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Admitted only in DC and ME

November 15, 2017

Washoe County District Attorney  
Attn: Nathan Edwards, Esq.  
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[nedwards@da.washoecounty.us](mailto:nedwards@da.washoecounty.us)  
775-337-5700

***In re* Appeal Case Number WBLD17-101171 (Richard Stone),  
4675 Giles Way, Washoe Valley, NV 89704**

Dear Atty. Edwards:

Thank you for the opportunity to chat last week. It was very useful, as I hope you will see below.

### **Storey County Outcome**

You expressed an interest in learning what happened when my Storey County client felt forced to go into the U.S. District Court in Reno. I attach the final court order to tell you how that went. All parties accepted mediation by Valerie P. Cooke, U.S.M.J., who kept us in the courthouse until well after the normal closing hour, and all parties signed the Court Order by Larry R. Hicks, U.S.D.J. When the litigation was over, the Storey County Commission granted the necessary permit to my client, for eight towers, by unanimous vote. The Court Order may be found as Attachment 1.

Here's what it looks like today:



Quite majestic, I'd say. Wouldn't you agree?

This radio amateur's original proposal for nine towers on his 10 acres in Virginia City Highlands was vigorously contested by neighbors. The applicants had rocks on their property spray painted pink, and cables cut. The husband was the subject of an aggressive and very public campaign involving personal attacks. It was totally unpleasant for my clients (they are both licensed radio hams). [Please note that in our case here in Washoe Valley, we know of no opposition, and, as I mentioned, all neighbors have signed letters of consent.]

Despite the neighbors boorish behaviors, all of my dealings with District Attorney Bill Maddox (for Storey County), and Special Counsel Brent Kolvet, of Thorndal, Armstrong, Delk, Balkenbush & Eisinger (retained by Nevada Public Agency Insurance Pool to represent Storey County in the lawsuit) were utterly professional. I came away with a high respect for the civility found within the Nevada Bar. If only it were that way in some other jurisdictions (cough, cough – New York) where I appear in these antenna matters. But I digress.

### **Stone's Position on the Word Retractable**

I have a tried to understand the position of Staff on the reading of the ordinance. If I heard you correctly, Staff's position is that the three previous permits misinterpreted § 110.324.20, and Staff is not required to continue using that mistaken interpretation.

As expressed in the Staff Report to the Board of Adjustment, their interpretation was that, without an Administrative Permit, 45 feet is the maximum, **“regardless of whether the antenna is retractable or not.”** Staff Report at 3. (Emphasis added.) I shall not repeat the argument from my previous letter to you that Nevada law does not permit Staff to ignore the word retractable.

But in our conversation today, I think I heard that the Staff position is now that “retractable height differs from retracted height.” So I tried to re-read the ordinance, but I remain confused. Please forgive me for parsing the wording.

The ordinance reads:

(a) Height. The retractable height of a private communication antenna is limited to the height limitation of a main structure allowed in the regulatory zone in which the antenna is erected with a bonus of up to ten (10) feet.

Let’s simplify that wording to make it shorter and easier to comprehend:

(a) Height. The retractable height of a private communication antenna is limited to [45 feet].

Mr. Stone’s position, previously submitted, is that this means that if the antenna can be retracted, or is retractable, to 45 feet, it is permitted as of right, subject to a Chapter 100 building permit.<sup>1</sup> The position of Staff, as I heard it from you, is that the word “retractable” modifies the word antenna (a noun), not the word height (a mass noun). If it is a “retractable antenna,” whether it exceeds 45 feet or not, it needs an administrative permit. But that’s an invention.

Honestly, if asked, I’m going to describe this as “double-talk” (language that appears to be earnest and meaningful but in fact is a mixture of sense and nonsense).

The problem I’m having with this new interpretation is that it begs the question: **What about non-retractable antennas?** If Staff’s position is that a retractable antenna of any height needs an administrative permit, then the alternative would be that **a non-retractable antenna has no height limit**, because the height limit of § 110.324.20 applies only to “retractable” antennas. And that

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<sup>1</sup> The definition of retractable, from <https://en.oxforddictionaries.com/> is: Adjective. Able to be drawn back or back in.

