from the Council that the tower replacements and site changes, if any, and that the antenna/radio equipment changes discussed may be made without the need for applying for a full Certification of Environmental Compatibility and Public Need from the Council.

It is the State Police Division's understanding that if acknowledgment is received, it applies to the new users described as well as to the State Police, and that such new users will be considered by the Council as being allowed to attach their antennas to the towers and to install and operate their radio equipment on the State Police towers without need for further filings of Notice or Application to the Council.

In other words, it is the intent of the State Police Division to obtain acknowledgment not only for the towers, but for all of the antennas and radio equipment for which data is supplied. If acknowledgment does not apply to any or all antennas or radio equipment, then the State Police Division requests to be advised by the Council accordingly.

Dated at Meriden, Connecticut this 25<sup>th</sup> day of September, 1989.

CONNECTICUT STATE POLICE

BY: Captain Ronald P. Mikulka  
Captain Ronald P. Mikulka  
Deputy Commanding Officer  
Police Support Services  
294 Colony Street  
Meriden, CT 06450  
Tel. (203) 238-6570

CERTIFICATION

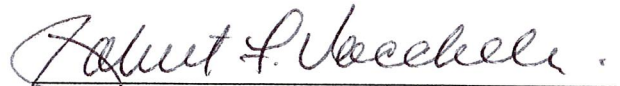
The undersigned hereby certifies that a copy of the foregoing Supplement to Notices of Intent to Erect Exempt Telecommunications Towers and/or Associated Equipment was mailed this 25<sup>th</sup> day of September, 1989, to the below named Chief elected officials pursuant to Reg. Sec. 16-50j-73:

Honorable Edward B. St. John  
First Selectman  
Town of Middlebury  
1212 Whittemore Road  
Middlebury, CT 06762

Honorable Carol A. Herskowitz  
First Selectman  
Town of Southbury  
501 Main Street South  
Southbury, CT 06488

Honorable John E. Ford, III  
First Selectman  
Town of Bethany  
40 Peck Road  
Bethany, CT 06527

Honorable Biagio DiLieto  
Mayor  
City of New Haven  
95 Orange Street  
New Haven, CT 06510

  
Robert F. Vacchelli  
Assistant Attorney General

13-F RADIO SYSTEMS CHARACTERISTICS

=====

FILE NAME: 20-P  
 SITE NAME: MIDDLEBURY PREPARED BY: T-CAS  
 TOWER HEIGHT: 160 FEET ON DATE: 09-21-1989

No	OPERATING FREQUENCY (MHz)	TRANSMIT POWER (WATTS)	ANTENNA		
			HEIGHT (FEET)	TYPE	VERTICAL SIZE(FT)
1	458.075	0	160	WHIP	22
2	42.040	330	160	WHIP ON PIPE MOUNT	15
3	166.000	250	153	FOUR DIPOLE ARRAY	22
4	2180.800	3	155	SOLID DISH	6
5	2186.400	3	155	SOLID DISH	6
6	2192.000	3	150	SOLID DISH W/RADOME	6
7	47.000	100	122	WHIP ON PIPE MOUNT	18
8	460.300	10	85	CORNER REFLECTOR	2
9	453.125	25	63	WHIP	13
10	6700.000	1	110	SOLID DISH W/RADOME	8
11	6700.000	1	110	SOLID DISH W/RADOME	6
12	867.500	350	160	WHIP	13
13	867.500	350	160	WHIP	13
14	867.500	350	160	WHIP	13
15	822.500	0	160	WHIP	13
16	822.500	0	160	WHIP	13
17	885.000	250	100	PANEL ANTENNA	6
18	840.000	0	50	PANEL ANTENNA	6

13-N POWER DENSITY ANALYSIS

RADIO SYSTEMS DATA

FILE NAME: 20-P  
 SITE NAME: MIDDLEBURY  
 TOWER HEIGHT: 160 FEET

PREPARED BY: T-CAS  
 ON DATE: 09-21-1989

No	OPERATING FREQUENCY (MHZ)	TRANSMIT POWER (WATTS)	ANTENNA HEIGHT (FEET)	LIMIT OF SAFE EXPOSURE (mW/cm <sup>2</sup> )	AT THE BASE OF THE TOWER	
					POWER DENSITY (mW/cm <sup>2</sup> )	PERCENT OF LIMIT
1	458.075	0	160	1.527	0.0000000	0.0000000
2	42.040	330	160	1.000	0.0011041	0.1104122
3	166.000	250	153	1.000	0.0009147	0.0914746
4	2180.800	3	155	5.000	0.0000107	0.0002139
5	2186.400	3	155	5.000	0.0000107	0.0002139
6	2192.000	3	150	5.000	0.0000114	0.0002284
7	47.000	100	122	1.000	0.0005755	0.0575471
8	460.300	10	85	1.534	0.0001186	0.0077282
9	453.125	25	63	1.510	0.0005395	0.0357293
10	6700.000	1	110	5.000	0.0000071	0.0001416
11	6700.000	1	110	5.000	0.0000071	0.0001416
12	867.500	350	160	2.892	0.0011710	0.0404923
13	867.500	350	160	2.892	0.0011710	0.0404923
14	867.500	350	160	2.892	0.0011710	0.0404923
15	822.500	0	160	2.742	0.0000000	0.0000000
16	822.500	0	160	2.742	0.0000000	0.0000000
17	885.000	250	100	2.950	0.0021413	0.0725874
18	840.000	0	50	2.800	0.0000000	0.0000000

TOTAL PERCENT OF SAFE LIMIT FOR ALL 18 RADIO SYSTEMS = 0.4978952

- NOTES: 1. THE 'LIMITS OF SAFE EXPOSURE' HAVE BEEN DETERMINED IN ACCORDANCE WITH THE SAFETY LEVELS DEFINED IN ANSI STANDARD C95.1-1982, ISSUED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE AND ADOPTED BY THE CONNECTICUT LEGISLATURE INTO THE CONNECTICUT GENERAL STATUTES, SECTION 22a-162, IN 1984.
2. THIS ANALYSIS ASSUMES THE FOLLOWING WORST CASE CONDITIONS.
- A. ALL ANTENNAS HAVE ISOTROPIC (UNIFORM) RADIATION PATTERNS, WHICH PROVIDE HIGH ILLUMINATION OF THE GROUND.
- B. ALL TRANSMITTERS ARE ON SIMULTANEOUSLY.

