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September 25, 2012

Chair Meenakshi Srinivasan  
NYC Board of Standards and Appeals  
40 Rector Street, 9<sup>th</sup> Floor  
New York, NY 10006  
BY HAND

**Re: BSA Application No.: 151-12-A  
231 East 11<sup>th</sup> Street, Manhattan (Block 467, Lot 46)**

Dear Chair Srinivasan and Honorable Members of the Board:

**Introduction**

Applicant Paul K. Isaacs ("Applicant") writes in further support of his May 9, 2012 application ("the Application") to appeal a determination of the New York City Department of Buildings ("DOB") dated April 10, 2012 ("the Denial") (copy of the Denial annexed as Exhibit A to the Application).

Several points raised by the Board and by counsel for DOB are addressed *seriatim* herein.

**The Antenna is an Accessory Use**

As stated at length and in detail in the Application, the Applicant maintains that the amateur radio or "ham" radio antenna that is the subject of the Application ("the Antenna") is an accessory use to Mr. Isaacs' residence at 231 East 11<sup>th</sup> Street, Manhattan ("the Premises"). Applicant's maintenance of the Antenna at his residence meets the definition of "accessory use" in New York City Zoning Resolution ("ZR") section 12-10: "a use which is clearly incidental to, and customarily found in connection with, such principal use."

At open hearing before the Board on August 21, 2012, Chair Srinivasan expressed a desire to "have the appellant give us evidence . . . in terms of the customary use" of ham radio antennas generally in New York City (see transcript of August 21, 2012 hearing, annexed hereto as Exhibit A, at p. 11; see also transcript, Exhibit A, p. 14: Chair Srinivasan: "I just want to see what it looks like. That's all.").

Similarly, counsel for DOB stated at that hearing: “I feel like we’re speculating. Maybe if we could get some more facts on what else is out there, we’ll be able to answer the question of customary.” (Transcript, Exhibit A, p. 23).

Accordingly, since the August 21, 2012 hearing, the undersigned counsel have gathered a series of photographs showing similar antennas maintained throughout New York City. These photographs are shown in a document that is annexed hereto as Exhibit B.

Exhibit B depicts photographs of the Antenna and of the other antennas that have been maintained by the Applicant at the Premises over the years. It then shows photographs of nine other antennas from various locations in New York City.

All of the photographs were either taken by the undersigned counsel or were forwarded to counsel by other ham radio operators. As per the concern voiced by the undersigned counsel at the August 21, 2012 hearing that antenna owners would incriminate themselves and thereby subject themselves to possible enforcement action by DOB (transcript, Exhibit A, p. 32), in most cases,<sup>1</sup> the address of the antenna is not given.<sup>2</sup> For each antenna, the borough, the underlying zoning, and the size and use group of the residence to which the antenna is accessory is listed.

The antennas depicted are found in Manhattan, the Bronx, Brooklyn, and Queens. They are found on single-family homes, on massive apartment buildings, and on everything in between. They are found on buildings in residential zones, commercial zones, and manufacturing zones. There is thus an impressive diversity in the buildings depicted. They share one thing in common: they are all residences, and the ham radio antennas attached to each residence is, in each and every case, an accessory use to the main use of the building as a residence.

No representation is made that these are the only other antennas in New York City in addition to that of the Applicant. Given the time constraints of the hearing and the understandable reluctance of some ham radio operators to expose themselves to prosecution, the applicant’s legal team was able to present these nine photographs. There are many more such antennas annexed to other residences throughout the City.

Moreover, as discussed by Fred Hopengarten, Esq., at the August 21, 2012 hearing (transcript, Exhibit A, p. 13-14), similar antennas have been maintained by ham radio operators throughout the world. Mr. Isaacs and his legal team have access to dozens of photographs of similar antennas installed as accessories to residences throughout the world, should the Board wish to see them.

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<sup>1</sup> In one case (3985 Gouverneur Avenue, Bronx), a DOB permit was obtained for the antenna; accordingly, the address of this antenna is a matter of public record.

<sup>2</sup> Annexed to these papers is an affidavit in which the undersigned counsel swears on penalty of perjury that all of the photographs contained in Exhibit B were either taken by him personally or were forwarded to him by licensed ham radio operators in New York City.

