EXHIBITS

ACCOMPANYING AN APPLICATION FOR A SPECIAL USE PERMIT

THOMAS S. TAORMINA
Midge A. Taormina
370 Panamint Road
VC Highlands, NV 89521

Exhibits

Contents

A-1: Paid Tax Receipt

Tax Bill - Storey County 12/16/10

MAKE REMITTANCE PAYABLE TO:
Storey County Clerk/Treasurer
P O Drawer D
Virginia City, NV 89440

Parcel 003-431-18 Roll # 004649
370 PANAMINT RD
HIGHLAND RANCHES
10'S- 37
District-10.1 Lot- 37

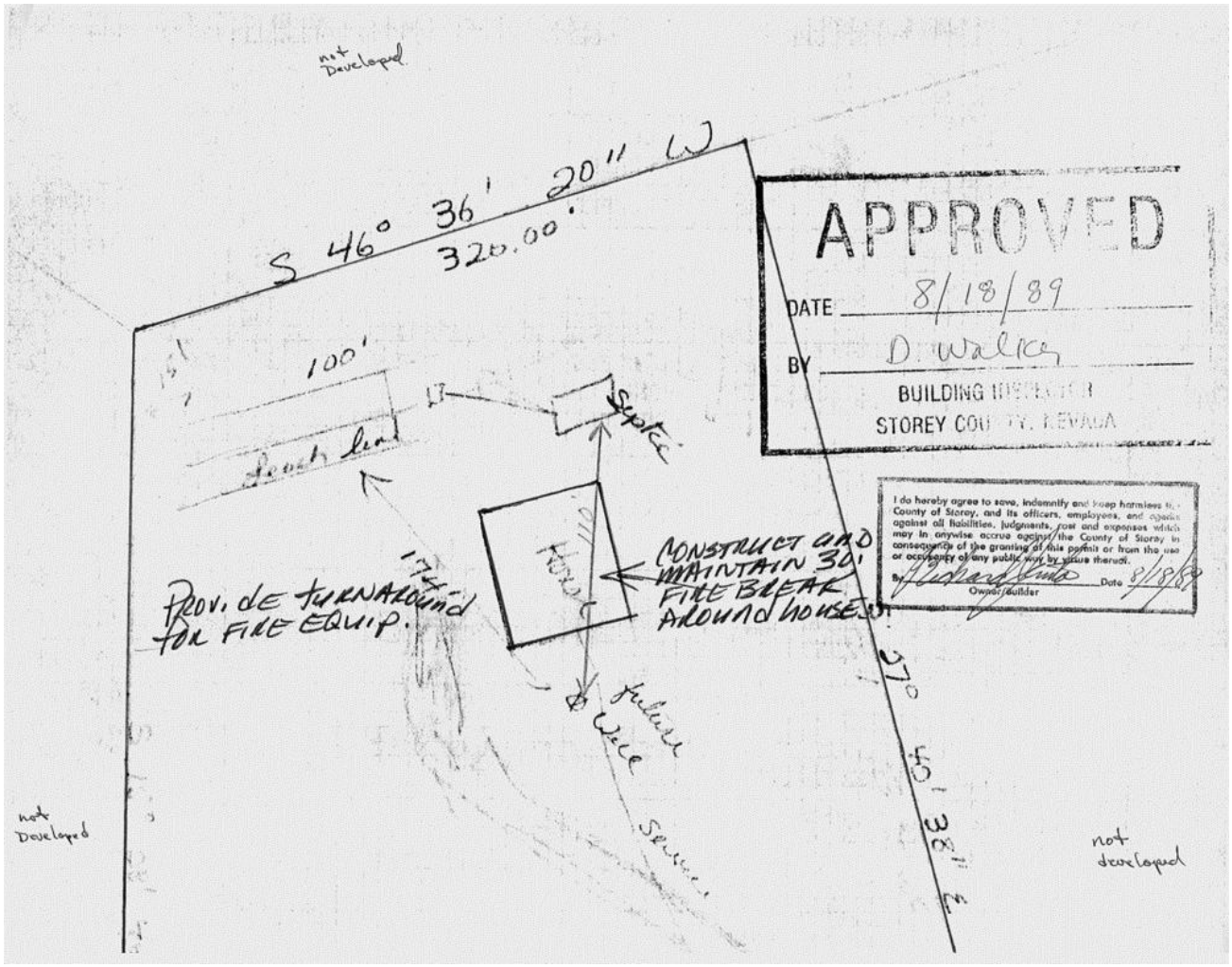
TAXES FOR PERIOD
July 1, 2010 thru June 30, 2011

TAORMINA THOMAS S & MIDGE A
370 PANAMINT RD
VC HIGHLANDS, NV 89521

ASSESSED VALUES		TAXES	RATE	ABATEMENT OR RECAPTURE	TAX AMOUNT
Real Estate	35,462	GENERAL	1.6974	196.75-	1,353.32
Building/Improvements	55,858	SCHOOL OPER	.7500	86.93-	597.97
		SCHOOL DEBT	.1447	16.77-	115.37
TOTAL	91,320	CAPITAL AQUIS	.0500	5.80-	39.86
		STATE	.1700	19.70-	135.54
		IND MEDICAL	.0100	1.16-	7.97
		IND ACCIDENT	.0150	1.74-	11.96
		FORESTRY	.1100	12.75-	87.70
		YOUTH SERVICE	.0045	.52-	3.59
		JAIL FUND	.0745	8.64-	59.39
		FIRE/EMER SRV	.4346	50.37-	346.51
		Ad Valorem Total	3.4607	401.13-	2,759.18
		Penalties			27.56
		Payments to Date			2,070.18-
		TOTAL DUE			716.56

1st Payment:	.00	Due: August 16, 2010
2nd Payment:	.00	Due: October 4, 2010
3rd Payment:	27.56	Due: January 3, 2011
4th Payment:	689.00	Due: March 7, 2011

A-2: Plot Plan on File at SCBD



A-3: Annotated Plot Plan of Lot 37, 370 Panamint Road

Drawn 12/2010 from 2004 Map

A-4: No CC&R Limitations

Virginia City Highland Ranches Property Owners Association

To: Storey County Board of Commissioners

Subject: Amateur radio towers

A concern has been raised by some association members over the erection of amateur radio towers in the Virginia City Highlands. I have reviewed the existing association CC&Rs and find nothing which prevents erection, limits tower size, or the quantity of these structures on a member's property.

The issue does raise some questions which the association members have requested the property owner's board to ask the Commissioners.

1) Will the county require and review, tower and component fabrication design drawings prepared and wet stamped by a structural engineer, licensed by the state of Nevada?

2) Will the county require and review, tower and support component foundation design and installation drawings prepared and wet stamped by a structural engineer, licensed by the state of Nevada?

3) Will the county issue building permits and perform inspections on these structures, verify compliance with the design drawings, and all applicable codes and mandatory county set backs.

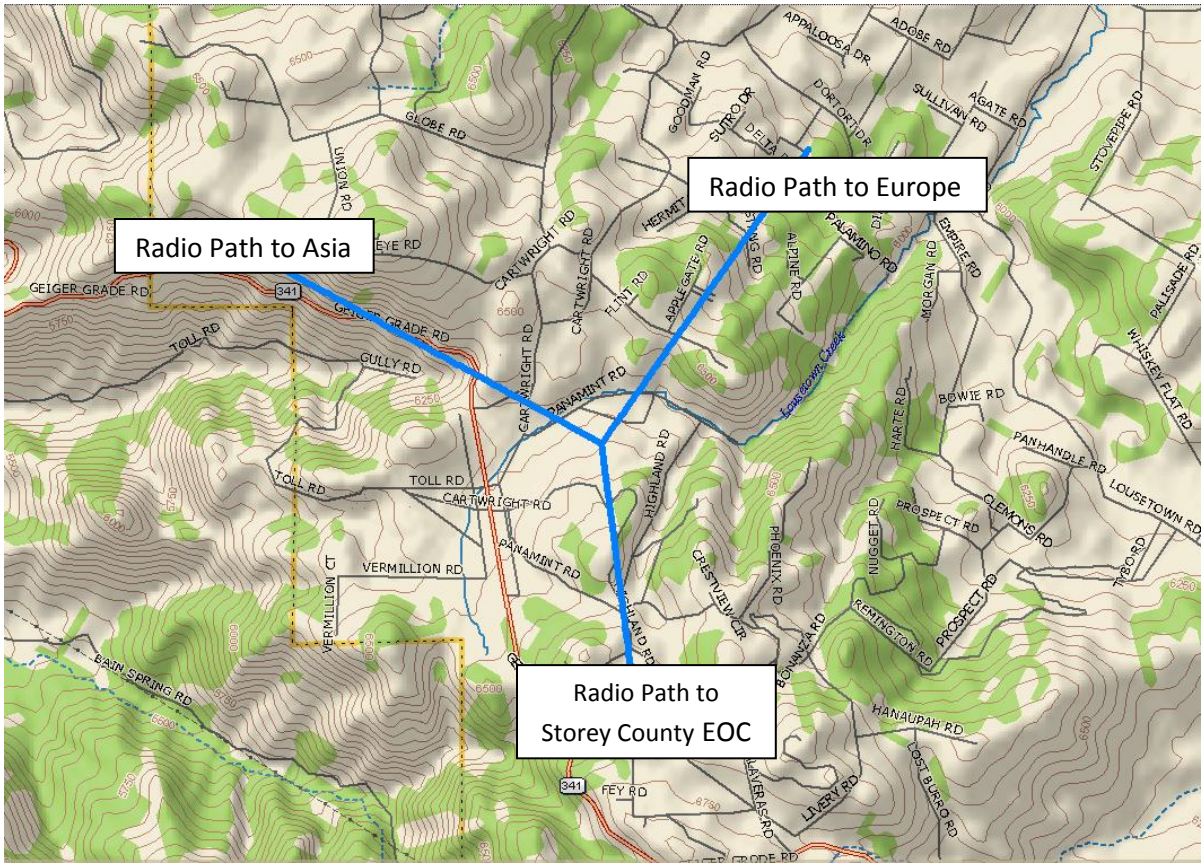
The Commissioners consideration and subsequent specific ruling to these questions posed by the Virginia City Highlands Ranches Property Owners Association would be appreciated.