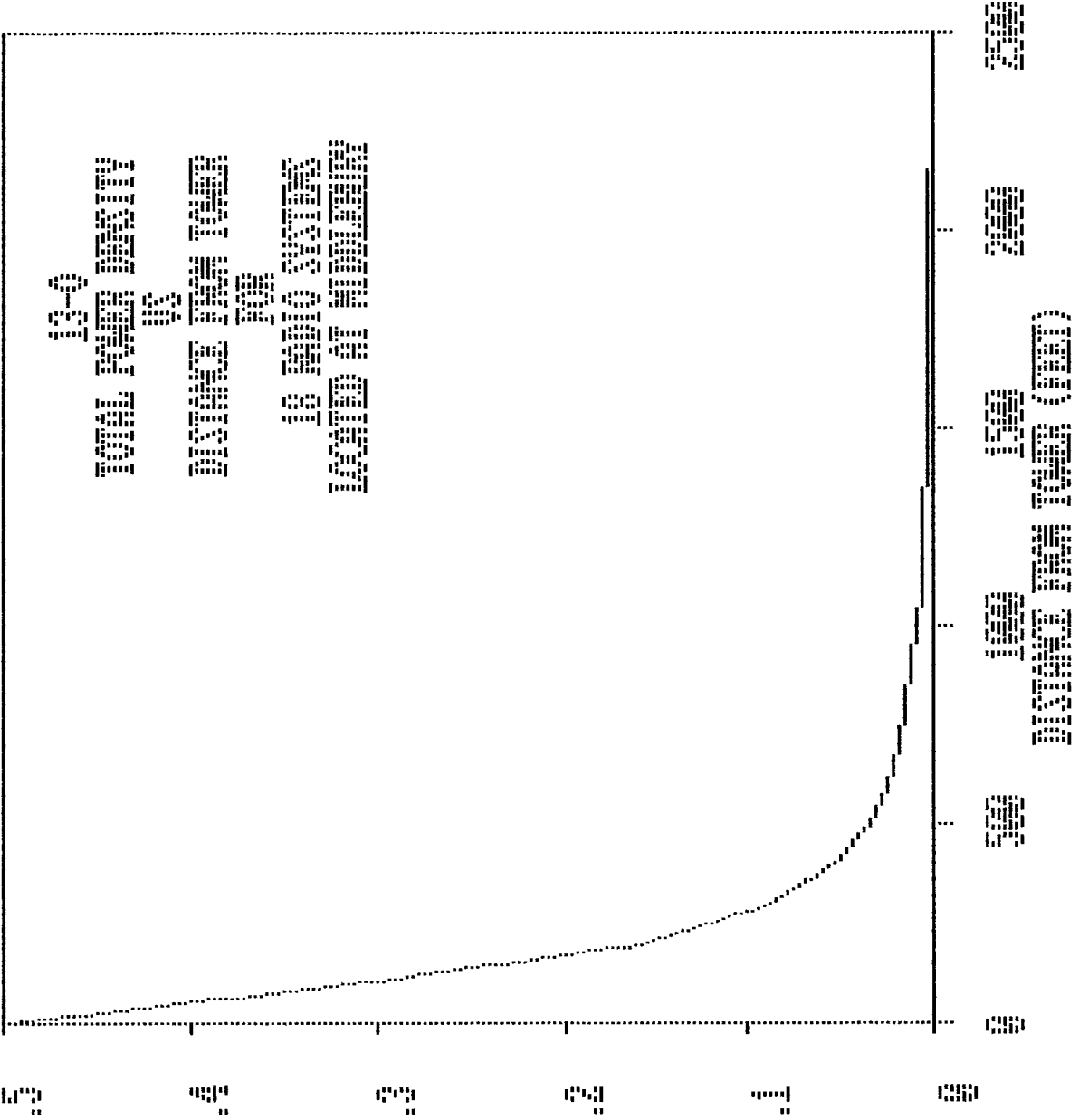
13-O POWER DENSITY ANALYSIS

=====

POWER DENSITY (% OF SAFE LIMIT) vs DISTANCE FROM TOWER

-----  
FILE NAME: 20-P  
SITE NAME: MIDDLEBURY PREPARED BY: T-CAS  
TOWER HEIGHT: 160 FEET ON DATE: 09-21-1989  
-----

DISTANCE (FEET)	POWER DENSITY (% OF SAFE LIMIT)
-----	-----
0	0.4978952
100	0.3155694
200	0.1591032
300	0.0879121
400	0.0541301
500	0.0362421
600	0.0258178
700	0.0192688
800	0.0149062
900	0.0118625
1000	0.0096583
1100	0.0080128
1200	0.0067527
1300	0.0057670
1400	0.0049816
1500	0.0043459
1600	0.0038243
1700	0.0033910
1800	0.0030272
1900	0.0027189
2000	0.0024553
2100	0.0022282
2200	0.0020311
2300	0.0018591
2400	0.0017080
2500	0.0015746



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13-F RADIO SYSTEMS CHARACTERISTICS

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FILE NAME: 21-P  
 SITE NAME: SOUTHURY                      PREPARED BY: T-CAS  
 TOWER HEIGHT: 180 FEET                      ON DATE: 09-13-1989

No	OPERATING FREQUENCY (MHz)	TRANSMIT POWER (WATTS)	ANTENNA		
			HEIGHT (FEET)	TYPE	VERTICAL SIZE(FT)
1	2142.000	3	177	SOLID DISH	6
2	2147.600	3	168	SOLID DISH	6
3	6700.000	1	171	SOLID DISH W/RADOME	6
4	18700.000	1	178	SOLID DISH W/SHROUD	4
5	6700.000	1	166	SOLID DISH W/RADOME	8
6	6700.000	1	174	SOLID DISH W/RADOME	8
7	42.480	330	180	WHIP ON PIPE MOUNT	11
8	39.460	75	150	SINGLE DIPOLE	13
9	45.860	100	128	SINGLE DIPOLE	13
10	154.665	330	147	TWO DIPOLE ARRAY	11
11	42.040	330	143	WHIP ON PIPE MOUNT	11
12	33.840	100	115	WHIP ON PIPE MOUNT	16
13	157.560	60	83	WHIP WITH RADIALS	6
14	867.500	350	180	WHIP	13
15	867.500	350	180	WHIP	13
16	822.500	0	180	WHIP	13
17	822.500	0	180	WHIP	13
18	2536.000	0	166	GRID DISH	4
19	2674.000	2	174	GRID DISH	4
20	2674.000	2	179	SOLID DISH	2
21	165.688	100	93	FOUR DIPOLE ARRAY	22
22	462.950	70	155	FOUR DIPOLE ARRAY	10
23	153.815	100	147	WHIP	23



13-N POWER DENSITY ANALYSIS

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RADIO SYSTEMS DATA

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FILE NAME: 21-P  
 SITE NAME: SOUTHBURY  
 TOWER HEIGHT: 180 FEET

PREPARED BY: T-CAS  
 ON DATE: 09-21-1989

No	OPERATING FREQUENCY (MHz)	TRANSMIT POWER (WATTS)	ANTENNA HEIGHT (FEET)	LIMIT OF SAFE EXPOSURE (mW/cm <sup>2</sup> )	AT THE BASE OF THE TOWER	
					POWER DENSITY (mW/cm <sup>2</sup> )	PERCENT OF LIMIT
1	2142.000	3	177	5.000	0.0000082	0.0001640
2	2147.600	3	168	5.000	0.0000091	0.0001821
3	6700.000	1	171	5.000	0.0000029	0.0000586
4	18700.000	1	178	5.000	0.0000027	0.0000541
5	6700.000	1	166	5.000	0.0000031	0.0000622
6	6700.000	1	174	5.000	0.0000028	0.0000566
7	42.480	330	180	1.000	0.0008724	0.0872393
8	39.460	75	150	1.000	0.0002855	0.0285510
9	45.860	100	128	1.000	0.0005228	0.0522785
10	154.665	330	147	1.000	0.0013080	0.1308044
11	42.040	330	143	1.000	0.0013822	0.1382245
12	33.840	100	115	1.000	0.0006477	0.0647661
13	157.560	60	83	1.000	0.0007460	0.0745999
14	867.500	350	180	2.892	0.0009253	0.0319940
15	867.500	350	180	2.892	0.0009253	0.0319940
16	822.500	0	180	2.742	0.0000000	0.0000000
17	822.500	0	180	2.742	0.0000000	0.0000000
18	2536.000	0	166	5.000	0.0000000	0.0000000
19	2674.000	2	174	5.000	0.0000057	0.0001132
20	2674.000	2	179	5.000	0.0000053	0.0001069
21	165.688	100	93	1.000	0.0009903	0.0990324
22	462.950	70	155	1.543	0.0002496	0.0161738
23	153.815	100	147	1.000	0.0003964	0.0396377

TOTAL PERCENT OF SAFE LIMIT FOR ALL 23 RADIO SYSTEMS = 0.7960930

- NOTES: 1. THE 'LIMITS OF SAFE EXPOSURE' HAVE BEEN DETERMINED IN ACCORDANCE WITH THE SAFETY LEVELS DEFINED IN ANSI STANDARD C95.1-1982, ISSUED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE AND ADOPTED BY THE CONNECTICUT LEGISLATURE INTO THE CONNECTICUT GENERAL STATUTES, SECTION 22a-162, IN 1984.
2. THIS ANALYSIS ASSUMES THE FOLLOWING WORST CASE CONDITIONS.
- A. ALL ANTENNAS HAVE ISOTROPIC (UNIFORM) RADIATION PATTERNS, WHICH PROVIDE HIGH ILLUMINATION OF THE GROUND.
- B. ALL TRANSMITTERS ARE ON SIMULTANEOUSLY.