The Oxford English Dictionary (<http://oxforddictionaries.com>) defines “customarily” as “in a way that follows customs or usual practices; usually.” As pointed out by Mr. Hopengarten (transcript, Exhibit A, p. 2), a use can be “customary” without being very common (the examples given by Mr. Hopengarten were swimming pools and tennis courts, which are undoubtedly “customarily” found as accessories to residences, regardless of the frequency with which they so appear).<sup>3</sup>

As long ago as 1944, the Supreme Court of Minnesota wrote:

The use of radios in private residences is as common as the use of refrigerators. The court takes judicial notice of the custom of householders to use outside antennae or aerials for radio reception. This custom may be waning on account of the improvement of inside aerials, especially for local reception, but it is still recognized as good practice, especially for long-range, short-wave reception, for which most good sets are equipped. While many aerials are attached to poles above the roofs of dwellings, and even to trees, the use of separate poles or masts for this purpose still prevails when a householder seeks the best reception. Such equipment is certainly customarily incident to a residential establishment.

The use of short-wave amateur sets for both reception and transmission is so common in the United States that the Federal Communications Commission licenses such sets for transmission within certain wave lengths, and there is an American Radio Relay League of the proprietors of amateur stations. That many, if not most, of these amateur stations are operated in connection with residences is too well known a fact to be ignored.

Village of St. Louis Park v. Casey, 16 N.W.2d 459, 218 Minn. 394 (1944).

Here, by virtue of the evidence adduced by the Applicant herein, it is easily seen that ham radio antennas “usually” are found as accessories to residences – in other words, when such antennas are found, they are attached to residences. Upon reviewing the array of photographs annexed hereto as Exhibit B, it is respectfully submitted that no other conclusion can be reached, and that the Applicant has thus shown that his use of the Antenna is, indeed, “a use which is clearly incidental to, and customarily found in connection with” the principal use of the Premises as Applicant’s residence.

The Applicant stands ready to further supplement the evidence presented in Exhibit B should the Board so require.

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<sup>3</sup> In making this argument, Mr. Hopengarten was echoing the words of the court in *Town of Paradise Valley v. Lindberg*, 551 P.2d 60, 62 (Ariz.App.Div.1, 1976): “The fact that not many people have amateur radio antenna (*sic*) no more precludes this use than the fact that not many people have tennis courts precludes their use (in Arizona we could also add swimming pools).”

DOB's Reliance on *Botanical Garden* to Deny that the Antenna is an Accessory Use is Misplaced

Although the Applicant's position is that his is an accessory use as a matter of law, and it is respectfully submitted that the factual evidence provided herein by the Applicant (Exhibit B) suffices to establish that the Antenna is an accessory use, the Applicant wishes to address DOB's misplaced reliance on the case of New York Botanical Garden v. Bd. of Standards and Appeals, 91 N.Y.2d 413 (1998). DOB attempts to use Botanical Garden as its sole support for the proposition that the Antenna is not an accessory use, when a clear reading of that case shows that it supports the Applicant.

A brief review of the facts is helpful. The New York Botanical Garden in the Bronx brought an Article 78 proceeding to annul the Board's ruling that a 480-foot radio tower on the adjacent campus of Fordham University was an accessory use to the university. Supreme Court, New York County upheld the Board's ruling, as did the Appellate Division, First Department, and, ultimately, the Court of Appeals of New York.

It is puzzling that DOB attempts to use Botanical Garden to support its contention that the Antenna is not an accessory use to the Premises, when the Board, the Supreme Court, the Appellate Division, and the Court of Appeals all found that the Fordham antenna was an accessory use, using arguments similar to those advanced by the instant Applicant. In the Fordham case, the Board expressly ruled that "the sole issue is whether the proposed tower is 'incidental to and customarily found in connection with the University and not whether the tower could be smaller or relocated to another site.'" Botanical Garden, 91 N.Y.2d at 418. The same is true in the instant case.

The trial court that upheld the Board's ruling found that "the record was devoid of any proof that the Botanical Garden would suffer any economic harm, that the tower presented any sort of danger or that the tower would prompt an undesirable change in the character of the neighborhood." Id. So here: DOB has done nothing to show that the Antenna has any sort of negative impact, or any impact at all, on the surrounding neighborhood, except to advance a conclusory argument in its statement to the Board that "the use is out of context in this residential neighborhood" and that "no other buildings have aerials even remotely approaching the proposed radio tower's size and complexity"<sup>4</sup> (August 7, 2012 statement of DOB, at p. 5).