Sincerely,

Howard H. Depew, P.E.
Chairman Architectural Committee
Virginia City Highlands Ranches Property Owners Association

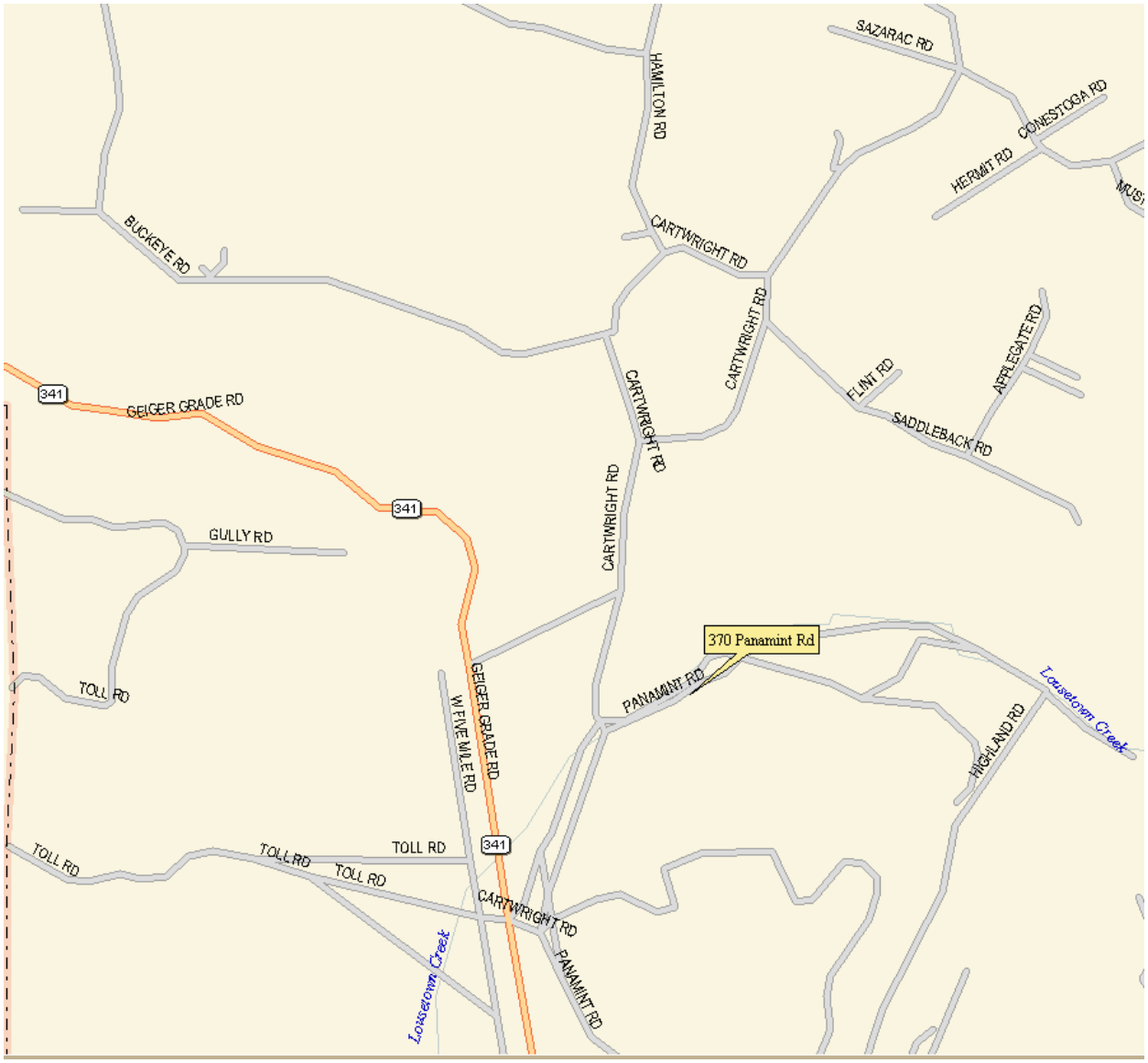
Cc Dean Haymore

A-5: USGS Area Topo Map



The land parcel and site are again shown at the intersection of the three lines. Radial lines indicate the several compass directions for which terrain profiles were calculated. These terrain profiles were used in the HF Radio Propagation Analysis described in detail in the Needs Assessment

A-6: Local Road Map



A-7: Building Permit #8354 for 120' and 195' Structures

Granted June 27, 2008

Permit No. 8354	Storey County Building Dept. P O Box 526 Virginia City Nevada 89440 ~ (775) 847-0966	Date 6/27/08

RESIDENTIAL

WORK DESCRIPTION: Erection of two Ham Radio Towers				
WORK LOCATION ADDRESS: 370 Panamint RD			AREA: VR	
APN: 003-431-18	ZONE:	FLOOD:	LOT / BLK: 37	
OCCUPANCY or INTENDED USE:				
ESTIMATED WORK COMMENCEMENT DATE: 6/27/08		ESTIMATED COMPLETION DATE: 6/27/09		
MOBILE HOME / TRAVEL TRAILER:	MAKE:		MODEL:	
	YEAR:	SIZE:	SERIAL #:	
SCHOOL TAX RECEIPT #: *When required, pay $500 to Storey County Clerk at Courthouse*	SPECIAL CONDITIONS:			
CONTRACTOR: Owner Builder			PHONE:	
ADDRESS:	NV LIC #:	Exp:	Limit: $	
	SC LIC #:	Exp:		

ALL MATERIALS USED FOR THIS PROJECT SHOULD BE RECEIVED IN STOREY COUNTY AND THE VALUE REPORTED AS 'COUNTY-OF-DELIVERY' ON THE NEVADA DEPARTMENT OF TAXATION FORM TXR-01.01 'SALES/USE TAX RETURN'.

If you require further information, please call (775) 847-0966.

OWNER / Permittee (Print): Tom Taormina			PHONE: 847-7929
ADDRESS (Mailing): 370 Panamint Rd Virginia City Highlands, NV 89521			
OWNER SIGNATURE:		AUTHORIZED BUILDER / AGENT:	
LIVING AREA: Sq Ft @ $61.10 = $		BLDG FEE: $111.25	PLOT PLAN: $
CONCRETE SLAB: Sq Ft @ $16.10 = $		PLAN RVW FEE: $72.31	SIGNS: $
STD T-FOUNDATION: Ln Ft @ $25.00 = $		ELECTRICAL: $	SPEC INSP: $
GARAGE: Sq Ft @ $19.48 = $		MECHANICAL: $	Temp TRAILER: $
FINISHED GARAGE: Sq Ft @ $23.21 = $		PLUMBING: $	STOVE / Fireplace: $
WOOD DECKS: Sq Ft @ $ 5.62 = $		: $	: $
SYN/COMP DECKS: Sq Ft @ $ 9.96 = $		: $	: $
WOOD DECK: Sq Ft @ $12.00 = $		PARK TAX: $	: $
BASEMENT: Sq Ft @ $15.54 = $		TOTAL PERMIT FEE: $183.51	
TOTAL VALUATION: $5,000.00 ☐ Est. Cost ☐ Actual Contract		☐ PLAN REVIEW ONLY ☐ FULL PERMIT	Check #: 6561 Receipt #: 10337

Permission is hereby granted to do the work described in this application and ONLY in accordance with the Rules, Regulations, and Ordinances of the County of Storey. **Inspection MUST be called for within 180 days of issuance of permit or permit is void.** Permit may be renewed for 50% of the original "Permit Fee".

State 'Health Certification', if required, is the responsibility of the "Permittee".

By: Donna Sibbey
Storey County Building Department Rev 02-11-04

Assessor Dept Fire Dept Sheriff Dept

A-8: Building Permit Application for Four Existing Structures

Filed August 14, 2008

SCBD Control #:

Storey County Building Dept.
P O Box 526 Virginia City NV 89440

Received

☒ Residential **PERMIT APPLICATION** ☐ Comml/Indr

WORK DESCRIPTION: AMATEUR RADIO ANTENNA SUPPORT STRUCTURES

WORK LOCATION ADDRESS: 370 PANAMINT RD			AREA: HR
LOT(S): 37	APN(S): 003-43-18	ZONING: E10-HR	SETBACKS: 30-45-15
OCCUPANCY: N/A	CONSTRUCTION TYPE: STEEL	FLOOD ZONE: C	SQ FT: < 4.0

RECEIVED by BUILDING DEPT:	Grading Plan	Topographic Underlay	Fire & Life Safety APP	Owner/Builder Signature Forms
	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

Sewer/Water Will Serve ☐ Yes ☐ No — Architectural Approval Letter ☐ Yes ☐ No

A Nevada Licensed CONTRACTOR and SWPP Report is Required for ALL Commercial and/or Industrial Projects

CONTRACTOR: O/B	PHONE
ADDRESS	NV LIC #
City ST Zip	SC LIC #
24-hr JOB Contact	Cell
CONTRACTOR	PHONE
ADDRESS	NV LIC #
City ST Zip	SC LIC #
24-hr JOB Contact	Cell
CONTRACTOR	PHONE
ADDRESS	NV LIC #
City ST Zip	SC LIC #
24-hr JOB Contact	Cell

RECEIVED
AUG 14 2008
Storey County Building

If applying as Owner/Builder – MUST Complete "Owner Builder Affidavit of Exemption" per NRS 624.031(4)

OWNER / Permittee (Print): TOM TAORMINA	PHONE: 847-7929
ADDRESS (Mailing): 370 PANAMINT RD	CELL: 846-7068
VC HIGHLANDS NV 89521	
OWNER Signature:	Authorized Signature: BUILDER / AGENT

Comments: SEE ATTACHED DOCUMENTS

TOTAL VALUATION: $ 14,000. ☐ Est Cost ☒ Actual Contract

PLAN REVIEW: $	CHECK #	RECEIPT #

Note: PLAN CHECK FEE: (Based on initial valuation) SHALL BE PAID AT TIME OF PLAN SUBMITTAL. Adjustment, if any, will be made during the Permit Valuation.
PERMIT FEE(s): PAID PRIOR TO PERMIT ISSUANCE.