*‘a stadium with a retractable roof’*  
*‘the tigers have retractable claws’*

limit on height, applying only to “retractable” antennas, is **the only limit on height found in the specific section entitled “Private Communication Antennas: General.”**

Does that make sense?

Suppose that Staff argues that § 110.324.30 applies to any height private communication antenna support structure that “may exceed the height restrictions within this article.”

What happens if there is no height restriction for non-retractable antennas (because the only height limit mentioned in the article applies to retractable antennas)? Then **§ 110.324.30 does not apply, because there are no “height restrictions” on non-retractable antennas.**

Wow.

I am inclined to conclude that I must have misheard or misunderstood you, and ask that you respond by telling me how it is that Staff can ignore the word “retractable.” I guess I need to see it in writing before I’ll be able to understand it better. My own suggestion? Staff should retract the new interpretation.

### **The Existing Tower**

I was concerned when you said to me that Mr. Stone has already erected his tower. I checked into it, because he is such a scrupulous fellow.

It seems that when his permit to install the foundation was granted, he signed an acknowledgement dated May 18, 2017, that this was only a preliminary permit, acknowledging that “he will install any subsequent alterations required by the county at this own cost.” Later in the summer, fearing that the appeals process might prevent further construction as winter was foreseeable, he asked **Stephanie Racy-McIntyre**, Permit Services Coordinator, if he might put his tower on the already permitted foundation, **if he agreed that it would not be raised above 45 feet in height.** As no appeal or administrative permit is required for a tower of this type at 45 feet, she agreed. A note was thereupon made on the papers on file in the office, a copy of which I am providing to you here as Attachment 2. I want to emphasize that Mr. Stone has taken no short-cuts, and the tower has never been higher than 45 feet.

### **The Aesthetics Should Not Be a Concern**

Though we did not discuss the aesthetics of the situation, in my experience someone is always thinking about the subject. The subject arose at the BoA hearing. You may be interested to learn that there are three amateur antenna towers visible

from Eastlake Blvd. They are 75, 60, and a little over 50 feet tall. They have all been installed legally in the past and they are all fixed towers, always at full height. They are all located less than 850 feet (one less than 500 feet) from Eastlake Blvd. It would be a challenge to spot all three of them while driving down that road. In contrast, the applicant's antenna structure is a *half mile* from Eastlake Blvd. at its closest point, and 30 to 50 feet in elevation below Eastlake Blvd. If Stone's antenna is visible at all from Eastlake Blvd., it will be from a minimum distance of half a mile, and even less noticeable than the existing towers.

If you, staff, or anyone else from the County administration (or a Board) would like to see what the tower will look like at full height, we can arrange it. Such a demonstration would be even better than balloon tests routinely used to test visibility for cell towers.

### **Why is Mr. Stone so concerned?**

**Mr. Stone is concerned about the three C's: Cost, Complexity, and Conditions.**

**Cost.** You have eased my mind considerably by telling me that Staff is prepared to waive most of the usual Administrative Permit fees. Can you perhaps provide a final number?

**Complexity.** As I wrote in my last letter, an Article 808 Administrative Permit process is complex. As I read Article 808, it sets forth material additional burdens to an Applicant's process:

- It will require a determination that the project is not of regional significance.
- It will require a showing that the proposed use is consistent with the Master Plan.
- It will require a showing that there are adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities.
- It will require a showing that the project is properly related to existing and proposed roadways.
- It will require that the Applicant secure a determination that there are adequate public facilities in accordance with Division Seven.
- It will require a showing that the site is physically suitable for a ham radio antenna structure.
- It will require a showing that the amateur radio antenna structure will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area.

- And it will require a public hearing, requiring notice to at least 30 property owners, and any relevant advisory boards,

As I mentioned today, these burdens, when put together, fail the requirement of NRS 278.02085(2)(b) and 47 CFR § 97.15(b) that an ordinance must constitute “the minimum level of regulation practicable.”