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<sup>4</sup> It is obvious that, in determining whether a proposed accessory use is "customarily" found in conjunction with the primary use, there need not be immediate geographical proximity of comparables. In Botanical Garden, Fordham was the only university neighboring the Botanical Garden; there were no other universities in the area. The Board, correctly, considered the custom and usage of other universities in reaching its determination that such radio antennas were customarily found as accessories to universities. It would have defied logic for the Board to have found that the antenna was not an accessory use because there happened to be no other 480-foot antennas appurtenant to other universities on the same block. Similarly, here, the fact that no other buildings on the immediate block have such antennas is a red herring. The Applicant has submitted substantial evidence (Exhibit B) that such antennas are "customarily" found as accessories to residences throughout New York City, and can provide evidence of such antennas around the world if so desired. That there does not happen to be another such antenna on the same block is completely irrelevant.

In Botanical Garden, the Appellate Division, First Department, unanimously affirmed the trial court, finding that such antennas were commonplace at universities, id., just as the Applicant in the instant case has shown that antennas similar to his are commonplace at residences. Furthermore, the First Department court took pains to indicate that the trial court's ruling was "based on a statute that specifically lists radio towers as an 'accessory use.'" Id. Similarly, here, the Applicant has shown that the ZR lists radio antennas as an accessory use (see Application, p. 5; see also ZR 12-10(16)).

In upholding the lower courts in Botanical Garden, the Court of Appeals rejected the appellant's contention that it is not customary for universities to maintain radio towers of such height: "This argument ignores the fact that the Zoning Resolution classification of accessory uses is based upon functional rather than structural specifics." Id. at 421 (emphasis added). So argued the undersigned counsel at the August 21, 2012 hearing, in pointing out that DOB's contention – that the Antenna is not an accessory use because of its size (August 7, 2012 statement of DOB, at p. 3) – conflates use regulation and bulk regulation in a way that is not contemplated by the Zoning Resolution (transcript, Exhibit A, p. 31).

The Court of Appeals went on to observe:

The specifics of the proper placement of the station's antenna, particularly the height at which it must be placed, are dependent on site-specific factors such as the surrounding geography, building density and signal strength. This necessarily means that the placement of antennas will vary widely from one radio station to another. Thus, the fact that this specific tower may be somewhat different does not render the Board's determination unsupported as a matter of law, since the use itself (*i.e.*, radio operations of this particular size and scope) is one customarily found in connection with an educational institution. Moreover, Fordham did introduce evidence that a significant number of other radio stations affiliated with educational institutions in this country utilize broadcast towers similar in size to the one it proposes.

Botanical Garden, 91 N.Y.2d at 422.

Again, the parallel to Applicant's case is obvious: the key determination is whether the use of the antenna is "customarily found" in connection with the primary use.

Moreover, the following holding of the Court of Appeals in Botanical Garden applies equally well to the instant case:

Separation of powers concerns also support the decision we reach today. Accepting the Botanical Garden's argument would result in the judicial enactment of a new restriction on accessory uses not found in the Zoning Resolution. Zoning Resolution § 12-10 (accessory use) (q) specifically lists "[a]ccessory radio or television towers" as examples of permissible accessory uses (provided, of course, that they comply with the requirements of Zoning Resolution § 12-10 [accessory

use] [a], [b] and [c] ). Notably, no height restriction is included in this example of a permissible accessory use. By contrast, other examples of accessory uses contain specific size restrictions. For instance, Zoning Resolution § 12–10 defines a “home occupation” as an accessory use which “[o]ccupies not more than 25 percent of the total *floor area* \* \* \* and in no event more than 500 square feet of *floor area*” (§ 12–10 [home occupation] [c] ) and the accessory use of “[l]iving or sleeping accommodations for caretakers” is limited to “1200 square feet of *floor area*” (§ 12–10 [accessory use] [b] [2] ). The fact that the definition of accessory radio towers contains no such size restrictions supports the conclusion that the size and scope of these structures must be based upon an individualized assessment of need.

Botanical Garden, 91 N.Y.2d at 422-23.

To summarize: there is no “bright line.” There is no height restriction in the ZR beyond which an accessory antenna becomes non-accessory.<sup>5</sup>

The Applicant has already established that ZR 23-62(e) specifically exempts antennas from height regulations in residential districts, and that no height restrictions generally for radio antennas can be found in the ZR (Application, p. 10). The undersigned counsel so argued at the August 21, 2012 hearing: “There doesn’t seem to be anything to say, well, twelve feet is okay but forty feet isn’t – you know, is thirty-eight okay? Is thirty okay? Is twenty six-okay?” (Transcript, Exhibit A, p. 30). Chair Srinivasan recognized this when she asked counsel for DOB “Is there any fine line? Is there some bright line which you’re saying that this makes it accessory and this makes it non-accessory?” (Transcript, Exhibit A, p. 23). Tellingly, counsel for DOB could only say that “I think I’ll have to go back and think about that and discuss it with our men and see how we can better characterize or at least be more consistent with the way that—” (Transcript, Exhibit A, p. 23).