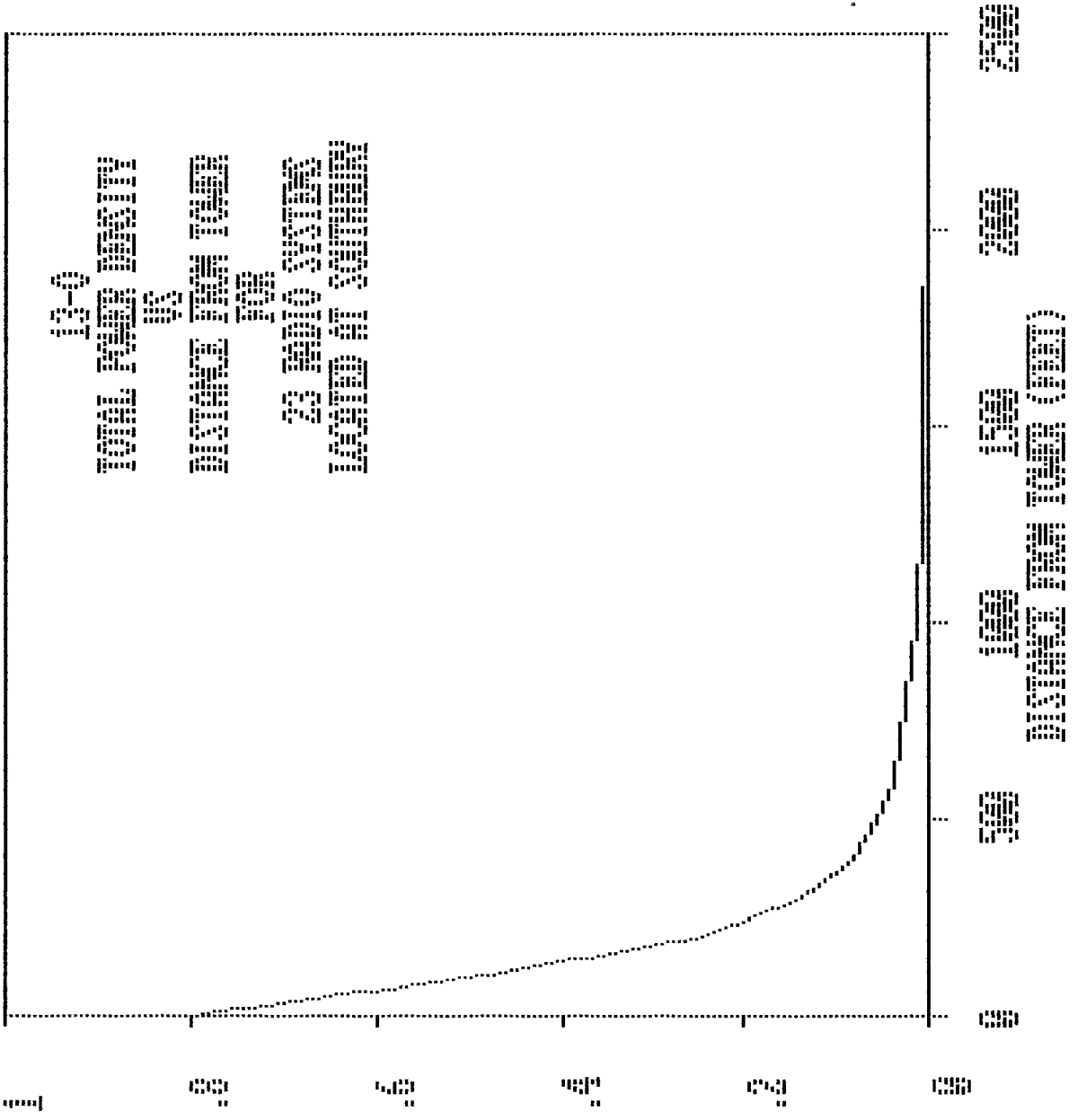
13-O POWER DENSITY ANALYSIS

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POWER DENSITY (% OF SAFE LIMIT) vs DISTANCE FROM TOWER

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FILE NAME: 21-P  
SITE NAME: SOUTHBURY PREPARED BY: T-CAS  
TOWER HEIGHT: 180 FEET ON DATE: 09-21-1989  
-----

DISTANCE (FEET)	POWER DENSITY (% OF SAFE LIMIT)
-----	-----
0	0.7960930
100	0.5023962
200	0.2507571
300	0.1382756
400	0.0851273
500	0.0570046
600	0.0406152
700	0.0303168
800	0.0234553
900	0.0186674
1000	0.0151997
1100	0.0126107
1200	0.0106280
1300	0.0090768
1400	0.0078409
1500	0.0068404
1600	0.0060195
1700	0.0053375
1800	0.0047650
1900	0.0042797
2000	0.0038648
2100	0.0035073
2200	0.0031972
2300	0.0029264
2400	0.0026886
2500	0.0024786



0.00 0.05 0.10 0.15 0.20 0.25

13-F RADIO SYSTEMS CHARACTERISTICS

=====

FILE NAME: 25-P  
 SITE NAME: TROOP A PREPARED BY: T-CAS  
 TOWER HEIGHT: 180 FEET ON DATE: 09-21-1989

No	OPERATING FREQUENCY (MHz)	TRANSMIT POWER (WATTS)	ANTENNA		
			HEIGHT (FEET)	TYPE	VERTICAL SIZE(FT)
1	458.025	0	180	WHIP	22
2	2197.600	3	177	SOLID DISH	6
3	453.025	25	58	WHIP	13
4	158.925	50	180	YAGI	4
5	18700.000	1	172	SOLID DISH W/SHROUD	4
6	2674.000	0	178	GRID DISH	4
7	2674.000	1	179	SOLID DISH	2

13-N POWER DENSITY ANALYSIS

=====

RADIO SYSTEMS DATA

-----

FILE NAME: 25-P  
 SITE NAME: TROOP A  
 TOWER HEIGHT: 180 FEET

PREPARED BY: T-CAS  
 ON DATE: 09-21-1989

No	OPERATING FREQUENCY (MHz)	TRANSMIT POWER (WATTS)	ANTENNA HEIGHT (FEET)	LIMIT OF SAFE EXPOSURE (mW/cm <sup>2</sup> )	AT THE BASE OF THE TOWER	
					POWER DENSITY (mW/cm <sup>2</sup> )	PERCENT OF LIMIT
1	458.025	0	180	1.527	0.0000000	0.0000000
2	2197.600	3	177	5.000	0.0000082	0.0001640
3	453.025	25	58	1.510	0.0006365	0.0421551
4	158.925	50	180	1.000	0.0001322	0.0132181
5	18700.000	1	172	5.000	0.0000029	0.0000579
6	2674.000	0	178	5.000	0.0000000	0.0000000
7	2674.000	1	179	5.000	0.0000027	0.0000535

TOTAL PERCENT OF SAFE LIMIT FOR ALL 7 RADIO SYSTEMS = 0.0556486

- NOTES: 1. THE 'LIMITS OF SAFE EXPOSURE' HAVE BEEN DETERMINED IN ACCORDANCE WITH THE SAFETY LEVELS DEFINED IN ANSI STANDARD C95.1-1982, ISSUED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE AND ADOPTED BY THE CONNECTICUT LEGISLATURE INTO THE CONNECTICUT GENERAL STATUTES, SECTION 22a-162, IN 1984.
2. THIS ANALYSIS ASSUMES THE FOLLOWING WORST CASE CONDITIONS.
- A. ALL ANTENNAS HAVE ISOTROPIC (UNIFORM) RADIATION PATTERNS, WHICH PROVIDE HIGH ILLUMINATION OF THE GROUND.
- B. ALL TRANSMITTERS ARE ON SIMULTANEOUSLY.