The Nevada statute further continues at ¶ 4, “Any ordinance, regulation or plan adopted by or other action taken by a governing body in violation of the provisions of this section is void.” If the County fails to reduce the requirements in this case to “the minimum level of regulation practicable,” the height limit is void.

Perhaps if you, or Staff, could tell us what submissions will be required, and what submissions will not be required, Mr. Stone’s anxiety can be reduced.

**Conditions.** As I mentioned today, Mr. Stone is concerned that conditions attached by Staff to an administrative permit might be onerous. If you or staff could provide some sense of what conditions may be required, it could help Mr. Stone decide whether he wishes to pursue his appeal to the County Commissioners, and beyond if necessary.

**Summary.** As I mentioned today, my client has obtained letters of consent from all neighbors for the reduced process, with no public hearing, of an administrative permit. I can better advise my client if his best interest is in proceeding with an appeal to the County Commissioners, proceeding with an administrative permit process, or both, if you would be so kind as to:

- Repeat, and perhaps clarify, Staff’s reading of the word retractable, explaining why their interpretation does not ignore it. I remain stumped on this one. It is essential to me that I understand the County’s position.
- Detail the expenses of an administrative permit process (he has already obtained the necessary letters of consent).
- Detail what will be required of this applicant, for this project, as submissions for an administrative permit. And,
- Detail what conditions Staff would attach to an administrative permit. (On this topic, I note that you have invited us to contact Trevor Lloyd and discuss the matter with him. Mr. Stone is not inclined to apply for an administrative permit if the conditions will be onerous, or necessitate litigation.)

Sincerely,



Fred Hopengarten, Esq.

C:

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Washoe Valley, NV 89704

Attachment 1: *Taormina v. Storey County*, STIPULATION AND ORDER FOR  
DISMISSAL WITH PREJUDICE (June 29, 2012)

Attachment 2: Excerpt from Building Permit file showing height “limited to 45 feet  
until additional height is approved.”

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6 UNITED STATES DISTRICT COURT  
7 DISTRICT OF NEVADA

8 THOMAS S. TAORMINA and MIDGE A.  
9 TAORMINA,

CASE NO. 3:11-CV-00645-LRH-VPC

10 Plaintiffs,

11 vs.

12 STOREY COUNTY, NEVADA and DOES  
1-10,

13 Defendants.  
14

15 **STIPULATION AND ORDER FOR DISMISSAL**  
16 **WITH PREJUDICE**

17 COME NOW, Plaintiffs, THOMAS S. TAORMINA and MIDGE A. TAORMINA, and  
18 Defendant, STOREY COUNTY, by and through their respective counsel, and pursuant to Rule  
19 41 of the Federal Rules of Civil Procedure, hereby stipulate that the above-entitled matter may be  
20 dismissed with prejudice in its entirety and each party to bear their own costs and attorney's fees.

21 IT IS FURTHER STIPULATED that this Court maintain jurisdiction of this matter to  
22 enforce the provisions of the settlement reached by the parties which is inclusive of the  
23 conditions of the special use permit approved by the Storey County Board of County  
24 Commissioners on May 21, 2012 (Special Use Permit No. 2011-010). The conditions approved  
25 by the Storey County Board of County Commissioners and agreed to by THOMAS S.  
26 TAORMINA and MIDGE A. TAORMINA are attached hereto as Exhibit 1.  
27

28 \* \* \*

1 DATED: June 27<sup>th</sup>, 2012.

DATED: June 28<sup>th</sup>, 2012.