DOB thus makes an error of law in trying to forbid the Applicant’s maintenance of the Antenna as non-accessory in the absence of a guiding statute. There is no law, rule, or regulation which permits DOB to deem the Antenna non-accessory on grounds of its purportedly excessive height; in so doing, it is arrogating powers onto itself far in excess of its statutory grant. “Laws are made by the law-making power, and not by administrative officers acting solely on their own ideas of sound public policy, however excellent such ideas may be.” Picone v. Comm’r of Licenses of New York City, 241 N.Y. 157 (1925). “It does not lie within the power of the administrative agency to nullify the legislative intent and to engraft upon the statute, under the guise of a regulation, a policy which was neither expressed nor intended.” N.Y. JURISPRUDENCE 2D Administrative Law §54 (2012); see also In re Federal Tel. & Radio Corp., 301 N.Y. 95 (1950); Sharp v. DeBuono, 723 N.Y.S.2d 279 (4th Dept. 2000) (administrative agency determination unguided by statutory standards overturned as arbitrary and capricious).

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<sup>5</sup> Even if such a bright line had been included in the ZR, it would have been invalidated by the federal government’s passage of PRB-1 (see Application, p. 13, and Exhibit N thereto).

Thus, Botanical Garden wholly supports Applicant's position; DOB's reliance on it seems, at best, misguided. Moreover, DOB cites to no other cases to support the proposition that the Antenna is not an accessory use. Without Botanical Garden, which, we remind the Board, is not an "accessory use to a residence" case, it is respectfully submitted that DOB's case rests on hardly any support at all.

DOB's Own Memorandum from 1955 Acknowledges that Radio Towers are Accessory Uses to Residences

As mentioned at the August 21 hearing (transcript, Exhibit A, p. 5), the Applicant has located a copy of a memorandum from then-DOB Commissioner Bernard J. Gillroy, dated November 22, 1955, on the subject of radio towers ("the 1955 Memo"). A copy of the 1955 Memo is annexed hereto as Exhibit C. DOB had evidently been unaware of its existence at the time of the Application (transcript, Exhibit A, p. 17).

The 1955 Memo states that "[n]umerous radio towers have been erected throughout the city for amateur radio stations." It further states in numbered paragraph 6 that such towers "may be accepted in residence districts as accessory to the dwelling." Thus, it is plain that, even in 1955, DOB accepted that amateur radio towers were numerous in New York City and were customarily found as accessory to residences.

It has been noted that the 1955 Memo states that the height of such towers shall not exceed seventy-five feet above the adjacent ground (1955 Memo, Exhibit C, paragraph 3). As noted throughout the Application, the tower for the Antenna rises approximately forty feet above the roof of the Premises, which is, in turn, a four-story building roughly forty feet in height. However, DOB may not be heard to argue that the Antenna is illegal pursuant to the 1955 Memo, on the ground that the height of the Antenna plus the height of the building exceeds the 75-foot threshold found in the 1955 Memo. First, that height limit clearly applies to free-standing "towers" only.<sup>6</sup> Second, and most importantly, that height limitation would have been invalidated by the passage by the United States government in 1985 of PRB-1, which, as shown at length in the Application, rendered unlawful any bright-line restrictions in local ordinances on the height of amateur radio antennas (see Application, p. 13, and Exhibit N thereto).

Thus, the 1955 Memo lends further support to the proposition that amateur radio antennas have, for decades, been found as accessory uses to residences in New York City.

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<sup>6</sup> Consider the common case of a nineteen-story apartment building, such as that pictured on Exhibit B, page 7. Such a building is more than 200 feet high. If the 1955 Memo were to be read so that the height of the building plus the height of the antenna structure had to be less than 75 feet, then no antenna at all could be maintained on the roof of a 19-story building. Even DOB would not agree with such a construction.

Case Law from Many Jurisdictions Holdsthat Ham Radio Antennas Are an Accessory Use to a Residence

In his July 12, 2012 response to the Board's Notice of Comments, the Applicant included a wealth of case law from courts around the country which have considered the question of whether an amateur radio antenna constitutes an accessory use to a residence.