Application Completed by: _____ Date: 8/14/08

B-1: Index of Structures

Structure #	Name, Brand, Model	Support Structure Height	Antenna Width	Antenna Length	Building Department Action	Date of Bldg.Dept. Action
1	40 Meter Rohn 45G (Erected 1997)	140’	43’	47’	**Stop Work Order** **Application to Bldg Dept.** **Application Pending**	**7/17/08** **8/14/08**
2	20 Meter Rohn 25G (Erected 1998)	85’	37’	47’	**Stop Work Order** **Application to Bldg Dept.** **Application Pending**	**7/17/08** **8/14/08**
3	160 Meter Rohn 25G (Erected 2007)	110’	None	None	**Stop Work Order** **Application to Bldg Dept.** **Application Pending**	**7/17/08** **8/14/08**
4	20 Meter Rohn 45G (Erected 2007)	140’	22’ 37’	44’ 43’	**Stop Work Order** **Application to Bldg Dept.** **Application Pending**	**7/17/08** **8/14/08**

5	15 Meter Custom Monopole (Under Construction)	120’	25’	36’	**Application to Bldg Dept.** **Permit 8354 Granted;** **Code Compliance Reports Issued** **Stop Work Order**	**6/15/08** **6/27/08** **7/3, 7/7, 7/16** **7/17/08**
6	80 Meter Custom Monopole (Under Construction)	195’	18’ 66’	36’ 76’	**Application to Bldg Dept.** **Permit 8354 Granted;** **Code Compliance Reports Issued** **Stop Work Order**	**6/15/08** **6/27/08** **7/3, 7/7, 7/16** **7/17/08**

B-2: Structure #1: 40 Meter Rohn 45G – 140'

Note: Structure is 18 inches wide.

B-3: Structure 2: 20 Meter Rohn 25G – 85'

Note: Structure is 12" wide.

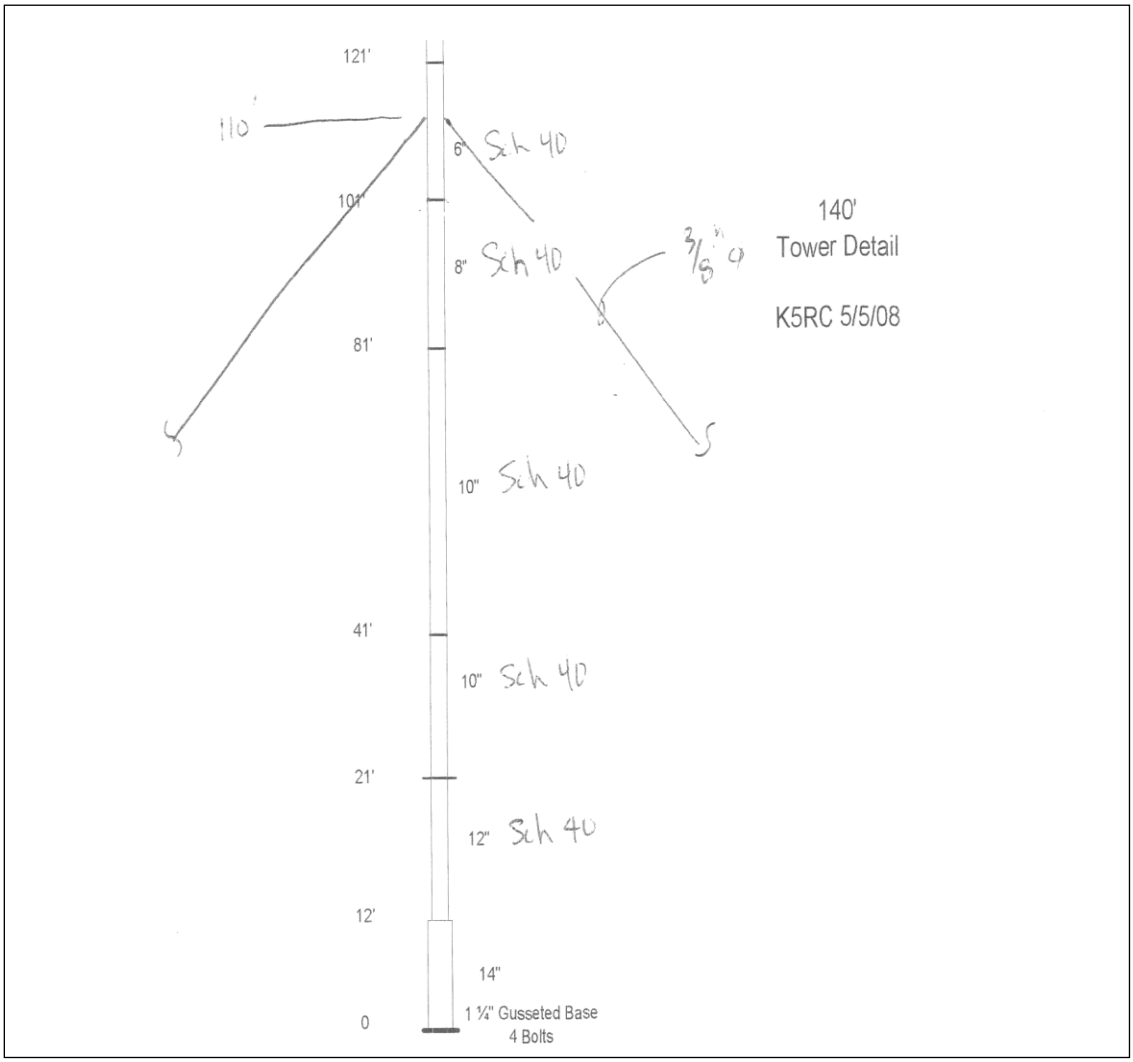
B-4: Structure 3: 160 Meter Rohn 25G – 110'

Note: Structure is 12 inches wide. There is no plan to place additional antennas on this structure, as the structure is a vertical antenna.

B-5: Structure 4: 20 Meter Rohn 45G – 140'

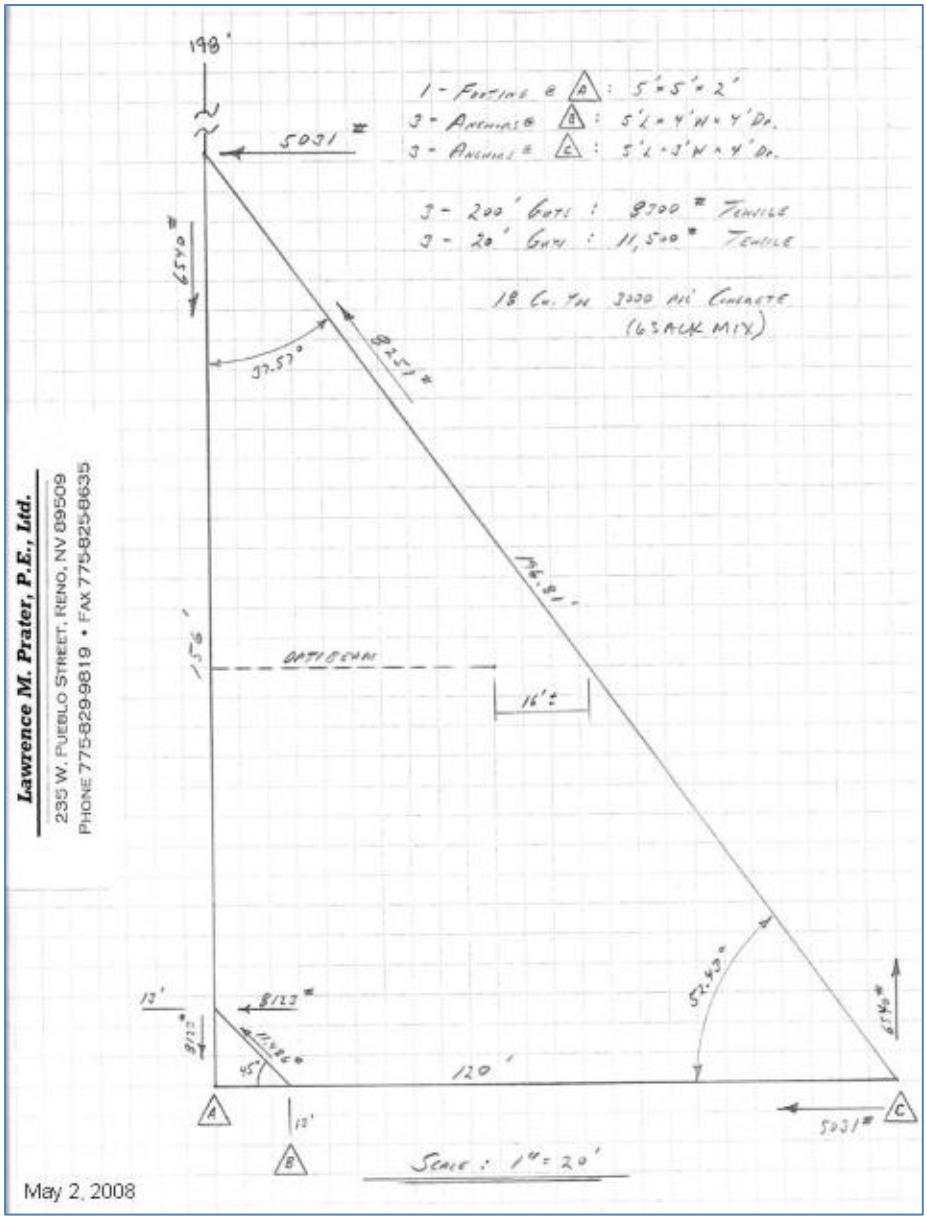
Note: Structure is 18 inches wide.

B-6: Structure 5 – Structural Design Rendering by Larry Prater, PE – 120'



Note: This structure will now be 20' shorter, or 120' – not 140'

B-7: Structure 6 – Analysis of Structural Design by Larry Prater, PE



B-8: PE Letter for Structures of Building Permit No. 8354

ARTISAN ENGINEERING, LLC
325 West 13th Avenue
Eugene, Oregon 97401-3402
Phone: 541-338-9488 Fax: 541-338-9483
www.artisanengineering.com

June 2, 2008

Mr. Paul Nyland
Custom Metalworks
PO Box 1959
Sandy, OR 97055

Re: Structural Calculations and Foundation Design for Guyed Rotating Antenna Poles to be Erected in Virginia City, Nevada for K5RC

Dear Paul:

Artisan Engineering, LLC has completed a structural analysis and have designed the guy anchors and pole foundation for the 140-foot and 200-foot rotating guyed monopoles that you plan to erect for your Client K5RC in Virginia City, Nevada. The pole will support a variety of directional yagi antenna arrays. I completed the work per your request earlier this month.