2 MCMAHON LAW OFFICES, LTD.

THORNDAL, ARMSTRONG DELK,  
BALKENBUSH & EISINGER

3  
4 By 

By 

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STOREY COUNTY, NEVADA

10 Attorneys for Plaintiffs  
THOMAS S. TAORMINA and MIDGE A.  
11 TAORMINA

12  
13 **ORDER**

14 IT IS SO ORDERED this 29th day of June, 2012.

15  
16 

17  
18 \_\_\_\_\_  
19 LARRY R. HICKS  
UNITED STATES DISTRICT JUDGE

# EXHIBIT 1

**EXHIBIT 1**

## **CONDITIONS OF SUP APPROVAL**

All of the following conditions of Special Use Permit (SUP) No. 2011-010 shall be met to the satisfaction of Storey County Community Development Department staff, unless otherwise noted:

### **1. Special Use.**

SUP No. 2011-010 shall be for the purpose of erecting and maintaining amateur radio antenna support structures pursuant to the settlement agreement between Thomas and Midge Taormina (the "Permit Holders") and Storey County and the SUP approval by the Board of Storey County Commissioners for the property located at 370 Panamint Road (APN 003 431-18), Highland Ranches, Storey County, Nevada (the "Property"). Issuance of this SUP does not convey property rights of any sort or any exclusive privilege, nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local laws or regulations.

### **2. Required Permits and Licenses.**

If not already done, the Permit Holders shall apply for all required permits and licenses, including building and fire permits as may be necessary, for the project within twelve (12) months from the date of final approval of SUP No. 2011-010. All applications for permits or licenses will be processed expeditiously. In the event that the amateur radio licenses for Thomas and Midge Taormina expire for a period of 30 days or more, the associated antenna support structures shall be deemed abandoned and taken down in accordance with Condition No. 7 (Closure and Reclamation) of this SUP.

### **3. No transfer of Rights.**

This SUP is personal to the Permit Holders and shall belong exclusively to Thomas and/or Midge Taormina and the real property applicable to this SUP so long as Thomas and/or Midge Taormina reside for a material part of each year on the property. This SUP shall not be transferrable.

### **4. Indemnification/Insurance.**

The Permit Holders agree to hold Storey County, its officers, and representatives harmless from the costs and responsibilities associated with any damage or liability to persons or property and any/all other claims now existing or which may occur as a result of construction and maintenance under this SUP. The Permit Holders shall maintain satisfactory liability insurance for all aspects of this operation under SUP No. 2011-010 for a minimum amount of \$1,000,000.00 (one million dollars) and provide proof thereof to Storey County prior to the issuance of a building permit pursuant to the SUP.

## **5. Emergency Telephone Contact.**

Any persons located on the premises in connection with maintenance, repairs, or other work to the amateur radio system and associated antenna support structures shall be made aware to dial Storey County Emergency Services Direct-Connect 775.847.0950 (in lieu of 9-11) when dialing emergency service from cellular telephone. Emergency 9-11 still applies to landline telephones.

## **6. Emergency Management Plan.**

A comprehensive emergency management plan shall be developed by the Permit Holders and submitted to the Storey County Emergency Management Department for review and approval prior to securing rights to the SUP. The plan shall include, but not be limited to, the following in case of failure of one or more amateur radio antenna support structures and related appurtenances: (1) Permit Holders emergency contact phone number(s); (2) emergency contact procedure, including for Dispatch 9-1-1, Storey County Emergency Direct-Connect 775.847.0950, and Fire and Emergency Management Departments; (3) documenting and reporting; (4) post structure failure management, cleanup, reclamation, and material disposal; (5) electrical system shut-down procedure; (6) disclosure and management of hazardous materials (e.g., asbestos) or other conditions (e.g., radiation), if applicable; and (7) post structure failure damage reporting and treatment of affected neighboring properties.

## **7. Abandonment/Closure/Reclamation.**

Any antenna support structure out of operation for longer than (12) consecutive months shall be deemed abandoned. All antenna support structures and antennas shall be taken down at the Permit Holders' expense within 180 days of abandonment or as otherwise determined by a plan which is mutually acceptable to Storey County and the Permit Holders and submitted to be filed with Storey County Community Development. Under no circumstances shall Storey County, its officers, or representatives bear any cost or responsibility for the deconstruction, disassembly, or removal of any antenna support structure or reclamation.