For the Board's convenience, the most pertinent holdings from these cases are excerpted and annexed hereto as Exhibit D. The Board is respectfully urged to review these excerpts, as they show unequivocally that state and federal courts throughout the United States support the position of the Applicant in the instant case – amateur radio antennas are customarily found as accessories to residences.

**Other Issues Raised at the August 21, 2012 Hearing are Unavailing**

The Applicant wishes briefly to address a few other issues raised at the August 21, 2012 hearing, either by DOB or by the Board.

The Antenna is Not a Nuisance; Considerations Of Radio Interference are Beyond the Purview of the Board

Commissioner Montanez raised the issue of whether the Antenna posed a nuisance, in that the transmissions of the Antenna might conceivably interfere with radio and television signals of others in the building (transcript, Exhibit A, p. 8-9).

First, it must be noted that no proof of any such interference has been introduced into the record, by DOB or by any other party. As noted above, there is no evidence in the record of the hearing that the Antenna has any impact at all upon the neighborhood.

Second, as stated by Mr. Hopengarten (transcript, Exhibit A, p. 9-10), federal law is clear that the regulation of such matters is absolutely committed to the Federal government. Exhibit E hereto contains excerpts from statutory and case law to this effect.

Thus, consideration of the Antenna as a nuisance by the Board is indicated neither as a matter of fact nor as a matter of law.

The Fact that the Antenna Transmits is of No Legal Import

In its August 7, 2012 submission to the Board, DOB tries to make much of the fact that the Antenna "both receives and *transmits* radio signals" (August 7, 2012 submission, at p. 3), in order to insinuate that, because the antenna transmits signals, it is somehow not an accessory use.

There is absolutely no support in any statute, anywhere, for this proposition. The ZR does not treat antennas differently depending on whether or not they transmit. Furthermore, the entire body of federal law and regulation already introduced by the Applicant in the Application



obviously contemplates that ham radio antennas would transmit signals – that is, indeed, the entire point of amateur radio.

Thus, it is respectfully submitted that this concern, as expressed by DOB in its August 7, 2012 submission and by counsel for DOB at the August 21, 2012 hearing (transcript, Exhibit A, p. 16 and following), should be disregarded entirely by the Board.

There Is No Requirement of “Need” in the Test for Accessory Use

The undersigned counsel once complained in a letter to DOB that “the Department wants to characterize this antenna as illegal and wants to punish my clients for having it, but cannot even cite to a specific section of law that makes the antenna illegal” (Application, Statement of Facts and Findings, p. 6).

DOB’s evident attitude of bias, uninformed by law or fact, against the Applicant and the Antenna was, unfortunately, evidenced in comments by counsel for DOB at the August 21, 2012 hearing. In comparing the Applicant, to Fordham University, counsel argued as follows:

MR. BEENE: But the point is that there was a need [for Fordham to maintain its antenna]. Here, there was a desire. There’s not a need to operate ham radio. There’s nothing inherent about a residence that –

CHAIR SRINIVASAN: I don’t see that as relevant.

COMM. OTTLEY-BROWN: There is a need to reach a seventy-foot clearance in order to operate your ham radio properly and reach the Middle East.

There’s a need to reach a seventy foot clearance regardless of how you do it, it seems; whether or not you’re in a six or seventy story building with a ten foot antenna or a two-story building with a fifty foot antenna or a four story building with a thirty foot antenna on top.

You need to reach that clearance.

MR. BEENE: Well, with all due respect, it seems that the need was – the nexus between the institutional mission of Fordham and the tower seems a lot closer than the need to have a specific type of ham radio use in a residence.

CHAIR SRINIVASAN: I’m just troubled by the fact that you’re interjecting need when, I think, the definition of accessory use doesn’t speak to meet (sic – should be “need”).

Transcript, Exhibit A, p. 26.

As a matter of simple statutory construction, Chair Srinivasan and Commissioner Ottley-Brown were absolutely correct to point out that there is no requirement of “need” in the definition of “accessory use” in ZR 12-10. DOB is evidently inventing this requirement from whole cloth.