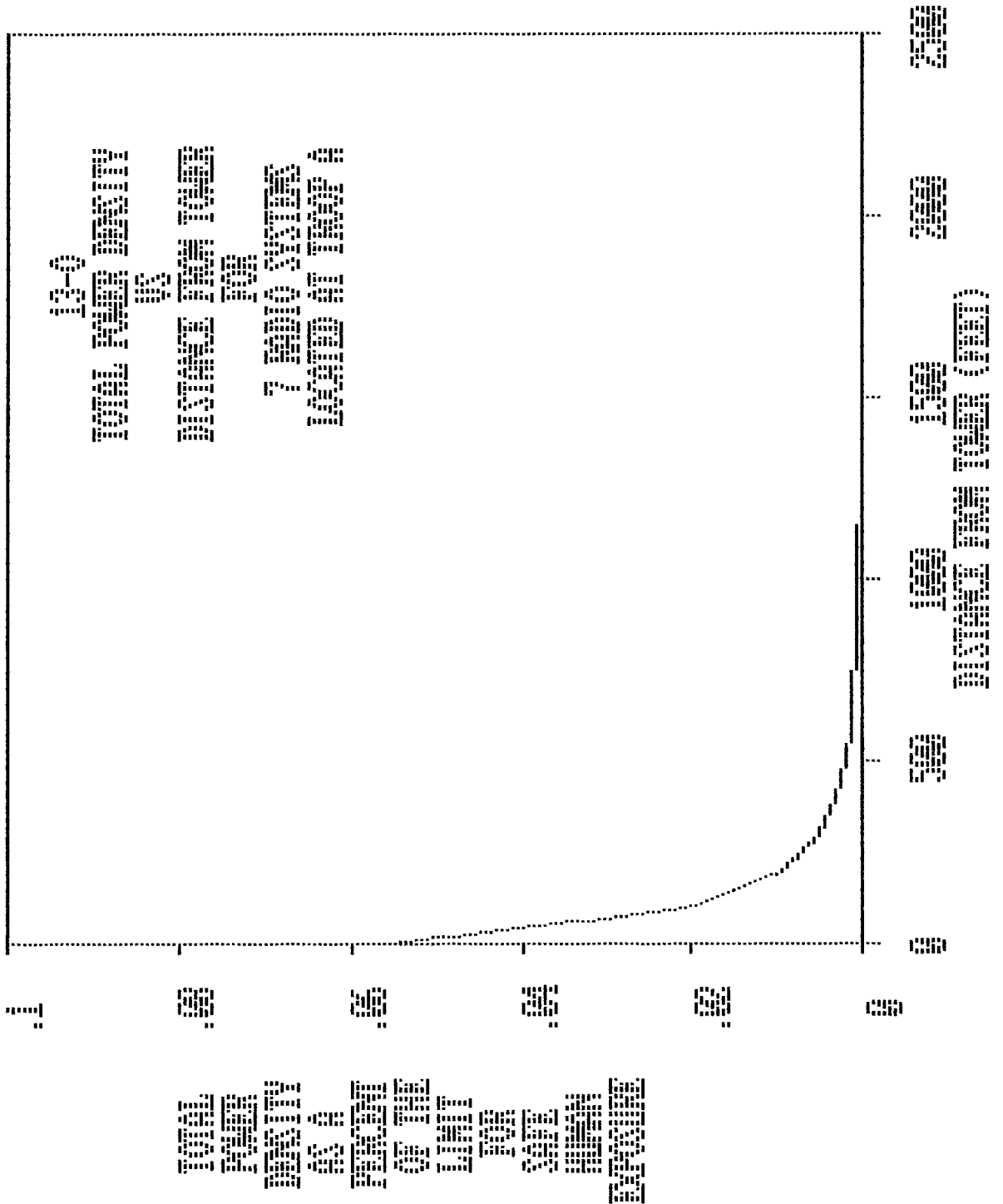
13-0 POWER DENSITY ANALYSIS

=====

POWER DENSITY (% OF SAFE LIMIT) vs DISTANCE FROM TOWER

-----  
FILE NAME: 25-P  
SITE NAME: TROOP A PREPARED BY: T-CAS  
TOWER HEIGHT: 180 FEET ON DATE: 09-21-1989  
-----

DISTANCE (FEET)	POWER DENSITY (% OF SAFE LIMIT)
-----	-----
0	0.0556486
100	0.0209203
200	0.0093059
300	0.0050885
400	0.0031388
500	0.0021067
600	0.0015036
700	0.0011237
800	0.0008701
900	0.0006929
1000	0.0005645
1100	0.0004685
1200	0.0003949
1300	0.0003374
1400	0.0002915
1500	0.0002543
1600	0.0002238
1700	0.0001985
1800	0.0001772
1900	0.0001592
2000	0.0001438
2100	0.0001305
2200	0.0001189
2300	0.0001089
2400	0.0001000
2500	0.0000922



13-F RADIO SYSTEMS CHARACTERISTICS

=====

FILE NAME: 26-P  
 SITE NAME: TROOP I PREPARED BY: T-CAS  
 TOWER HEIGHT: 180 FEET ON DATE: 09-21-1989

No	OPERATING FREQUENCY (MHz)	TRANSMIT POWER (WATTS)	ANTENNA		
			HEIGHT (FEET)	TYPE	VERTICAL SIZE(FT)
1	2136.400	3	142	SOLID DISH	6
2	2130.800	3	138	SOLID DISH	6
3	42.480	300	180	WHIP ON PIPE MOUNT	7
4	460.150	50	160	WHIP	20
5	154.665	330	150	FOUR DIPOLE ARRAY	20
6	151.355	100	150	FOUR DIPOLE ARRAY	20
7	460.150	0	110	WHIP	20
8	6700.000	1	148	SOLID DISH W/RADOME	6
9	867.500	350	180	WHIP	13
10	867.500	350	180	WHIP	13
11	822.500	0	180	WHIP	13
12	822.500	0	180	WHIP	13

NOTE: RADIOS 5 AND 6 SHARE THE SAME ANTENNA THROUGH A DUPLEXER.



13-N POWER DENSITY ANALYSIS

=====

RADIO SYSTEMS DATA

-----

FILE NAME: 26-P  
 SITE NAME: TROOP I  
 TOWER HEIGHT: 180 FEET

PREPARED BY: T-CAS  
 ON DATE: 09-21-1989

No	OPERATING FREQUENCY (MHZ)	TRANSMIT POWER (WATTS)	ANTENNA HEIGHT (FEET)	LIMIT OF SAFE EXPOSURE (mW/cm <sup>2</sup> )	AT THE BASE OF THE TOWER	
					POWER DENSITY (mW/cm <sup>2</sup> )	PERCENT OF LIMIT
1	2136.400	3	142	5.000	0.0000127	0.0002549
2	2130.800	3	138	5.000	0.0000135	0.0002699
3	42.480	300	180	1.000	0.0007931	0.0793084
4	460.150	50	160	1.534	0.0001673	0.0109056
5	154.665	330	150	1.000	0.0012562	0.1256246
6	151.355	100	150	1.000	0.0003807	0.0380680
7	460.150	0	110	1.534	0.0000000	0.0000000
8	6700.000	1	148	5.000	0.0000039	0.0000782
9	867.500	350	180	2.892	0.0009253	0.0319940
10	867.500	350	180	2.892	0.0009253	0.0319940
11	822.500	0	180	2.742	0.0000000	0.0000000
12	822.500	0	180	2.742	0.0000000	0.0000000

TOTAL PERCENT OF SAFE LIMIT FOR ALL 12 RADIO SYSTEMS = 0.3184975

NOTES: 1. THE 'LIMITS OF SAFE EXPOSURE' HAVE BEEN DETERMINED IN ACCORDANCE WITH THE SAFETY LEVELS DEFINED IN ANSI STANDARD C95.1-1982, ISSUED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE AND ADOPTED BY THE CONNECTICUT LEGISLATURE INTO THE CONNECTICUT GENERAL STATUTES, SECTION 22a-162, IN 1984.