## **8. Finding of Necessity to Local Jurisdiction.**

In accordance with section 17.62.010 of the Storey County Code and applicable FCC regulations Storey County finds that the Amateur Radio facility is used partly for the convenience and necessity of the local jurisdiction and community. Accordingly, the Permit Holders shall collaborate with Storey County to develop a mutually acceptable plan by which county-owned emergency radio communications repeater antenna(s) may be installed and operated on one or more antenna support structures applicable to this SUP (as compatible with all amateur radio equipment thereon or proposed to be placed

thereon) and by which necessary ground support equipment may be placed and operated within the property of Tom and Midge Taormina. This condition of approval recognizes that Storey County shall be responsible for all costs for acquiring, installing, maintaining, operating (i.e., utility costs), and repairing the county-owned antennas, ground support equipment, and other appurtenances, including any associated financial burden by the Permit Holders, but Storey County shall not be assessed any fee or other charge for said use of the tower and facility. Storey County will insure that any County-owned equipment placed upon exterior portions of the facility shall comply with the visual design requirements under this SUP.

**9. Plans Submittal.**

If not done already, the Applicants shall provide Storey County Community Development Department site plans, drawn to scale, which shall include dimensions of existing and proposed antenna support structures, including guy wires and anchor points, as applicable, setback dimensions, and driveway dimensions. It is hereby noted that all necessary plans appear to have been submitted to Storey County; if not, the Permit Holders and Storey County hereby agree to work together in good faith to get all necessary plans submitted as required by the Storey County Code and this SUP.

**10. Setbacks.**

In accordance with Section 17.40.050 of the Storey County Code, minimum setbacks for each tower shall be as follows: (a) front yard, 30 feet; (b) rear yard, 40 feet; and (c) side yards, 15 feet. The minimum setback requirement shall apply to antenna support structures, antennas, foundation pads, and buildings. Reduced setbacks for guy wires, anchor points, and other appurtenances of the tower system shall be subject to the approval of the Storey County Building Department. Existing approved guy wire anchor(s) and associated guy wire foundation(s) shall be allowed to remain at their existing location(s) so long as they are located entirely within the Permit Holders property.

**11. Restrictions on Mounted Devices; Anti-climbing Required.**

The amateur radio antenna support structures shall be used exclusively for yagi array and wire amateur radio antennas. Except for antennas or other devices used for the exclusive use of the residence on the property, the antenna support structures shall not support common-carrier cellular telephone or any other commercial purpose antenna or device. The antenna support structures shall not be used to support other items not related to amateur radio operations. Anti-climbing devices shall be installed at each antenna support structure to protect the public.

## **12. Noise.**

Power generator(s) shall comply with Storey County Code, Chapter 8.04 and Storey County Code, § 17.40.070. Nonetheless, any generator(s) on the property shall only operate during power outages and/or during routine recharge and maintenance intervals. Maintenance/recharge operation shall be limited to three thirty-minute intervals per week and shall take place on weekdays (Monday thru Friday) between the hours of 11:00 a.m. and 3:00 p.m. Other maintenance and repair of the facility, except during emergencies, shall be limited to 9:00 a.m. and 5:00 p.m. during said weekdays.

## **13. Lighting.**

Any outdoor lighting shall be installed and operated in accordance with Chapter 8.02 of the Storey County Code ("Dark Skies"). No support structure or antennas applied thereto shall be constructed or altered to a height that would necessitate Federal Aviation Administration (FAA) beacon lighting. There shall be no direct or indirect illumination of or on any tower or antenna system. The FAA shall be the responsible agency for requiring, or not requiring, beacon lighting or other signaling devices to be applied to the structures.

## **14. Visual Impact.**

All exterior finishes for each antenna support structure, including additional antenna support structures as applicable to the approved SUP, shall be non-reflective, dull in appearance, and gray in color (with a hue similar to that of the oxidized galvanized steel antenna support structures existing on-site) in order to facilitate blending with the backdrop terrestrial and sky environment. The existing and additional galvanized steel lattice antenna support structures may remain uncoated and exposed to the natural environment (as determined safe by the engineered design) in order to retain their naturally occurring dull gray exterior.