Each of the poles will be made of varying diameter steel pipes stacked on top of each other and guyed near the base and near the top below the large top mounted antenna array. I based the design on the preliminary drawings that you mailed to us on May 8th. I checked the previous analysis completed by a local Engineer, who had specified the expected tension in the top guy wires and subsequent pole down-loading, pole sizes, and guy anchor uplift forces. I used a wind loading of 80 mph at an Exposure C to check the earlier design. I found that the design was fairly conservative and probably more like a 90 mph wind loading which I retained and applied to the design for the 140-foot monopole.

I have supplied you with concrete guy anchors and monopole base footings using your approximated conceptual sketch. I have noted the necessary rebar, footing dimensions, anchor hardware, and guy wire sizes. I have also detailed an embedded spread footing or a drilled pier footing for support the pipe mast and antennas against the wind loading. Please refer to the attached calculations and use the attached S1 drawing to anchor the rotating guyed monopoles.

We have enjoyed assisting you with this project. If you have any additional questions, comments, or concerns please feel free to call.

Sincerely,

Timothy A. Wolden, PE
Principal, Artisan Engineering, LLC

File: Letter to Paul N for WGuyed Rotating Poles in Nevada.doc

REGISTERED PROFESSIONAL ENGINEER 16568
OREGON MAY 18, 1993 TIMOTHY WOLDEN
EXPIRATION DATE: 6/08

Note: The referenced 140’ Monopole was subsequently lowered to a height of 120’.

C-1: Taormina's Role in Storey County Emergency Operations

ARRL The national association for AMATEUR RADIO

QST OFFICIAL JOURNAL

Public Information Coordinator
Section Emergency Coordinator

Storey County Building Department
PO Box 526
Virginia City, NV 89440

July 23, 2008

Dear Building Department:

I would like to extend my appreciation to Tom Taormina for his ongoing role as Storey County Emergency Coordinator and County RACES Officer, as officially appointed. Tom (K5RC) and his wife Midge (K7AFO) are the only viable amateur link we have between the State Department of Emergency Management in Carson City and the Reno Emergency Operations Center for emergency communications.

His long service on the Storey County Local Emergency Planning Commission has been our only intra-county coordination link and his organizational skills are critical to the future of increasing RACES and ARES participation in Storey County.

I understand that he now contemplates the installation of replacement amateur radio antenna support structures with appropriate antennas for UHF, VHF and HF (High Frequency) operations. This proposed installation would benefit emergency communications for your community, Storey County, and would add critical missing intra-county and inter-county coverage. His planned High Frequency upgrades could be the main conduit for the area to Homeland Security in the event of a catastrophic disaster that disrupts normal power, radio and telephone communications.

On behalf of the American Radio Relay League and the Radio Amateur Civil Emergency Service, I urge you to rule favorably on Tom's applications.

Sincerely,

G.L. "Don" Carlson - KQ6FM
NV Section Emergency Coordinator / State R.A.C.E.S. Officer
Public Information coordinator/
ARRL National PR Committee

Don Carlson • kq6fm@arrl.net
5591 Barcelona Court, Sparks, NV 89436 • (775) 354-2788 • Fax (775) 354-2636

C-2: Taormina's Role in Storey County LEPC

Tom Taormina is a long-standing member of the Storey County Local Emergency Planning Committee (LEPC), and the duly-appointed Amateur Radio Emergency (ARES) and Radio Amateur Civil Emergency Service (RACES) Emergency Communications Officer for Storey County. Midge Taormina is a licensed amateur radio operator and has training and experience in emergency communications. While she has no formal title or designation, she is typical of amateur radio operators volunteering in time of need. The following describes how ARES and RACES support LEPC and, in particular, how we "fit in" to SCC §8.34.060.F.

SCC §8.34.060.F. Emergency Communications Services.

1. During any emergency or disaster, reliable communications are absolutely essential. All public and private communications capabilities available to Storey County will be used, as needed, during an emergency. The EOC is the county's primary communications center during an emergency, and it has both telephone and radio communications equipment, as described [below].
2. The telephone will be the primary means of communication between the EOC and county, state, federal and private agencies at fixed, permanent locations. Radio communications are reserved for contact with field operation units unless required for other uses in the event of failure or overloading of the telephone system.
3. Storey County is in the telephone service area of Nevada Bell, which serves Northern Nevada. Any service requirement at the EOC or which point critical to effective emergency response will be provided on a priority basis by contacting Nevada Bell at 811.
4. Eight radio frequencies are available for local police, fire and public works agencies, as well as the Nevada Highway Patrol and Department of Transportation frequencies, plus Radio Amateur Civil Emergency Services (RACES) volunteers, whose support will be coordinated by the emergency management director.

(Emphasis added)

Explanation

¶ 1. The "private communications capabilities" referred to are the personal assets of those who support the first-responders. Amateur radio operators are the vast majority of this "private" resource pool. Tom Taormina was a licensed RACES operator (K2BGP Unit 51) at age 15. By age 16, he was the Deputy Town Radio Officer of Huntington Township (New York). Since 1960, he has been actively involved in emergency communications and has a wealth of experience in providing emergency communications services in circumstances where traditional communications (landline, police radios, or fire radios) were interrupted. In 1979, he was a member of the Pasadena (Texas) ARES communications system during Tropical Storm Claudette[1]. While his neighborhood was in the process of receiving a 42"

[1] http://en.wikipedia.org/wiki/Tropical_Storm_Claudette_(1979)

[2] County communications is conducted on FM. Amateurs have the option to use a variety of modes including AM, FM, Single Side Band (SSB), International Morse Code (CW) and a number of digital modes of communication, each of which has special characteristics allowing the most reliable mode to be selected freely as conditions warrant.

rainfall in 24 hours, he stayed in his home and coordinated the emergency evacuation of his neighborhood via amateur radio. He was the last one to leave his home after the evacuation was complete. He carried his seven year old son a mile through shoulder-deep water to an awaiting rescue boat.

During the three decades he lived in South Texas, he was also involved in providing emergency communications during many floods, tornados and hurricanes. Today he is the communications liaison for the Storey County LEPC.

¶ 2. The ordinance provides: "Radio communications are reserved for contact with field operation units unless required for other uses in the event of failure or overloading of the telephone system." This paragraph recognizes that, in emergencies, the conventional landline system may be overloaded. Since the World Trade Center attack in 1991, it has also been widely recognized that cellular telephones are more vulnerable to overload than conventional landlines, rendering them virtually useless in a wide-spread disaster. Here, ARES and RACES become the backup link to essential communications services. What is less well known, unless a citizen has had the experience, is that the amateur radio operators are the public's conduit for "health and welfare" messages for families and loved-ones – because hams can communicate to virtually any place on the globe. There are volunteer "traffic" handling networks in operation daily on the amateur bands that pass messages of a routine, but significant, nature from citizens who are unable to afford global communications, or are trying to get messages to remote locations (for instance, to missionaries) where amateur radio is the ONLY form of communications. Even today, with the proliferation of cell phones and satellite communications, US soldiers serving in remote regions of the world still receive health and welfare messages by amateur radio as their ONLY communications conduit. These networks are pressed into service immediately when disasters are declared in virtually any corner of the world.

Mr. Taormina's installation provides four critical resources to the County:

- VHF and UHF communications, with emergency power backup, via amateur radio, to the Storey County Emergency Operations Center (EOC), and to surrounding county EOC's.
- A UHF repeater, with emergency power backup, to allow ARES volunteers to communicate within the County and with surrounding areas. This is especially useful should the need for "search and rescue" operations be initiated. When necessary, this repeater can be linked with a backbone system covering the entire West Coast, via VHF and UHF mobile and hand-held radio communications
- A High Frequency amateur radio system that is capable of communication with virtually any location on the globe, for sending and receiving health and welfare traffic for the citizens of the County. "*When All Else Fails*," County Officials can use these capabilities to communicate with governmental agencies such as the Department of Homeland Security.

The phrase "When All Else Fails" is commonly associated with amateur radio operators because they have the skills and training to effect radio communications when conventional communications are disrupted or ineffective. In the July 2008 LEPC meeting, Storey County Emergency Officer, Joe Curtis, said that he was amazed that the amateur radio operator on duty for Operation Vigilant Guard at the

EOC in June was providing critical communications with a home-made antenna fashioned from copper tubing and PVC pipe. With the Taormina amateur radio station, emergency communications during non-catastrophic emergencies will greatly enhance the capability of the County EOC. In the event of a catastrophic emergency, even if the Taormina antenna farm suffers major damage, his proficiency in the International Morse Code, and "can do" spirit, combined with decades of experience in constructing and repairing his own equipment, will permit him to establish critical communications links using the most modest of equipment and makeshift antennas. In 1995, while residing in Austin County, Texas, Tom and Midge Taormina continued providing emergency communication using improvised communications equipment after their 440 MHz repeater tower was destroyed and their home damaged by a tornado.

¶ 3. As a side note, Storey County should consider revising this paragraph, as Nevada Bell is now AT&T Communications.

¶ 4. While the County has only eight available frequencies, amateur radio operators have a host of frequency "bands," some with thousands of frequencies on which to establish communication. Taormina operates on those bands of frequencies from 1.8 MHz to 440 MHz, allowing selection of the appropriate frequency and mode[2] for the particular communications path needed or desired at any given time of the day or night. Bands and modes are continually changed, on the basis of experience, to allow for atmospheric, tropospheric and ionospheric conditions, which change from hour to hour and day to day. The key to this flexibility and reliability lies in the ability to select the appropriate frequency and mode, but also to have access to various antennas at various heights that can be selected by the experienced amateur to overcome adverse radio wave propagation conditions. Hence, a well equipped station, with multiple antennas for each frequency band is highly desirable for the maintenance of critical emergency communication. Lesser antennas would greatly hurt Storey County's ability to execute this ordinance.

There is a formal relationship between the County and amateur radio. As Tom Taormina is the appointed liaison from ARES and RACES and a member of LEPC, the best interests of the County will be served by granting the required building permits.

[2] County communications is conducted on FM. Amateurs have the option to use a variety of modes including AM, FM, Single Side Band (SSB), International Morse Code (CW) and a number of digital modes of communication, each of which has special characteristics allowing the most reliable mode to be selected freely as conditions warrant.