More troubling is DOB’s pejorative attitude toward the Applicant and his avocation of amateur radio. DOB ignores the considerable body of federal laws, rules, and regulations repeatedly brought to its attention by the Applicant, which plainly state that the United States Congress has found that “radio amateurs are hereby commended for their contributions to technical progress in electronics, and for their emergency radio communications in times of disaster,” and that “the Federal Communications Commission is urged to continue and enhance the development of the amateur radio service as a public benefit by adopting rules and regulations which encourage the use of new technologies within the amateur radio service” (Public Law 103-408; see Application, Statement of Facts and Findings, p. 11-12).

Indeed, no better testimony to the value of Mr. Isaacs’ avocation could be provided than the words of Mr. Isaacs himself. Mr. Isaacs rose at the conclusion of the August 21, 2012 hearing to address the Board, and he spoke briefly and eloquently about providing assistance with his ham radio to the People’s Temple in Guyana, South America, in 1977 (see transcript, Exhibit A, at p. 33-34; see also Application, p. 4, and letter of commendation from President Carter to Mr. Isaacs, annexed to the Application as Exhibit H).

The Applicant is pleased to introduce into the record further evidence of the value of amateur radio in times of emergency, in the form of articles detailing the substantial contributions of ham radio operators in the wake of the September 11, 2001 terrorist attacks and in the Hurricane Katrina relief efforts in 2005, annexed hereto as Exhibit F.

Thus, while DOB’s calculus of “need” is entirely absent from the definition of “accessory use” as found in the ZR, it is respectfully submitted to the Board that the United States Congress and the Federal Communications Commission have made detailed findings of fact regarding the value of the amateur radio service to the nation at large, and that Mr. Isaacs, in particular, has already demonstrated the value of his services in time of emergency.

### **The Stop-Work Order Should Be Lifted Immediately**

As detailed in the Application (Statement of Facts and Findings, p. 10), and as reiterated by the undersigned counsel in the August 21, 2012 hearing before the Board (transcript, Exhibit A, p. 32), a stop-work order perversely remains in effect at the Premises, which prevents Mr. Isaacs from making much-needed repairs to areas of the Premises that have nothing to do with the Antenna.

Counsel for DOB pledged to address this issue (transcript, Exhibit A, p. 33). Subsequently, the undersigned counsel communicated with DOB; yet, to date, nothing has been done.

Speaking plainly, this is grossly unfair to Mr. Isaacs. DOB has caught him in a catch-22 – DOB issues violations to him for conditions at the Premises, yet will not allow him to repair them. DOB is hereby again implored to lift the stop-work order so as to enable Mr. Isaacs to repair the Premises; and if it does not, it is hereby expressly requested that the Board include in its resolution deciding the instant appeal a provision directing DOB to lift the stop-work order.

### **Conclusion**

As has been conclusively shown herein, in the Applicant's other submissions, and in the August 21, 2012 hearing before the Board, the Antenna is an accessory use to Mr. Isaacs' residence at the Premises, and there is no provision of the ZR or other law that prevents its maintenance.

Accordingly, it is respectfully requested that the Board grant the instant appeal in its entirety.

I thank the Board for the evident care it has taken in the consideration of Mr. Isaacs' application.

Respectfully submitted,



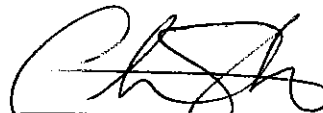
Christopher M. Slowik, Esq.  
Stuart A. Klein, Esq.  
Fred Hopengarten, Esq.

STATE OF NEW YORK     )  
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COUNTY OF NEW YORK )

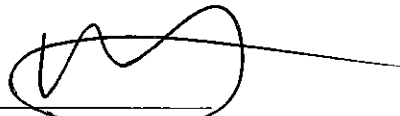
**AFFIDAVIT**

CHRISTOPHER SLOWIK, being duly sworn, deposes and says:

1. I am an attorney licensed to practice law in the State of New York.
2. I make the within statement upon penalty of perjury.
3. Annexed to this submission to the New York City Board of Standards and Appeals, dated September 25, 2012, as Exhibit B, are photographs of nine buildings with amateur radio antennas, found within the five boroughs of New York City.
4. I hereby attest that the photographs in Exhibit B were either forwarded to myself and Fred Hopengarten, Esq., co-counsel for Appellant Paul K. Isaacs, by members of the New York City amateur radio community, or were taken by me personally.
5. I am in possession of the addresses of all nine buildings, and attest that all nine buildings are within the five boroughs of New York City.

  
Christopher Slowik

Sworn to me this 25<sup>th</sup> day  
of September, 2012.