## **15. Antenna Support Structures — Limitations and Height.**

The following indicates the number and type of amateur radio antenna support structures (towers) that are permitted under this SUP. At no time during the duration of this SUP shall additional amateur radio antenna support structures be permitted on the property, including antenna support structures at, below, or above 45' in height. The Permit Holders shall be permitted to repair, remove, add to, modify, and maintain antennas upon each support structure in accordance with the provisions of this SUP without modifying or amending this SUP or applying for a new SUP. Building Permit requirements shall still apply in accordance with the Storey County Code. Antennas as well as fasteners and other holding devices placed upon the support structures shall not be designed or placed such as to violate the specific provisions or the letter and spirit of the regulations under this SUP.

- a. **Towers 1 and 2 (45' lattice):** These structures exist as of the date of this SUP, are permitted to remain at or below 45', and shall otherwise remain unaltered from their current state, including height (unless reduced), width, shape, mass, and surface color/treatment.
- b. **Tower 3 (45' lattice):** This structure exists as an 85' antenna support structure as of the date of this SUP. It shall be reduced to a total height at or below 45', shall remain a lattice structure, and shall remain at its current width, shape, mass, and surface color/treatment.
- c. **Towers 4 (45' lattice):** This structure exists as a 110' antenna support structure as of the date of this SUP. It shall be reduced to a total height at or below 45', shall remain a lattice structure, and shall remain at its current width, shape, mass, and surface color/treatment.
- d. **Tower 5 (120' monopole):** This structure shall be permitted as proposed in SUP Application No. 2011-010, Building Permit Application No. 8354, and the PE stamped engineered plans submitted to the Community Development Department, and shall remain at or below 120' in height.
- e. **Towers 6 and 7 (140' lattice):** These structures exist as of the date of this SUP, are permitted to remain at or below 140' in height, and shall otherwise remain unaltered from their current state, including height (unless reduced), width, shape, mass, and surface color/treatment.
- f. **Tower 8 (175' monopole):** This structure shall remain similar in width, shape, and mass as proposed in SUP Application No. 2011-010 and Building Permit Application No. 8354; however, it shall be limited to a total height at or below 175'. Submitted engineered plans for the previously proposed 195' support structure shall be amended as necessary for reduced height and submitted to the Community Development Department for approval.

#### **16. Electrical Distribution and Controls.**

The location, routing, and alignment of exterior electrical and communication controls, associated wiring, and power lines shall be approved by Storey County Building Department, when applicable.

#### **17. Compliance.**

The Permit Holders shall be responsible for maintaining the premises and managing operations in accordance with all conditions and stipulations set forth by SUP 2011-010 and all other federal, Nevada statutes, and Storey County codes and regulations. Failure to comply with the requirements herein shall elicit a written warning to the Permit Holders

by Storey County on the first and second offense. A third offense shall warrant Storey County to revoke the SUP. Storey County shall reserve the right to conduct periodic reviews of the Permit Holders compliance with all conditions and stipulations of the SUP.

**18. SUP Conditions Recording.**

This SUP approval, inclusive of all conditions of approval, shall be recorded with the Office of the Storey County Recorder to accompany the deed for the real property owned by Thomas and Midge Taormina and applicable to this SUP.



**Tower Loading - Shear & Moments**  
Wind Loads  
Tower Model: HDX-572

<b>Design per TIA-222-G</b>	130	mph	<b>Antenna &amp; Mast / Mount Data:</b>	
Ultimate Wind Speed	100	mph	Antenna Area (ft <sup>2</sup> ):	0.5
Exposure:	C		Force Coeff. C <sub>d</sub> :	1.2
Top Category:	72		EPA (ft <sup>2</sup> ):	0.6
Tower Height (ft):			Ant. + Mt. Wt. (lbs):	50
Structure Classif.:			EPA (ft <sup>2</sup> ):	0.400
Load Factor - Wind:	1.6		<b>Coax Cable Data:</b>	
Load Factor - Dead:	1.2		Cable dia. (in):	1.4
Ant. Height Above Top of Tower (ft):	1		No. of cables:	2
			Cable Proj. Area	0.220
			Weight / Cable (lb/ft):	0.30
			Total Weight (lb):	43