C-3: Department of Homeland Security and Amateur Radio

STATEMENT OF AFFILIATION
BETWEEN
THE FEDERAL EMERGENCY MANAGEMENT AGENCY
AND THE AMERICAN RADIO RELAY LEAGUE

The ***Department of Homeland Security (DHS)*** and the ***American Radio Relay League (ARRL)*** view community disaster preparedness and response as top priorities for their respective organizations and for the American people. As such, our organizations have come together to provide mutual support for ***Citizen Corps.***

Under the direction of ***DHS, Citizen Corps*** is a community-based initiative to engage all citizens in homeland security and community and family preparedness through public education and outreach, training opportunities, and volunteer programs. Programs under the Citizen Corps umbrella include federally sponsored programs and other activities that share the goal of helping communities prevent, prepare for, and respond to terrorism, public health issues, and disasters of all kinds. It encourages all Americans to take an active role in building safer, stronger, and better-prepared communities.

ARRL is a non-commercial membership association of radio amateurs organized for the promotion of interest in Amateur Radio communication and experimentation, for the establishment of networks to provide communications in the event of disasters or other emergencies, for the advancement of the public welfare, and for the representation of the Radio Amateur in legislative and regulatory matters. ***ARRL*** is the principal organization representing the interests of the more than 650,000 U.S. Radio Amateurs. Because of its organized emergency communications capability, ***ARRL's Amateur Radio Emergency Service (ARES)*** can be of valuable assistance in providing critical and essential communications during emergencies and disasters when normal lines of communication are disrupted. ***ARRL*** conducts emergency communications training and certifies proficiency in emergency communications skills.

Together ***DHS*** and the ***ARRL*** agree to work collaboratively to:

- Raise public awareness about the use of Amateur Radio as a public safety resource;
- Provide training and accreditation for Amateur Radio Emergency Communications;
- Promote the formation of local ***Citizen Corps Councils*** and assist these Councils with providing public education, training and volunteer service opportunities that support first responders, disaster relief organizations, and community safety efforts;
- Publicly acknowledge the affiliation of ***Citizen Corps*** and the ***ARRL,*** which may include website links, co-logos on publications, and references in printed materials, including articles and news releases;
- Coordinate their respective activities to further their shared mission; and
- Keep each other informed of activities conducted in support of ***Citizen Corps*** and to provide an annual report summarizing those activities.

On this 21st day of June 2003, both parties enter into this agreement in good faith and agree to pursue the shared mission as stated.

citizen corps

MICHAEL D. BROWN
UNDER SECRETARY
DEPARTMENT OF HOMELAND SECURITY
EMERGENCY PREPAREDNESS AND RESPONSE

JIM HAYNIE
PRESIDENT
AMERICAN RADIO RELAY LEAGUE, INCORPORATED

Source: http://www.arrl.org/files/file/Public%2520Service/FEMA-ARRL-SOA1.pdf

C-4: Emergency Power Generator

Troy-Bilt 5 KW Generator

D-1: Letters of Support - Chapman

August 3, 2007

To Whom It May Concern:

As a Storey County resident living in the Highland Ranches, I have known Tom Taormina for approximately 4 years. Our acquaintance came during my service on the Storey County School Board and Tom's volunteer efforts to assist us with a bond roll-over initiative for the District.

The ultimate success of that initiative has made significant contributions to the education of our students and the quality of our school district. We are grateful to Tom for his efforts.

I have always found Tom to be a man of considerable substance and one who has genuine regard for his community and neighborhood. The recent controversy over his amateur radio equipment is unfortunate, and while some have expressed concerns over the visual impact of his antennae towers, I have not personally found that to be an issue despite passing by them most days.

Instead, I find the sight of the antennae towers to be a reminder of the role amateur radio operators continue to play in our country. Their investment in equipment and knowledge for a private hobby provides a valuable resource to their community in times of emergency and need.

I am pleased to have Tom as a member of my local community and I am hopeful a reasonable solution can be reached that still allows the pursuit of his amateur radio passion and his service to our community.

Sincerely,

Curt Chapman
2560 Musket Road
VC Highlands, NV 89521
(775) 847-7771

D-2: Letters of Support - Flanagan

Patrick J. Flanagan
P.O. Box 427
Virginia City, NV 89440-0427
775-847-5243
MrSquid1@aol.com

November 13th, 2010

The Storey County Commissioners
Commissioner's Office
P.O. Box 176
Virginia City, NV 89440

Dear Commissioners:

I am a resident of *Storey County, Virginia City Highlands Ranches* and I am aware of the ham radio installation at 370 Panamint Rd in Highland Ranches owned by Tom and Midge Taormina.

I see great value in having radio hams in this County. When all else fails, radio hams can still provide communications and assist in our public safety. This installation provides many good services to the residents of the County and just recently worked hard with the Boy Scouts of America in learning about ham radio operation.

I have no objection to the granting of a Special Use Permit and I urge the Commission to grant and support this facility including the antennas which are barely visible. A small price to pay for an installation that is such an important role to play in our community and public safety.

Sincerely,

Patrick J. Flanagan

Original sent directly to Commissioners.

D-3: Letters of Support - Rogers

Storey County Commissioners
Commissioner's Office
POB 176
VC, NV 89440

RE: Tom Taormina Special Use Permit

Gentlemen:

I am a resident of Storey County and Virginia City. I have been the owner and operator of the Western Historic Radio Museum here in town for the past 16 years. I am aware of the amateur radio installation at 370 Panamint Rd. in the VC Highland Ranches owned by Tom and Midge Taormina.

I see great value in having licensed radio amateurs in this county. During natural disasters and other emergencies, when all else fails, radio amateurs can still provide communications. Recent past examples would be during hurricane Katrina and the Molikai Island, Hawaii hurricane, both of which interrupted all communications for several days. During the aftermath of Katrina, Radio Amateurs provided the only communications source for personal information regarding family members in the area of the disaster. In the case of the Molikai Island hurricane, amateur radio operators provided the only communications into the island for several days. The value of amateur radio communications during any emergency should not be under rated.

A large and flexible amateur radio installation, such as Tom's, is necessary for reliable long-distance communications - something that may be very desirable during any serious emergency.

I have no objection to the granting of a Special Use Permit to Tom Taormina and I encourage the Commissioners to do so.

Sincerely,

Henry Rogers
P.O. Box 511
VC, NV 89440

Original sent directly to Commissioners.

E-1: Applicants' FCC Licenses

Call Sign/Number	Grant Date	Expiration Date	File Number	Print Date	Effective Date
K5RC	11-14-2001	12-10-2011	0002316542	09-16-2005	09-16-2005

Operator Privileges: Amateur Extra
Station Privileges: PRIMARY

THIS LICENSE IS NOT TRANSFERABLE.
SPECIAL CONDITIONS/ENDORSEMENTS:
NONE

TAORMINA, THOMAS S
370 PANAMINT RD
V C HIGHLANDS NV 89521

AMATEUR RADIO LICENSE
FCC Registration Number (FRN) 0004025581
FCC 660 April 2002

HERE / FOLD

(Licensee's Signature)
FEDERAL COMMUNICATIONS COMMISSION

Call Sign / Number	Grant Date	Expiration Date	File Number	Print Date	Effective Date
K7AFO	01-24-2008	01-24-2018	0003299044	01-24-2008	01-24-2008

Operator Privileges
Technician

Station Privileges
PRIMARY

THIS LICENSE IS NOT TRANSFERABLE
Special Conditions / Endorsements:
NONE

TAORMINA, MIDGE A
370 PANAMINT RD
V C HIGHLANDS, NV 89521

AMATEUR RADIO LICENSE
FCC Registration Number (FRN): 0003913290
FCC 660 - May 2007

Here / Fold

(Licensee's Signature)
FEDERAL COMMUNICATIONS COMMISSION

E-2: Hazard Painting and Lighting NOT Required by FCC/FAA

TOWAIR Search Results http://wireless2.fcc.gov/UlsApp/AsrSearch/towairResult.jsp?printable

TOWAIR Determination Results

***** NOTICE *****

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

Latitude	39-22-07.0 north
Longitude	119-39-36.0 west

Measurements (Meters)

Overall Structure Height (AGL)	59.4
Support Structure Height (AGL)	59.4
Site Elevation (AMSL)	1961.1

Structure Type

TOWER - Free standing or Guyed Structure used for Communications Purposes

Tower Construction Notification
Notify Tribes and Historic Preservation Officers of your plans to build a tower.
Note: Notification does NOT replace Section 106 Consultation.

CLOSE WINDOW

As a result of the above study, no registration with the FCC is required for the antenna structures.

E-3: Insurance Coverage

Your American Family Agent

PATRICK O'DAY AGENCY
6430 SOUTH VIRGINIA STREET, SUITE B
RENO, NEVADA 89511-1150
OFF: 775-829-6822 • FAX: 775-853-0482
E-MAIL: poday@amfam.com

December 22, 2010

Mr. & Mrs. Thomas S. Taormina
370 Panamint Road
VC Highlands, NV 89521

In re: American Family Insurance Homeowner Policy #27p0-9489-01-85

Dear Mr. & Mrs. Taormina:

On behalf of the American Family Insurance Company, insuring homeowners in Nevada since 2001, I am pleased to inform you that the amateur radio towers that you propose to install, or have installed, at your property at **370 Panamint Road, Virginia City Highlands**, will be insured under the policy referenced above, provided that they are not used in any way for business, nor rented to anyone. These latter two situations would simply require a separate policy underwritten by commercial underwriters.

The towers are insured against the same types of losses (with the same exclusions) as a dwelling extension, if they are not attached to the house.

In addition to the property damage coverage stated above, you have up to $300,000 of liability coverage per occurrence. This is payable for damages for which you are held legally liable.

I trust this addresses your questions and concerns. In any case, should you need additional information, you are welcome to call us.

As always, I appreciate your time, your business, and your referrals,

Patrick O'Day
American Family Agent

AMERICAN FAMILY INSURANCE

E-4: Power Density Study

FAR FIELD POWER DENSITY CALCULATION
FROM PWR_DENS V3.0 BY E. S. PARSONS, B.S.E.E., K1TR

SITE:

VC_HLDS_NV. 10MSTACK_ON_80M_MONOPOLE_TO_NEAREST_HOUSE

INPUTS:

Power at transmitter (FCC method) is 495 watts.
Antenna gain over a dipole is 14.0 dBd.
Frequency of operation is 28.0 MHz. *[This frequency is the worst case study for this station.]*
Feedline loss is 0.5 dB.
Distance to antenna is 723 feet.

OUTPUTS:

Power at antenna feed point is 446.0 watts.
Effective Radiated Power (ERP) is 18373 watts.
ANSI C95.1-1991 maximum limit is 0.230 mW/sq cm.