2. THIS ANALYSIS ASSUMES THE FOLLOWING WORST CASE CONDITIONS.

A. ALL ANTENNAS HAVE ISOTROPIC (UNIFORM) RADIATION PATTERNS, WHICH PROVIDE HIGH ILLUMINATION OF THE GROUND.

B. ALL TRANSMITTERS ARE ON SIMULTANEOUSLY.

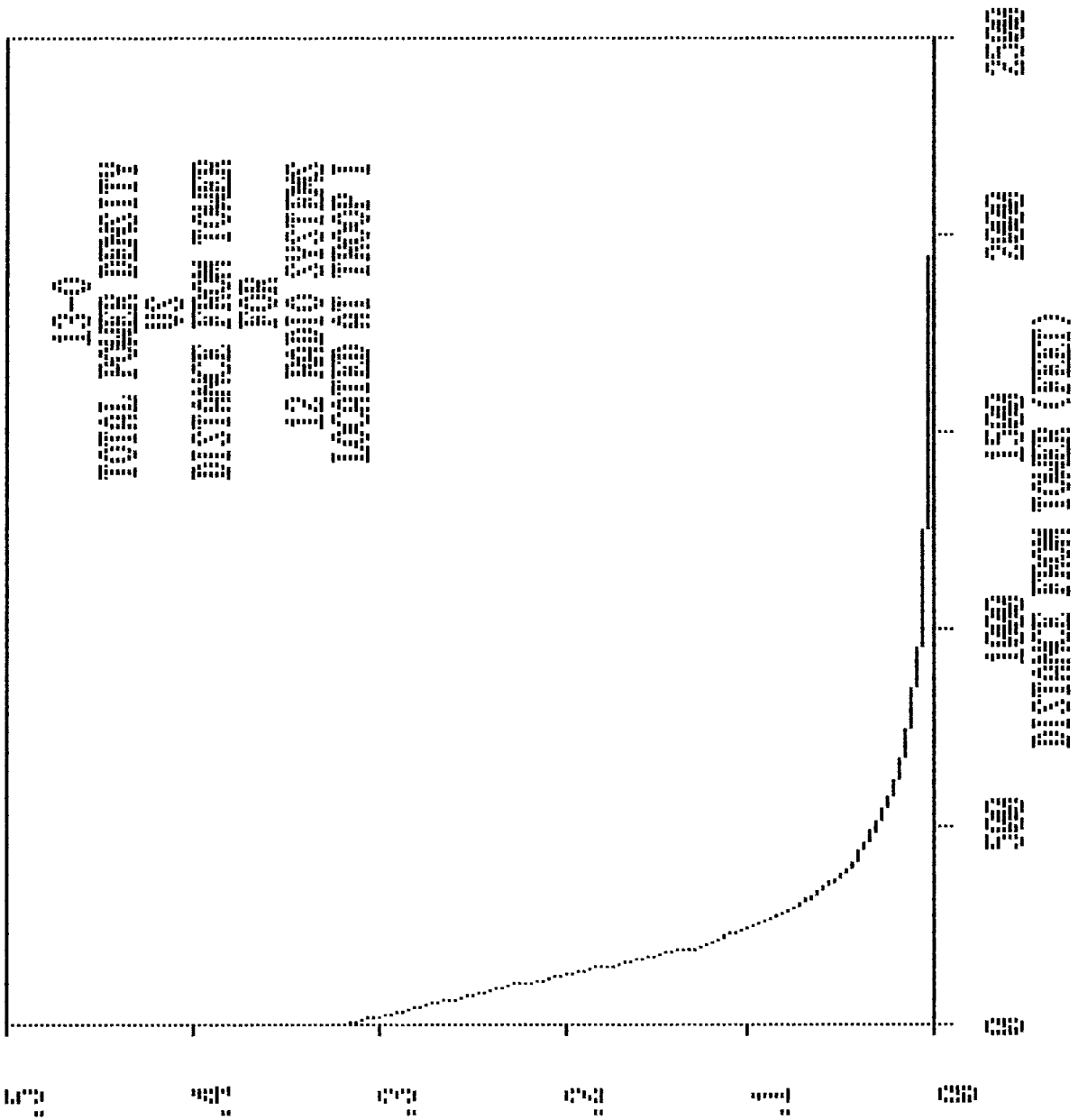
13-O POWER DENSITY ANALYSIS

=====

POWER DENSITY (% OF SAFE LIMIT) vs DISTANCE FROM TOWER

-----  
FILE NAME: 26-P  
SITE NAME: TROOP I PREPARED BY: T-CAS  
TOWER HEIGHT: 180 FEET ON DATE: 09-21-1989  
-----

DISTANCE (FEET)	POWER DENSITY (% OF SAFE LIMIT)
-----	-----
0	0.3184974
100	0.2310689
200	0.1275124
300	0.0731941
400	0.0458831
500	0.0310138
600	0.0222164
700	0.0166389
800	0.0129018
900	0.0102841
1000	0.0083831
1100	0.0069610
1200	0.0058703
1300	0.0050160
1400	0.0043347
1500	0.0037829
1600	0.0033297
1700	0.0029531
1800	0.0026369
1900	0.0023687
2000	0.0021393
2100	0.0019417
2200	0.0017702
2300	0.0016204
2400	0.0014888
2500	0.0013726



100  
 80  
 60  
 40  
 20  
 0

100  
 80  
 60  
 40  
 20  
 0

13-F RADIO SYSTEMS CHARACTERISTICS

FILE NAME: 27-P  
 SITE NAME: WEST ROCK RIDGE PREPARED BY: T-CAS  
 TOWER HEIGHT: 120 FEET ON DATE: 09-21-1989

No	OPERATING FREQUENCY (MHz)	TRANSMIT POWER (WATTS)	ANTENNA		
			HEIGHT (FEET)	TYPE	VERTICAL SIZE(FT)
1	2180.800	3	117	SOLID DISH	6
2	47.000	100	120	WHIP ON PIPE MOUNT	18
3	453.175	25	50	WHIP	13
4	453.725	250	120	WHIP	14
5	452.725	250	100	WHIP	14
6	1920.000	1	115	SOLID DISH W/RADOME	10
7	18700.000	1	110	SOLID DISH W/SHROUD	4
8	6700.000	1	116	SOLID DISH W/RADOME	8
9	6700.000	1	111	SOLID DISH W/RADOME	6
10	867.500	350	120	WHIP	13
11	867.500	350	120	WHIP	13
12	822.500	0	120	WHIP	13
13	822.500	0	109	WHIP WITH REFLECTOR	13
14	165.688	100	78	FOUR DIPOLE ARRAY	22
15	165.375	100	56	FOUR DIPOLE ARRAY	22

13-N POWER DENSITY ANALYSIS

RADIO SYSTEMS DATA

FILE NAME: 27-P  
 SITE NAME: WEST ROCK RIDGE  
 TOWER HEIGHT: 120 FEET

PREPARED BY: T-CAS  
 ON DATE: 09-22-1989

No	OPERATING FREQUENCY (MHz)	TRANSMIT POWER (WATTS)	ANTENNA HEIGHT (FEET)	LIMIT OF SAFE EXPOSURE (mW/cm <sup>2</sup> )	AT THE BASE OF THE TOWER	
					POWER DENSITY (mW/cm <sup>2</sup> )	PERCENT OF LIMIT
1	2180.800	3	117	5.000	0.0000188	0.0003754
2	47.000	100	120	1.000	0.0005948	0.0594813
3	453.175	25	50	1.511	0.0008565	0.0566864
4	453.725	250	120	1.512	0.0014870	0.0983488
5	452.725	250	100	1.509	0.0021413	0.1419038
6	1920.000	1	115	5.000	0.0000065	0.0001295
7	18700.000	1	110	5.000	0.0000071	0.0001416
8	6700.000	1	116	5.000	0.0000064	0.0001273
9	6700.000	1	111	5.000	0.0000070	0.0001390
10	867.500	350	120	2.892	0.0020818	0.0719864
11	867.500	350	120	2.892	0.0020818	0.0719864
12	822.500	0	120	2.742	0.0000000	0.0000000
13	822.500	0	109	2.742	0.0000000	0.0000000
14	165.688	100	78	1.000	0.0014078	0.1407842
15	165.375	100	56	1.000	0.0027313	0.2731286