  
Notary Public

PETER E. SAYER  
Notary Public, State of New York  
No. 02SA6147753  
Qualified in New York County  
Commission Expires October 19, 2014

# **EXHIBIT A**

**New York City Board of Standards & Appeals**

**TRANSCRIPTION OF CD**

*Case# 151-12-A.*

*231 East 11<sup>th</sup> Street, Manhattan.*

*8-21-12.*

MR. COSTANZA: New case. Item number seventeen. Calendar number 151-12-A. 231 East 11<sup>th</sup> Street, Manhattan. The law office of Stuart Klein.

MR. SLOWIK: Good morning, Chair Srinivasan and Commissioners.

I am Christopher Slowik of the Law Office of Stuart A. Klein.

I attended the Executive Session yesterday and heard your comments and I was gratified to see that evidently you've engaged with this application in some detail and are cognizant that there are many issues raised by this application and I have appeared before you before but I'm going to introduce a colleague who is going to address some of the issues that you raised at the Executive Session yesterday.

Fred Hopengarten is a member of the Bar of District of Columbia and he has consulted in a number of cases of this type around the country.

He is very well versed in the law in this area, particularly the Federal Rules and Regulations that were raised in our application, and I understand the Board may not have familiarity with it.

For the record, I also note that the applicant, Mr. Paul Isaacs, is also here and with that I will turn it over to Mr. Hopengarten.

MR. HOPENGARTEN: Commissioners, good morning. If I understand it correctly, this case is tending toward resolving on the question of what is a customary use?

And, if I'm understanding that correctly, then I think we need to look at the question what does customary mean? It means something that's by custom, longstanding

and in our next filing to you, we will provide to you a copy of a memorandum from the Department of Buildings signed by Commissioner Gilroy, dated November 22<sup>nd</sup>, 1955.

I will read only one sentence.

“Numerous radio towers have been erected throughout the City for amateur radio stations.”

Now, our opinion is if this doesn't meet the test of customarily or customary, then I guess we're not understanding it correctly because we really do not believe that a customary use need be a common use.

There are many customary uses, many accessory uses that are not common; tennis courts, swimming pools and, in fact, I'd like you to sort of think about the fact that Manhattan, where this particular site is located, is a situation where it's rather rare to have someone who owns in (Unintelligible) simple absolute from the sound of the earth to the clear blue sky and can give himself the permission to put up an antenna on the top of the building as Mr. Isaacs can.

In the outer boroughs, I think you'll find that amateur radio antennas have been present since the 50's and beyond.

In addition to that, there's an overlay of New York Law.

There's a Supreme Court case from upstate in Cortland Manner where, essentially, the old Presnel v. Leslie case (Phonetic) was rejected and it was -- in all of the legal writings, you'll see Presnel v. Leslie questioned by Federal Regulation.

And, what that means is that there's an overarching Federal Regulation, 47 CFR 97-15(b) which says that this Board, all municipalities, have a few obligations and one of them is to provide the minimum practicable regulation.



Palmer v. Saratoga Springs, a northern district of New York Federal case, tells us what that means.

It's a least restrictive means test. There's a consequence. What's really going on here is if this applicant is forced into the Special Permit process, which I understand, and those five year renewals, fees and applications well beyond what would ordinarily be required of a building permit, I think that this Board would be failing to meet the Federal requirement on it of the least restrictive means.

In addition to that, within the ordinance, we have the fact that this meets all of the other tests. It's incidental to the residence. I guess - - I'm hoping there was never a question about that.

And, the Federal Law makes it very plain that aials which I note, by the way, are a permissible obstruction may be of many different sizes and heights to promote the effective communications desired by the radio amateur. I'm using the wording of the Federal Law.

Now, I would be pleased to respond to questions since I've laid it out, but I'll tell you this last thing.

Amateur radio, since it may not be particularly familiar to you is that very rare thing. It's a hobby which is a federal service.

It has a special place in the law because of the service aspects. The radio hams are the people who provide communications for the New York City Marathon.

They provided communications on 9-11 when the cell phone systems and the telephones went down.

But, more than local communications can sometimes be accomplished with two-way radios, tiny antennas.

Amateur radio is also responsible for long-distance communications. It's short wave which can require bigger antennas.

Examples of this recognized by the Congress, there are two (Unintelligible) Laws passed by the Congress and now the president which require that you follow, essentially, PIB1 47CR 97 15 (b). Hurricane Uniniki (Phonetic) in Hawaii where overseas communications was required, not local communications and Hurricane Katrina in Louisiana where local communications were fruitless because they had to get out of the region before they could get to anybody, for example, the Red Cross, in Washington D.C.