Computed power density is 0.00301 mW/sq cm (0.03010 w/sq meter).
(Power density calculated along antenna boresight; no assumptions made about antenna pattern.)

Hence:

1. The computed power density is 1.3110% of the ANSI limit.
2. The computed power density is -18.82 dB from the ANSI limit.
3. Transmitter output power must be increased by at least a factor of 76 to exceed the ANSI limit.

Note: All calculations conform to FCC OET Bulletin 65 Supplement B,
http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65b.pdf

ANSI is the American National Standards Institute.

Far field power density is a measure, in units of milliwatts per square centimeter (mW/cm2), of the radio frequency power to which a human or animal is exposed. To put this in context and add meaning, the power density at the point specified (usually the home closest to the amateur's antenna) is compared to the Maximum Permissible Exposure (MPE) for uncontrolled environments set forth by the FCC in their Report and Order No. 96-326, http://www.fcc.gov/Bureaus/Engineering_Technology/Orders/1996/fcc96326.pdf.

An uncontrolled environment is an area where people would not normally be aware of potential RF exposure. A neighbor's home is an example of an uncontrolled RF environment. The FCC 96-326 Report and Order adopted the standards set forth in IEEE C95.1-1991 for uncontrolled RF environments.

This analysis assumes that the antenna is pointed at the nearest dwelling. For rotary antenna systems, the antenna is often pointed in other directions, resulting in much lower power densities at the nearest dwelling.

The FCC method for measuring exposure in uncontrolled RF environments requires compliance with MPE standards for the average power density computed over a 30 minute period of RF emissions (10 minutes of transmitting, 10 minutes of listening, 10 minutes of transmitting). The power density for the station (computed above) uses the FCC assumption of a duty cycle for the CW mode of 50% (by comparison, the FCC method calculates SSB voice transmissions at a duty cycle of 40%, which would results in even lower exposure).

E-5: CareFlight Landing Less than 2,000' from the Structures

F-1: Visual Impact – 360 Panamint Road

F-2: Visual Impact – From 650 Panamint; 380 Panamint in Foreground

Photo taken from the home site with the permission of the owner of 650 Panamint Road.

F-3: Visual Impact – 390 Panamint Road

F-4: Visual Impact – 650 Panamint Road

F-5: Visual Impact – From VC Highlands Mailboxes (Cartwright Road)

Note: The community mailboxes are 1,140' from the closest antenna.

F-6: View from Saddleback Road

F-7: Perspective from Antenna Support #2 toward 380 Panamint Road

G-1: 540 Crestview

G-2: Flatiron Road

G-3: Tybo Road

G-4: 260 Vermillion

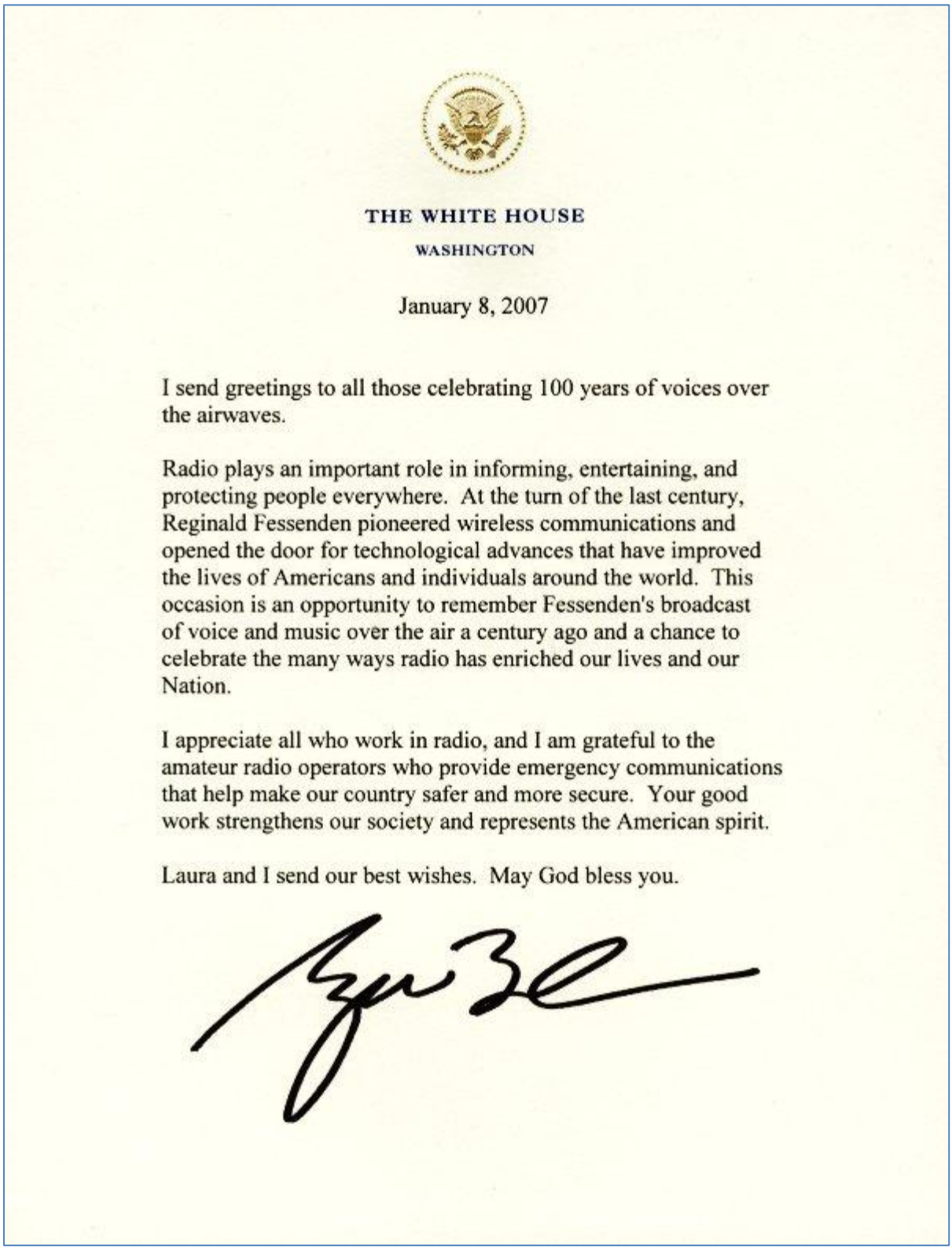
G-5: 230 Flatiron

G-6: Manapauh #1

G-7: Manapauh #2

H-1: Emergency Communications Capability Serves the Public Welfare

H-2: Amateur Radio Operators . . . Make Our Country Safer"



THE WHITE HOUSE

WASHINGTON

January 8, 2007

I send greetings to all those celebrating 100 years of voices over the airwaves.

Radio plays an important role in informing, entertaining, and protecting people everywhere. At the turn of the last century, Reginald Fessenden pioneered wireless communications and opened the door for technological advances that have improved the lives of Americans and individuals around the world. This occasion is an opportunity to remember Fessenden's broadcast of voice and music over the air a century ago and a chance to celebrate the many ways radio has enriched our lives and our Nation.

I appreciate all who work in radio, and I am grateful to the amateur radio operators who provide emergency communications that help make our country safer and more secure. Your good work strengthens our society and represents the American spirit.

Laura and I send our best wishes. May God bless you.

Source: http://www.arrl.org/news/stories/2007/01/17/102/PresBush-VoiceOverRadio-large.jpg

H-3: Red Cross Support for Antenna Systems

American Red Cross

National Headquarters
8111 Gatehouse Road
Falls Church, VA 22042

September 11, 2002

President Jim Haynie
The American Radio Relay League
225 Main Street
Newington, CT 06111-1494

Dear President Jim Haynie:

Each year, on average, the American Red Cross provides services in over 62,000 emergencies in various places around the United States. Whether flood, fires, earthquakes, hurricanes, or man made disasters, the American Red Cross is there to respond. As our corporate slogan states "Together, we can save a life". When the Red Cross asks for help from America's radio hams we get it. Every time we ask, radio hams volunteer the use of their stations, including antennas, and they volunteer their time. For this, and for the results they achieve for victims of tragedies, we are grateful. Your membership helps us at the disaster scene or from their home running emergency communications.

Even in an era of cell phones and satellite communications, amateur radio continues to provide crucial links in disaster stricken areas. When the emergency arises, it is too late to build or transport communications systems equivalent to those available in the existing stock of amateur radio stations.

We understand the in emergency communications the one of the key issues is to have trained emergency communicators who have equipment and antennas set up for fast response. For this reason, we supported the American Radio Relay League when it sought preemption of zoning and other local regulations that, either as written or as applied, act to inhibit effective communications. We applauded when the Federal Communications Commission recognized an obvious fact of physics – that effective communications is often a function of height.

For these reasons, the American Red Cross strongly supports amateur radio, and the construction of station antenna systems to provide effective local and long distance communications. We have done so through Memoranda of Understanding with the American Radio Relay League dating back before World War II, and still current today. We encourage municipalities and Home Owner Associations to employ their regulations so they will not impinge on the needs of amateur radio operators. In emergencies, the American Red Cross, and the people we serve in your area, need what radio amateurs provide – effective communications through existing equipment and antenna systems.

Sincerely,

Jayson T. Ferron
Disaster Telecommunications Partner
Disaster Services

Together, we can save a life

H-4: The Christian Science Monitor

from the September 15, 2005 edition - http://www.csmonitor.com/2005/0915/p12s02-stss.html

HELLO? Joe Garcia, station manager of the American Radio Relay League in Newington, Conn., is one of many hams helping to coordinate disaster relief until land lines and cellphone service is fully restored.

LAUREN TAGLIATELA/THE HERALD/AP

Ham radio operators tune in hurricane help

By Barbara W. Carlson | Contributor to The Christian Science Monitor

NEWINGTON, CONN. - Richard Webb, an amateur radio operator, was asleep on his air mattress at University Hospital in New Orleans during the aftermath of hurricane Katrina when he was awakened at 5 a.m. by a hospital administrator.

As Mr. Webb tells it, "He told me we had a lady who was in labor, who had swum five blocks in that dirty, nasty water to the hospital because she saw lights there - people with flashlights moving around." Medical personnel said the baby needed to be delivered by caesarean Exhibit. But the hospital had limited power, no running water, no way to sterilize instruments, no way to perform such surgery. "We figured we had two hours to get her medevacked out of there" before the lives of mother and child would be in danger. "So I got on the radio and was talking to a fellow who was with the Coast Guard auxiliary in Cleveland, Ohio. I was working with him to arrange a medevac."