Extended height limited to 45 feet until additional height is approved

Tower Section	Projected Area	Analysis Height (ft)	z	Kz	q-z (lb/ft <sup>2</sup> )	W (lb) or P (lb)	Shear (lbs)	Moment (ft-lbs)	P-Delta Moment (ft-lbs)	Total Moment	Deflection (in)	Sway (deg)	Controlling Loading & Condition			Load Condition
													Shear (lbs)	Moment (ft-lbs)	Lift Cable Force (lbs)	
Antenna	0.5	73	73	1.184	22.56	18	18	0	0	0	21.4	2.2	18	0	No Ice	
Mast	0.400	72	72.5	1.183	22.53	12	31	31	0	31	21.4	2.2	31	31	No Ice	
Top of 3	0.000	72	72	1.181	22.50	0	31	31	0	31	21.4	2.2	31	31	No Ice	
3	0.000	72	72	1.181	22.50	0	31	31	0	31	21.4	2.2	31	31	No Ice	
Top of 4	0.000	72	72	1.181	22.50	0	31	31	0	31	21.4	2.2	31	31	No Ice	
3&4	0.000	72	72	1.181	22.50	0	31	31	0	31	21.4	2.2	31	31	No Ice	
4	0.000	72	72	1.181	22.50	0	31	31	0	31	21.4	2.2	31	31	No Ice	
Top of 5	0.000	72	72	1.181	22.50	0	31	31	0	31	21.4	2.2	31	31	No Ice	
4&5	0.000	72	72	1.181	22.50	0	31	31	0	31	21.4	2.2	31	31	No Ice	
5	0.682	55	53.5	1.150	21.91	20	366	3401	93	3485	13.7	2.1	366	3495	No Ice	
Top of 6	0.000	51	53	1.116	21.26	0	366	3401	93	3485	13.7	2.1	366	3495	No Ice	
5&6	1.510	51	53	1.107	21.09	43	539	5211	93	5305			539	5305	No Ice	
6	0.692	38	44.5	1.087	20.33	19	788	13937	307	14144	7.0	1.6	788	14144	No Ice	
Top of 7	0.000	38	38	1.082	19.67	0	788	13937	307	14144	7.0	1.6	788	14144	No Ice	
6&7	2.198	34	36	1.021	18.44	58	1019	17451	307	17758			1019	17758	No Ice	
7	0.810	21	27.5	0.984	18.37	20	1282	32409	600	33008	2.3	1.0	1282	33008	No Ice	
Top of 8	0.000	21	21	0.911	17.36	0	1282	32409	600	33008	2.3	1.0	1282	33008	No Ice	
7&8	2.578	17	19	0.892	17.00	60	1520	38614	600	38614			1520	38614	No Ice	
8	1.030	0.1	8.55	0.880	16.19	23	1904	68948	830	67777	0.0	0.0	1904	67777	No Ice	
Top of 9	0.000	0	0	0.850	16.19	0	0	0	0	0	0.0	0.0	0	0	No Ice	
9	0.220	0	0	0.850	16.19	0	0	0	0	0	0.0	0.0	0	0	No Ice	
Top of 10	0.000	0	0	0.850	16.19	0	0	0	0	0	0.0	0.0	0	0	No Ice	
10	0.000	0	0	0.850	16.19	0	0	0	0	0	0.0	0.0	0	0	No Ice	
10	0.000	0	0	0.850	16.19	0	0	0	0	0	0.0	0.0	0	0	No Ice	

Note: Top of \_\_\_\_\_ = concentrated load applied at the top of the tower section.

Tower Section	Weight (lbs)	Lift cable force (lbs)
Co-ax Wtr	43 (at top of tower)	418
3	0	835
4	0	2056
5	213	2262
6	335	
7	473	
8	555	
9	0	
10	0	
Total:	1919 lbs	