TOTAL PERCENT OF SAFE LIMIT FOR ALL 15 RADIO SYSTEMS = 0.9152186

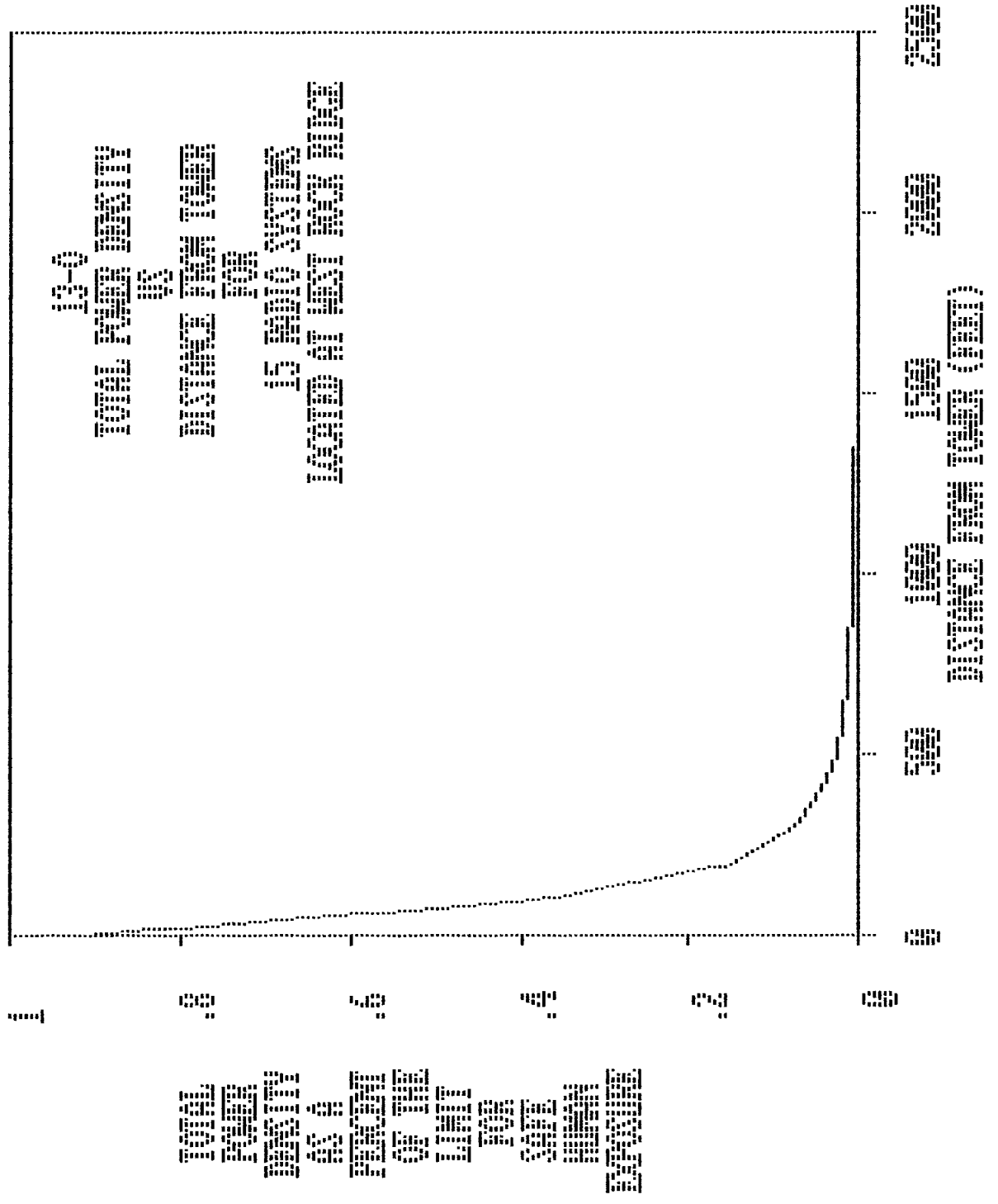
- NOTES: 1. THE 'LIMITS OF SAFE EXPOSURE' HAVE BEEN DETERMINED IN ACCORDANCE WITH THE SAFETY LEVELS DEFINED IN ANSI STANDARD C95.1-1982, ISSUED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE AND ADOPTED BY THE CONNECTICUT LEGISLATURE INTO THE CONNECTICUT GENERAL STATUTES, SECTION 22a-162, IN 1984.
2. THIS ANALYSIS ASSUMES THE FOLLOWING WORST CASE CONDITIONS.
- A. ALL ANTENNAS HAVE ISOTROPIC (UNIFORM) RADIATION PATTERNS, WHICH PROVIDE HIGH ILLUMINATION OF THE GROUND.
- B. ALL TRANSMITTERS ARE ON SIMULTANEOUSLY.

13-0 POWER DENSITY ANALYSIS  
=====

POWER DENSITY (% OF SAFE LIMIT) vs DISTANCE FROM TOWER  
-----

FILE NAME: 27-P  
SITE NAME: WEST ROCK RIDGE PREPARED BY: T-CAS  
TOWER HEIGHT: 120 FEET ON DATE: 09-22-1989  
-----

DISTANCE (FEET) -----	POWER DENSITY (% OF SAFE LIMIT) -----
0	0.9152186
100	0.3793788
200	0.1502726
300	0.0755776
400	0.0446158
500	0.0292301
600	0.0205645
700	0.0152292
800	0.0117207
900	0.0092941
1000	0.0075477
1100	0.0062497
1200	0.0052591
1300	0.0044862
1400	0.0038717
1500	0.0033752
1600	0.0029682
1700	0.0026306
1800	0.0023474
1900	0.0021076
2000	0.0019026
2100	0.0017262
2200	0.0015732
2300	0.0014396
2400	0.0013224
2500	0.0012189





# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401  
New Britain, Connecticut 06051  
Phone : 827-7682

Gloria Dibble Pond  
Chairperson

August 31, 1989

### COMMISSIONERS

Energy / Telecommunications

Peter G. Boucher  
Leslie Carothers

Hazardous Waste / Low-level  
Radioactive Waste

Frederick G. Adams  
Lester J. Forst

### COUNCIL MEMBERS

Harry E. Covey  
Mortimer A. Gelston  
Daniel P. Lynch, Jr.  
Paulann H. Sheets  
William H. Smith  
Colin C. Tait

Joel M. Rinebold  
Executive Director

Stanley J. Modzelesky  
Executive Assistant

TO: Clarine Nardi Riddle  
Acting Attorney General  
State of Connecticut  
Office of the Attorney General  
MacKenzie Hall  
110 Sherman Street  
Hartford, CT 06105

RE: The Connecticut State Police Notices of Intent to Erect Exempt Telecommunications Towers and Associated Equipment at the Southbury Training School in Southbury; in **Middlebury**; at Troop A in Southbury; in Bethany; and at West Rock Ridge in New Haven.

Dear Ms. Riddle:

At a meeting on August 30, 1989, the Siting Council tabled the subject Notices of Intent pending further information regarding the locations of the telecommunications towers and associated equipment in relation to the boundaries of their respective sites and abutting property owners.

The Council also requests a description of services provided by all new users and antennas located on the subject towers.

If there are any questions concerning this matter please contact Joel Rinebold, Executive Director, at 827-7682.

Very truly yours,

Gloria Dibble Pond  
Chairperson

JAW

3429E

cc: Captain Ronald P. Milkulka  
Peter Seaha  
Robert F. Vacchelli, Assistant Attorney General



ORIGINAL

State of Connecticut



CLARINE NARDI RIDDLE  
ACTING ATTORNEY GENERAL

Office of The Attorney General

MacKENZIE HALL  
110 SHERMAN STREET  
HARTFORD, CONNECTICUT 06105  
TELEPHONE (203) 566-2192  
TELECOPIER (203) 523-5536

RECEIVED

JUL 19 1989

CONNECTICUT  
SITING COUNCIL

Tel: 566-7570

July 18, 1989

Honorable Gloria Dibble Pond  
Chairperson  
Connecticut Siting Council  
136 Main Street, Suite 401  
New Britain, CT 06051

RE: State Police CTS  
Site No. 20 - Middlebury

Dear Chairperson Pond:

Enclosed please find an original and 20 copies of a Notice of Intent to Erect Exempt Telecommunications Associated Equipment pursuant to Council Reg. Sec. 16-50j-73 for Siting Council review.

Please record my name as counsel for the State Police in this matter and in correspondence from the Siting Council.

Thank you for your consideration.

Very truly yours,

CLARINE NARDI RIDDLE  
ACTING ATTORNEY GENERAL

BY: *Robert F. Vacchelli*

Robert F. Vacchelli  
Assistant Attorney General

RFV/td  
enc.

ORIGINAL  
RECEIVED

JUL 19 1989

CONNECTICUT  
SITING COUNCIL

STATE OF CONNECTICUT

SITING COUNCIL

Notice of Intent to Erect Exempt  
Telecommunications  
Associated Equipment

Pursuant to Conn. Gen. Stat. § 16-50g et seq. and Sec. 16-50j-73 of the Regulations of the Connecticut Siting Council, the Connecticut Division of State Police hereby gives notice of its intent to erect exempt telecommunications associated equipment along I-84 Westbound in Middlebury, CT.

The site is currently occupied by an existing, active, 160 foot telecommunications tower. The State Police Division proposes to retain the tower without change, replace the existing equipment shelter with a new equipment shelter, build a fence around the site and place a gravel cover within the enclosure as generally depicted in the Site Plan Drawing 020-200 attached in Attachment A. Equipment on the existing tower includes 9 antennas: 4 whip type, 3 dish, 1 four dipole array and 1 corner reflector. Users are the State Police Division, State Department of Transportation and U.S. Bureau of Alcohol, Tobacco and Firearms. At present, the State Police Division intends to add 8 more antennas: 4 whip type, 2 dish and 2 panel. New users will be the State Police Division and the Southern New England

Telephone Company. The near-term projected maximum loading specifications are listed in Attachment B. This project is part of a State Police state-wide effort to upgrade its equipment and implement a modern Connecticut Telecommunications System (CTS) for Trooper and public safety, and to share tower space with other users.