Choppers did arrive in time, Webb says. The woman and another patient in need were evacuated successfully. Because the hospital had no landing pad, the two had to be lifted out in baskets lowered from the helicopters.

Webb, who lived in nearby Slidell, La., had been summoned to his hurricane post by the hospital's head of emergency management. He's one of about 750 amateur radio operators, or "hams," who have been in and out of the five hurricane states since day one: Louisiana, Mississippi, Alabama, and parts of northern Florida and Texas, where evacuees are taking shelter. At least a thousand other hams throughout the nation have been involved in some way, relaying messages or assigning hams to various locations. They're all volunteers, all unpaid, and they do what they do because they want to. They train for disaster work; their

FCC radio licenses mandate public service.

In typical disaster conditions, agencies like the Red Cross, Salvation Army, the Federal Emergency Management Administration (FEMA), and local government bodies call on a state ham leader for volunteers when usual channels of communication are down or jammed..Katrina was different: It was far more vast. For the first time, the nonprofit American Radio Relay League (ARRL) set up a website and database to facilitate assigning hams.

Pamela Taylor, who works as an events manager in Hampton Beach, N.H., got a call from FEMA and headed south on Sept. 9. She was deployed to a shelter in Ocean Springs, Miss., near Gulfport, before moving to New Orleans. The shelter was a church, well-supplied and maintained, with an abundance of volunteers. Her job was to radio for special needs, anything from a doctor to paper plates. Nights sometimes brought an emergency or two when a resident had to be removed, usually for alcohol or drug problems.

Hams worked with the National Weather Service before and during the hurricane. They still are receiving and transmitting messages in shelters and other locations, alerting emergency agencies that a community needs water, that an elderly woman needs an ambulance, or that sanitary conditions are in crisis.

An estimated 600,000 FCC-licensed amateur radio operators live in the United States; about 162,000 are members of the ARRL, which was founded in 1904 and is located here in Newington, Conn. Nearby Hartford is where Hiram Percy Maxim, the father of amateur radio, experimented at sending messages across the city and then relaying them across the country. Long before e-mail, there was amateur radio. It evolved over the last century so that today, ham operators communicate with one another around the world. Allen Pitts, for example, the ARRL's media-relations manager, says he has spoken to fellow hams in 213 foreign countries or "political entities."

That's the hobby part of hamdom. The serious and vital part is seen in the Amateur Radio Emergency Service (ARES). Trained ham operators are ready with their "go kits" of equipment, batteries, and energy bars. ARRL coordinates the work of the emergency operators. Hams were at ground zero in New York within hours, they were in Florida for the multiple hurricanes last year, and they handled communications in the Northeast blackout of 2003.Hams are volunteers. When they set sail for disasters, they pay their own way. Sometimes employers give them a paid leave or reimburse expenses. Hams' sacrifices are real, but the rewards are often intangible.

Mark Conklin of Tulsa got time off as a sales manager for an appliance company to relay messages. At first he handled communications between the state department of emergency management and the highway patrol. Next he was assigned to the 1,200 evacuees transplanted to an Oklahoma National Guard camp. At the camp, he talked to an elderly woman who was crying because she was happy - "communications" had been able to get a pair of glasses for her. "For the first time in a week," she said, "I can see."

H-5: MSNBC

Ham radio operators to the rescue after Katrina

Amateur radio networks help victims of the hurricane

By Gary Krakow, Columnist, MSNBC

updated 6:12 p.m. ET, Tues., Sept. 6, 2005

With telephones down and wireless service disrupted, at least one group of people did manage last week to use technology to come to the rescue of those in need.

Gary Krakow

Columnist

Often unsung, amateur radio operators regularly assist in emergency situations. Hurricane Katrina was no exception. For the past week, operators of amateur, or ham, radio have been instrumental in helping residents in the hardest hit areas, including saving stranded flood victims in Louisiana and Mississippi.

Public service has always been a large part of being an amateur radio operator. All operators, who use two-way radios on special frequencies set aside for amateur use, must be tested and licensed by the federal government, which then issues them a unique call sign. (Mine is W2GSK.)

Ham operators communicate using voice, computers, televisions and Morse code (the original digital communication mode.) Some hams bounce their signals off the upper regions of the atmosphere, so they can talk with hams on the other side of the world; others use satellites. Many use short-range, handheld radios that fit in their pockets.

When disaster strikes, ham networks spring into action. The Amateur Radio Emergency Service (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public service.

In this disaster a number of ham emergency stations and networks have been involved in providing information about this disaster – from WX4NHC, the amateur radio station at the National Hurricane Center to the Hurricane Watch Net, the Waterway Net, Skywarn and the Salvation Army Team Emergency Radio Network (SATERN).

On Monday, Aug. 29, a call for help involving a combination of cell telephone calls and amateur radio led to the rescue of 15 people stranded by floodwaters on the roof of a house in New Orleans. Unable to get through an overloaded 911 system, one of those stranded called a relative in Baton Rouge. That person called another relative, who called the local American Red Cross.

Using that Red Cross chapter's amateur radio station, Ben Joplin, WB5VST, was able to relay a request for help on the SATERN network via Russ Fillinger, W7LXR, in Oregon, and Rick Cain, W7KB, in Utah

back to Louisiana, where emergency personnel were alerted. They rescued the 15 people and got them to a shelter.

Such rescues were repeated over and over again. Another ham was part of the mix that same Monday when he heard over the same Salvation Army emergency network of a family of five trapped in an attic in Diamond Head, La. The family used a cell phone to call out. Bob Rathbone, AG4ZG, in Tampa, says he checked the address on a map and determined it was in an area struck by a storm surge.

He called the Coast Guard search-and-rescue station in Clearwater, explained the situation and relayed the information. At this point, the Coast Guard office in New Orleans was out of commission. An hour later he received a return call from the South Haven Sheriff's Department in Louisiana, which informed him a rescue operation was under way.

Another search-and-rescue operation involved two adults and a child stuck on a roof. The person was able to send a text message from a cell phone to a family member in Michigan. Once again, the Coast Guard handled the call.

Relief work is not just relegated to monitoring radios for distress calls. The organization representing amateur radio operators, The American Radio Relay League or ARRL, now is seeking emergency volunteers to help supplement communication for American Red Cross feeding and sheltering operations in Mississippi, Alabama and the Florida Panhandle — as many as 200 locations in all.

Hams who wish to volunteer their time and services should contact the Hurricane Katrina volunteer registration and message traffic database.

And, for the first time, the federal government will help hams help others. The Corporation for National and Community Service (CNCS) will provide a $100,000 grant supplement to ARRL to support its emergency communication operators in states affected by Hurricane Katrina. The grant will help to fund what is being termed "Ham Aid," a new program to support amateur radio volunteers deployed in the field in disaster-stricken areas.

One last note for ham operators in the stricken area: The FCC has announced that it's extending amateur license renewal deadlines until October 31, 2005.

URL: http://msnbc.msn.com/id/9228945/

H-6: Computerworld

COMPUTERWORLD An IDG company

You may retrieve this story by entering QuickLink# 56636

Ham radio volunteers help re-establish communications after Katrina

Some 700 operators are already at work, with more on the way

Todd R. Weiss

September 6, 2005 (Computerworld) Volunteer ham radio operators are coming to the aid of relief agencies and emergency officials to help with badly needed communications in areas of Louisiana, Alabama and Mississippi ravaged early last week by Hurricane Katrina.

With power still out in much of the region and telephone service restored in limited areas (see "Cell operators restore some network service in New Orleans") of New Orleans, the Mississippi cities of Biloxi and Gulfport, and other hard-hit areas, ham radio operators have been asked by the American Red Cross and other agencies to supplement communications at more than 200 storm shelters in Mississippi, Alabama and the Florida panhandle.

Some 700 ham radio volunteers from around the nation are already at work helping in the efforts, with more on the way, said Allen Pitts, a spokesman for the 157,000-member American Radio Relay League Inc. (ARRL), a nationwide amateur radio organization based in Newington, Conn. "This is going to be a marathon, not a sprint," Pitts said. "We have people there; we have more people coming."

On Sunday, the American Red Cross asked for about 500 more radio operators to assist at shelters and food kitchens set up to aid evacuees, he said. The volunteers are driving to needed areas and meeting with officials at staging areas in Montgomery, Ala., and in Oklahoma and Texas, where they are being dispatched to disaster shelters, Pitts said. The ham radio operators travel to the disaster areas using their own vehicles and pay their own way, he said.

Many of the volunteers sprung into action even before the storm struck the Gulf Coast, broadcasting as part of a "Hurricane Watch-Net" three days before deadly Hurricane Katrina slammed into the coast on Aug. 29, Pitts said.

Ham radio equipment can be used in disaster areas even when power is out and phone lines, relays and other communications systems are down because the radios run on their own battery or generator power, Pitts said. "Each one is a complete transmission and reception center unto itself," he said. "It works when other stuff is broken. You give an amateur radio operator a battery, a radio and a piece of a coat hanger and they'll find a way to make it work."

The volunteers carry their own fuel for their generators and bring all the equipment they need. Used ham radio systems can be bought for as little as $100, while newer, state-of-the-art hardware can run as high as $5,000, he said.

Ham radio operators can also use their equipment with laptop-based computer software to help re-establish e-mail access over the Internet to further assist with communications, Pitts said.

Other disaster assistance agencies, including the Salvation Army, the Federal Emergency Management Agency, the U.S. Coast Guard and the Department of Homeland Security, have also sought help from ham radio operators, Pitts said.

Late last week, the Washington-based Corporation for National and Community Service, a federal agency for volunteer service, announced a supplemental $100,000 grant to help ARRL volunteers with their expenses as they travel to and stay in the areas where hurricane victims are receiving assistance.

"With the breakdown of regular communication channels caused by the storm, the services provided by volunteer ham radio operators [are] vitally important, both to organizations and to individuals seeking to connect with loved ones," agency CEO David Eisner said in a statement. "We're pleased to be able to provide this extra assistance at this critical time."

The money will be used as part of the ARRL's "Ham Aid" program, established with a grant from the Corporation in 2002 to increase emergency certification training for ham radio operators.

Mary Hobart, chief development officer at the ARRL, said in a statement that this marks the first time in the ARRL's 90-year history that it will be able to reimburse some of the expenses incurred by members responding to disasters.

Volunteer radio operators will be at various sites for the duration of this disaster response, which could run into several weeks or months, according to the group.

Several ARRL members have already played key roles in the rescue efforts by connecting storm victims with emergency responders. In one such incident, a radio operator helped organize the rescue of 15 people stranded by floodwaters on the roof of a house in New Orleans, according to an ARRL statement.

URL: http://www.computerworld.com/printthis/2005/0,4814,104418,00.html

H-7: The Wall Street Journal

THE WALL STREET JOURNAL.

In Katrina's Wake

Power Outages Hamstring Most Emergency Communications

By CHRISTOPHER RHOADS and AMY SCHATZ
Staff Reporters of THE WALL STREET JOURNAL
September 1, 2005; Page A7

Millions of dollars have been spent to upgrade emergency phone and radio communications systems since the Sept. 11 attacks, but Hurricane Katrina exposed a simple but nagging vulnerability: power.

In Katrina's aftermath, communication between different emergency-response agencies has been nearly impossible in places. Cell towers, emergency communications equipment and 911 centers in many locations are inoperable because they are underwater.

Federal agencies have churned out several reports detailing standards for first-responder phone and radio equipment and formed countless working groups. But this week officials in Washington have had trouble gathering information about the situation in hurricane-ravaged areas because communications are so sporadic.

States received about $830 million for interoperable telecom equipment in fiscal year 2004 alone, according to the Department of Homeland Security. But many communities have been slow to upgrade equipment so that it operates on the same radio frequency. The Federal Communications Commission has set aside some frequencies for use by emergency responders, but much of it isn't available yet because it's still being used by television broadcasters. In many smaller communities, emergency responders still use equipment that operates on different frequencies, making it difficult to talk to one another.

In New Orleans and other Gulf Coast areas, the biggest problem, however, has been far simpler: There's just not enough power.

The problem worsened yesterday, as radio and phone equipment batteries began to die. "Field personnel are beginning to lose power on the radios because they don't have any way to recharge them. It's not looking good," says Courtney McCarron, spokeswoman for the Association of Public-Safety Communications Officials.

Emergency generators powering some cell towers and underground phone switches, which route traditional phone calls, may also soon begin to go dark. "The issue is a power issue at its core," one FCC official said.

For customers, phone service will take even longer to restore because phone companies are mostly concentrating on getting emergency services operational.

Sprint Nextel Corp., the wireless carrier that has a large business with governments and emergency personnel, said

that a long-distance switch in the area reported flooding and had to be turned off, affecting long-distance calling. Wireless towers, which require electrical power, are running on battery backups and in many cases are about to expire, if they haven't already.

In Plaquemines Parish, near New Orleans, the 911 center was beneath six feet of water and had to be abandoned, according to a spokesman from Motorola Inc., the company that supplies gear to the parish and many other agencies in the affected area. After the walls to the center collapsed, the remaining workers floated out using life jackets. “Due to the catastrophic effects of Hurricane Katrina, many of our customers' emergency equipment remains inaccessible or underwater,” said Jeffrey Madsen, a Motorola spokesman.

Motorola, based in Schaumburg, Ill., said it has shipped more than 2,300 pieces of communications equipment -- including portable radios, fully charged batteries and chargers -- to the affected areas. To cope with the lack of working transmitters in the area, Motorola has also deployed three emergency communication trailers to the region.

Sprint Nextel is sending five satellite trucks to the region to help restore some communication for emergency services, the company said. An emergency team is also being sent with 3,000 walkie-talkie handsets. The response team, which includes hundreds of engineers and technicians, will move into the area once it is declared safe, the company said.

In the meantime, the communication gap is being filled by a low-tech solution: ham-radio operators. A number of those stranded, or friends and relatives of those missing, are contacting ham-radio enthusiasts, who in turn are telling local emergency personnel about the location of those in need.

“Obviously, the communications system is not working because people are contacting us, even to dispatch police calls,” said Allen Pitts, spokesman for the American Radio Relay League, a ham-radio association located in Newington, Conn. Earlier this week, after a New Orleans police officer was shot while attempting to prevent looting, a witness was unable to reach 911 emergency dispatchers but contacted a ham-radio operator, who in turn reached local police to respond to the fallen officer, Mr. Pitts said.

Write to Christopher Rhoads at christopher.rhoads@wsj.com and Amy Schatz at Amy.Schatz@wsj.com

Source: "Power Outages Hamstring Most Emergency Communications," THE WALL STREET JOURNAL, http://online.wsj.com/article/0,,SB112553304837128550,00.html?mod=rss_whats_news_technology (subscription only)

H-8: PC Magazine

November 8, 2005 Tuesday

OPINIONS

876 words

Inside Track v24n19;

John C. Dvorak

The most overlooked participants in Katrina relief were the ham radio folks. Bush should give them all medals.

Two weeks after Hurricane Katrina, it was reported that over 100 Internet networks were still down in Louisiana, as well as another dozen elsewhere that had been in the path of the hurricane. So much for the notion that the Web is impossible to kill. Hard to have an Internet with no power! WiMAX and other solutions are useless, too, though I suppose a generator would be useful for WiMAX. Whatever the case, the most overlooked participants in the Katrina relief effort were the ham radio folks, who were doing whatever they could as ad hoc emergency dispatchers, creating their own network within the system. These dedicated persons pride themselves on their ability to do worldwide communications under adverse conditions, and the ARRL (Amateur Radio Relay League) and its members, as well as others, were a big part of the aid effort. Of course, since amateur radio is anything but trendy in today's Xbox, gene-splicing world, there was zero coverage of its contribution in the mainstream press, and these people are not the world's greatest self-promoters. At least some of us are paying attention. Good work, guys! Bush should be giving medals to you all.

Source:
http://www6.lexisnexis.com/publisher/EndUser?Action=UserDisplayFullDocument&orgId=574&topicId=100017534&docId=l:317616881&start=1 as retrieved on Oct 13, 2005 13:09:10 GMT.

H-9: Preparing for the Future

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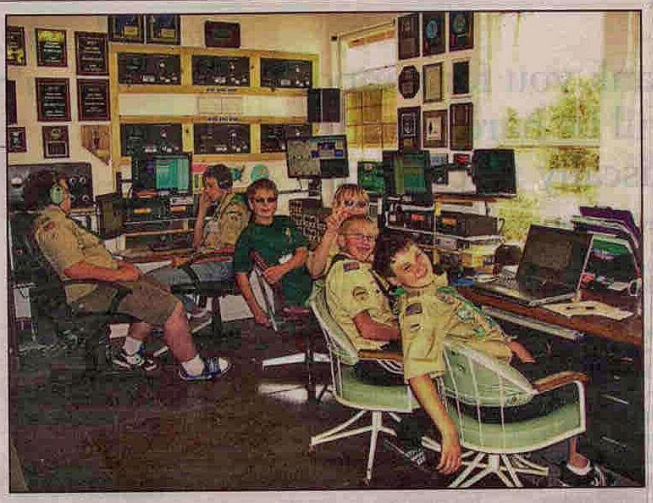
Boy Scouts on the Air



The Scouts take over the Station

Each year, thousands of Boy Scouts worldwide take part in the Jamboree on the Air (JOTA) using ham radio and the internet. It is an event that gives Scouts the opportunity to converse with other scouts across the Country and across the globe to exchange their scouting experiences. For decades, ham radio and Scouting have been closely aligned and achieving the Radio Merit Badge and qualifying for a ham radio license are often synonymous.

In Northern Nevada, Scouts from Troops 15 and 245 participated in JOTA at the Comstock Memorial Station in Virginia City on Saturday, Oct. 16. The day began with a tutorial on the fundamentals of radio communication by station owner Tom Taormina. The interactive lessons concluded with antenna theory, radio wave propagation and physical operation of a ham radio station.

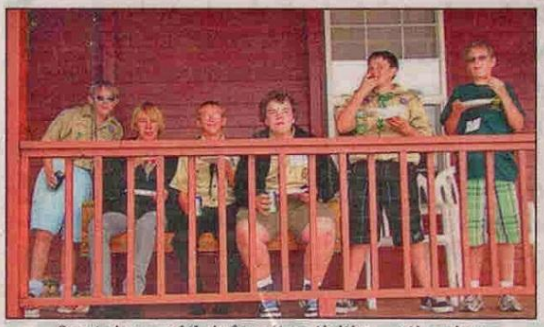
Text and photos provided by Tom Taormina

Once each Scout became familiar with operating procedure, the ham control operators made contact with other JOTA stations and the Scouts then took turns conversing with other Scouts across the USA and in Great Britain, Canada, South Africa and Namibia. The Scouts in Namibia were operating at a remote camp site, eating dinner around a campfire.

Besides traditional ham radio contacts, the Internet was also used. One computer was set up on an on-site ham community called EchoLink, which connects ham radio on-the-air stations in a global community in cyberspace. Also, the JOTA had an Internet Chat Room in operation. Cyberspace contacts were made in Alaska, Oman and around the US.

Gary Grant, K7VY demonstrates the EchoLink system while another Scout uses the JOTA web site

Jack Parker, W6NF, instructs the Scouts on operating procedure



Scouts in one of their favorite activities – eating pizza.

Of course, no Scout outing would be complete without them working on their unofficial merit badge in Pizza Consuming.

At the end of the visit, the Scouts had made enough on-the-air contacts to each qualify for the operating requirements of the Radio Merit Badge. Several were obviously bitten by the ham radio bug and are planning to work toward becoming licensed ham radio operators.

The Comstock Memorial Station is a club station of hams that enjoy building antennas and operating high-frequency voice and Morse code. Two of the main purposes of the Club are to recruit and train new hams and as backup communications for Storey County's Emergency Operations program.

By the end of the day, the Scouts were obviously very comfortable with ham radio and intrigued with their exposure to the world of radio.

The Scouts
Brett Lertzler, Mike Wilson, Chris Wilson, Steven Rose, Jessie McDermott, Nick Councilmen and Dakota Councilmen

The Ham Volunteers
Gary Grant, K7VY, Reno, Jack Parker, W6NF, Silver Springs, John Scott, KI6NIC, South Lake Tahoe

The Comstock Memorial Station Hosts
Tom Taormina, K5RC, Midge Taormina, K7AFO, Grady Ferguson, W5FU