The State Police Division believes that this project is exempt from the need to obtain a Certificate of Environmental Compatibility and Public Need pursuant to Siting Council Reg. Sec. 16-50j-72(b) for the following reasons:

**1. Existing Tower Site**

The proposed location is currently occupied by a one hundred sixty (160) foot lattice-type tower and radio building actively utilized by the State Police Division as a telecommunications facility.

**2. Site Boundaries**

As depicted on the attached site plan, the boundaries of the tower site will not be extended. No tree cutting, significant addition of fill, or extensive grading will be conducted at the site for the project.

### **3. Tower Height**

The existing 160 foot tower will not be changed.

### **4. Noise Levels**

The proposed project will not increase noise levels at the existing facility by six decibels or more. Except during construction, the only noise associated with the State Police Division equipment will be from air conditioning and stand-by power generation, when in use.

### **5. Radiation Power Density**

The radio frequency sending or receiving capability of the facility will not increase the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard considered by the State Department of Environmental Protection (DEP).

Although the State DEP is in the process of promulgating standards, it is authorized to adopt the standards recommended by the American National Standards Institute (ANSI). The current ANSI standard applicable to the proposed State Police Division facility and the total radio frequency electromagnetic radiation power density calculated for the proposed tower site boundary are set forth in Attachment C.

CONCLUSION

For all the above stated reasons, the State Police Division requests the Siting Council to rule that this Notice is in compliance with the exception criteria for changes to an existing facility pursuant to Reg. Sec. 16-50j-72(b).

Dated at Meriden, CT this 17<sup>th</sup> day of July, 1989.

CONNECTICUT STATE POLICE

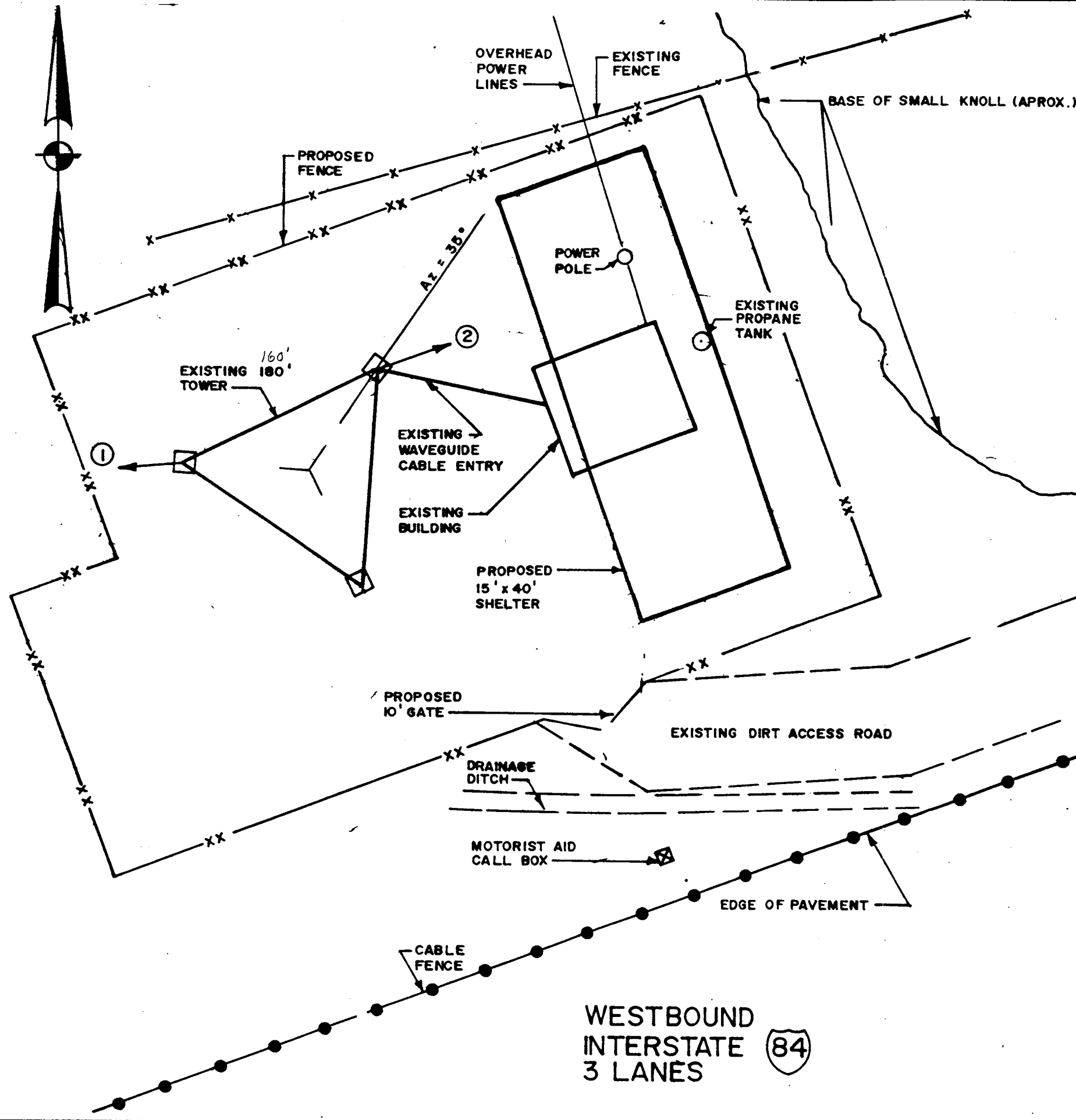
By: Captain Ronald P. Mikulka  
Captain Ronald P. Mikulka  
Deputy Commanding Officer  
Police Support Services  
294 Colony Street  
Meriden, CT 06450  
Tel. (203) 238-6570

CERTIFICATION

The undersigned hereby certifies that a copy of the foregoing Notice of Intent to Erect Exempt Telecommunications Associated Equipment was mailed this 18<sup>th</sup> day of July, 1989 to the below named chief elected official in Middlebury, CT pursuant to Reg. Sec. 16-50j-73:

Honorable Edward B. St. John  
First Selectman  
Town of Middlebury  
1212 Whittemore Road  
Middlebury, CT 06762

  
\_\_\_\_\_  
Robert F. Vacchelli  
Assistant Attorney General



NOTES:

1. ALL DIMENSIONS IN FEET.
2. TOWER AND BUILDING DIMENSIONS ARE APPROXIMATE. DESIGNER TO VERIFY EXACT DIMENSIONS.
3. ARROW INDICATES TRUE NORTH.
4. PROPOSED FENCE LAYOUT IS APPROXIMATE.

CTS MICROWAVE PATHS		
NO	SITE	AZIMUTH
①	SOUTHBURY T.S.	266°
②	WOLCOTT	70°

1		REDUCED SIZE & RELOCATED SHELTER REDUCED FENCE AREA, ADDED GATE.		7-078	R/M
REV.	DESCRIPTION			DATE	APP.
DRAWN WLF	DATE 9/26/88	 T-CAS CORP. MIDDLEBURY SITE PLAN			
DESIGNED DDS <i>MS</i>	DATE 9-30-88				
CHECKED EHW <i>[Signature]</i>	DATE 9-30-88				
PROJECT APPROVED <i>[Signature]</i>	DATE 10/04/88				
APPROVED FOR	SIZE B	PROJECT CTS	DRAWING NUMBER 020-200	REV. 0	
APPROVED FOR	SCALE 1" = 10'			SHEET 1 of 1	

ATTACHMENT B

RADIO SYSTEMS CHARACTERISTICS

=====

FILE NAME: 20-P  
 SITE NAME: MIDDLEBURY PREPARED BY: T-CAS  
 TOWER HEIGHT: 160 FEET ON DATE: 07-10-1989

-----

No	OPERATING FREQUENCY (MHz)	TRANSMIT POWER (WATTS)	ANTENNA		
			HEIGHT (FEET)	TYPE	VERTICAL SIZE(FT)
1	458.075	0	160	WHIP	22
2	42.520	0	160	WHIP ON PIPE MOUNT	9
3	166.000	250	153	FOUR DIPOLE ARRAY	22
4	2180.800	3	155	SOLID DISH	6
5	2186.400	3	155	SOLID DISH	6
6	2192.000	3	150	SOLID DISH W/RADOME	6
7	47.000	100	122	WHIP ON PIPE MOUNT	18
8	460.300	100	85	CORNER REFLECTOR	2
9	453.125	25	63	WHIP	13
10	6700.000	1	80	SOLID DISH W/RADOME	8
11	6700.000	1	110	SOLID DISH W/RADOME	6
12	867.500	350	160	WHIP	13
13	867.500	350	160	WHIP	14
14	867.500	350	160	WHIP	15
15	822.500	0	160	WHIP	16
16	885.000	250	100	PANEL ANTENNA	17
17	840.000	0	50	PANEL ANTENNA	18



ATTACHMENT C

POWER DENSITY ANALYSIS

RADIO SYSTEMS DATA

FILE NAME: 20-P  
 SITE NAME: MIDDLEBURY  
 TOWER HEIGHT: 160 FEET

PREPARED BY: T-CAS  
 ON DATE: 07-10-1989

No	OPERATING FREQUENCY (MHz)	TRANSMIT POWER (WATTS)	ANTENNA HEIGHT (FEET)	LIMIT OF SAFE EXPOSURE (mW/cm <sup>2</sup> )	AT THE BASE OF THE TOWER	
					POWER DENSITY (mW/cm <sup>2</sup> )	PERCENT OF LIMIT
1	458.075	0	160	1.527	0.0000000	0.0000000
2	42.520	0	160	1.000	0.0000000	0.0000000
3	166.000	250	153	1.000	0.0009147	0.0914746
4	2180.800	3	155	5.000	0.0000107	0.0002139
5	2186.400	3	155	5.000	0.0000107	0.0002139
6	2192.000	3	150	5.000	0.0000114	0.0002284
7	47.000	100	122	1.000	0.0005755	0.0575471
8	460.300	100	85	1.534	0.0011855	0.0772823
9	453.125	25	63	1.510	0.0005395	0.0357293
10	6700.000	1	80	5.000	0.0000134	0.0002677
11	6700.000	1	110	5.000	0.0000071	0.0001416
12	867.500	350	160	2.892	0.0011710	0.0404923
13	867.500	350	160	2.892	0.0011710	0.0404923
14	867.500	350	160	2.892	0.0011710	0.0404923
15	822.500	0	160	2.742	0.0000000	0.0000000
16	885.000	250	100	2.950	0.0021413	0.0725874
17	840.000	0	50	2.800	0.0000000	0.0000000

TOTAL PERCENT OF SAFE LIMIT FOR ALL 17 RADIO SYSTEMS = 0.4571632

- NOTES: 1. THE 'LIMITS OF SAFE EXPOSURE' HAVE BEEN DETERMINED IN ACCORDANCE WITH THE SAFETY LEVELS DEFINED IN ANSI STANDARD C95.1-1982, ISSUED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE AND ADOPTED BY THE CONNECTICUT LEGISLATURE INTO THE CONNECTICUT GENERAL STATUTES, SECTION 22a-162, IN 1984.
2. THIS ANALYSIS ASSUMES THE FOLLOWING WORST CASE CONDITIONS.
- A. ALL ANTENNAS HAVE ISOTROPIC (UNIFORM) RADIATION PATTERNS, WHICH PROVIDE HIGH ILLUMINATION OF THE GROUND.
- B. ALL TRANSMITTERS ARE ON SIMULTANEOUSLY.

POWER DENSITY ANALYSIS

=====

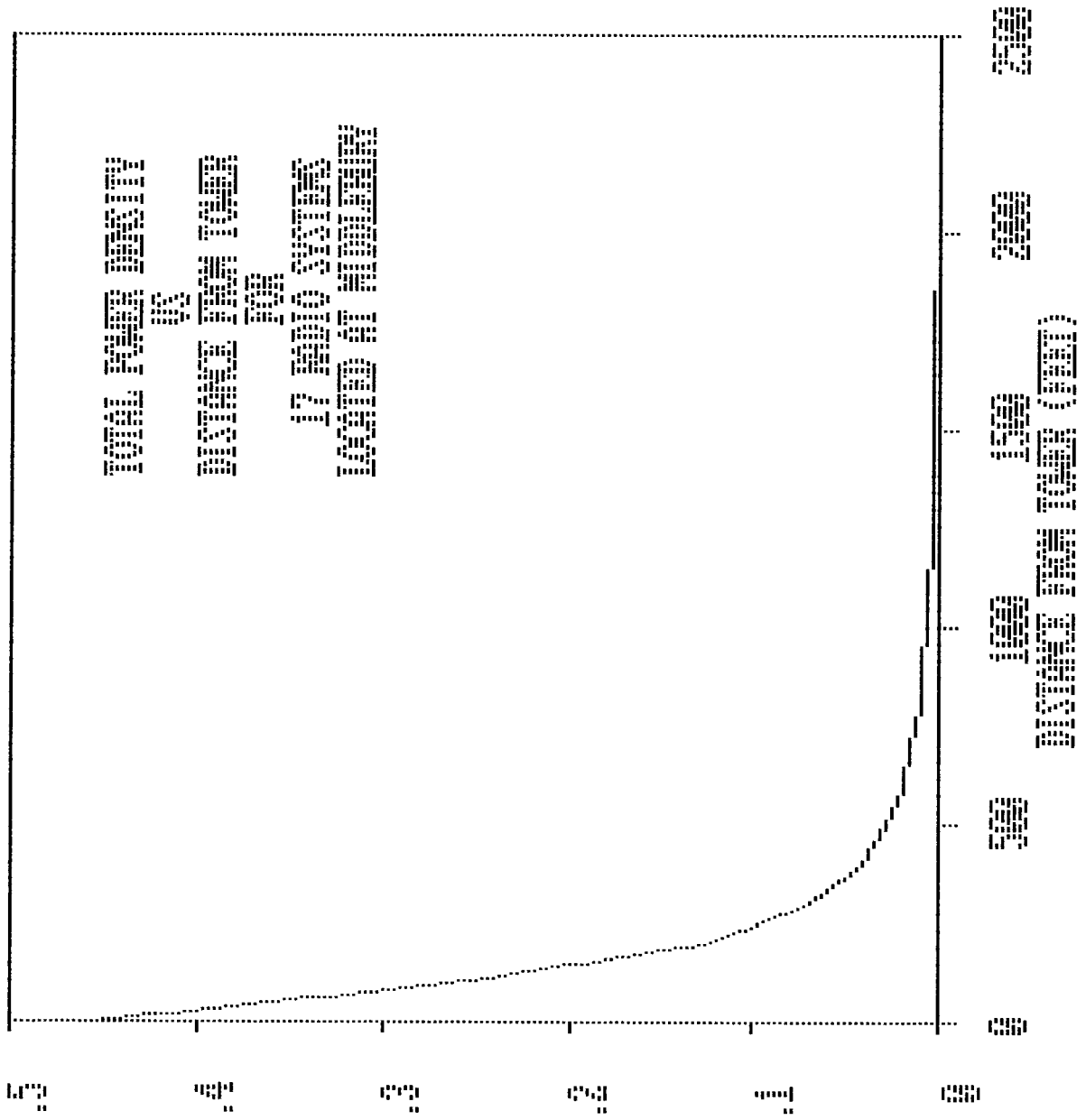
POWER DENSITY (% OF SAFE LIMIT) vs DISTANCE FROM TOWER

-----

FILE NAME: 20-P  
SITE NAME: MIDDLEBURY PREPARED BY: T-CAS  
TOWER HEIGHT: 160 FEET ON DATE: 07-10-1989

-----

DISTANCE (FEET)	POWER DENSITY (% OF SAFE LIMIT)
-----	-----
0	0.4571632
100	0.2653731
200	0.1266607
300	0.0686306
400	0.0419063
500	0.0279399
600	0.0198560
700	0.0147974
800	0.0114360
900	0.0090947
1000	0.0074013
1100	0.0061380
1200	0.0051714
1300	0.0044155
1400	0.0038135
1500	0.0033264
1600	0.0029268
1700	0.0025950
1800	0.0023164
1900	0.0020803
2000	0.0018785
2100	0.0017047
2200	0.0015539
2300	0.0014222
2400	0.0013066
2500	0.0012045



100 200 300 400 500 600  
 0.00 0.05 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.45 0.50 0.55 0.60 0.65 0.70 0.75 0.80 0.85 0.90 0.95 1.00