Radio amateurs operate under a memorandum of understanding with the Red Cross, the Department of Defense, the Federal Emergency Management agency and so forth.

Shortwave radio, at frequencies that require larger antennas than your standard T.V. antenna or your little whip on a handheld radio is very common and it's customary and has been in New York City since amateur radio began. If there are any questions, I'd love to respond.

CHAIR SRINIVASAN: Any questions?

VICE-CHAIR COLLINS: Yes, I have one.

I understand the point that you make that to be customary something need not be commonplace.

What other facts would you suggest that this Board consider when making a determination as to whether or not something is customary?

MR. HOPENGARTEN: I'd like to begin by responding and saying in that the Accessory Law discussion that you've had in front of you -- Accessory Use Law discussion you've had in front of you, the Department of Buildings has essentially stated that it's controlled by the Fordham case.

And, I'm having a really big problem with that because a four hundred foot, not forty foot commercial, not amateur, accessory to a botanical garden, not accessory to a residence, the facts don't even come close.

And, lastly, there is no federal preemption --

VICE-CHAIR COLLINS: So, are you suggesting that size is a factual consideration for us to take into account?

MR. HOPENGARTEN: It's acceptable to be taken into account -- the Federal Law says that the radio amateur must be allowed heights and dimensions adequate for the communications he or she desires to engage in.

VICE-CHAIR COLLINS: I want to separate the Federal preemption question from the local zoning question, and I'm asking you what facts should we, as a Board, look at because accessory use questions are generally fact based and I think the courts have upheld that.

What factual elements should we assess in making a determination as to whether or not this is accessory for local zoning purposes?

MR. HOPENGARTEN: Well, my primary response would be that the Department's memorandum of 1955, you should consider not for what it states about the law but what it states about the facts which is that numerous radio towers have been erected throughout the city for amateur radio stations.

So, that puts into the light a long-standing use. That's a fact.

VICE-CHAIR COLLINS: Okay.

MR. HOPENGARTEN: Long standing use. And radio amateurs, of course, have been here, you know, since 1918, 1915 and so forth.

That goes to the question of customary and I think that is the kind of fact you're looking for in the definition of accessory use.

VICE-CHAIR COLLINS: Okay. Thank you.

MR. HOPENGARTEN: Have I responded to you?

VICE-CHAIR COLLINS: You have.

CHAIR SRINIVASAN: Any other questions? Yes,  
Commissioner Hinkson.

COMM. HINKSON: Yes, I'm just kind of pigging back on Vice-Chair's question about accessory use.

Accessory use, from my definition, is that it begs the question that you've got a primary use and then you've got accessory and accessory shouldn't necessarily overshadow your primary use.

So, I guess my question is that does size matter in your estimation? So, if I've got a very small residence and I've got three or four towers, does that have an impact on what you would consider as accessory?

MR. HOPENGARTEN: I have a very difficult time peeling apart the question from the Federal Law, and I'm going to try to respond directly to you because the Federal Law makes my answers very easy; height and dimensions adequate, reasonable accommodation.

To your specific question, I can imagine a situation where a proposed amateur radio and antenna system is so large as to become the principal use of a property.

But, here, where it's essentially no taller than, no bigger than, presents no greater bulk than a water tower on top of an apartment building, we don't get to that point where it's an overuse, where it becomes the principal use.

It is an apartment building with residents, one of whom is the owner, and that's its principal purpose.

This is accessory in that it is his hobby. He uses it, this amateur radio antenna system to support that hobby.

He doesn't own the building for amateur radio. It hasn't become the principal use. Am I approaching the subject? Do you want it approached?

COMM. HINKSON: Sort of kind of. Yes, I understand your position.

MR. HOPENGARTEN: I certainly don't believe that the antenna has overtaken this use specifically in this case.

Now, let's deal with your proposed imaginary horrible, four or five very tall antennas.

COMM. HINKSON: Not so imaginary. I think there's actually a case out there that speaks to that but, go ahead.

MR. HOPENGARTEN: There is a Long Island - - there's a Michigan case, actually, Algoma, Michigan, where a two hundred foot antenna was declined under Federal Law and the reason was it was impractical. There was no

showing that the proposed antenna system was proposed other than, essentially, for the glory of the applicant.

There was no need for it and it wasn't in any way related to what he was trying to accomplish, which was to provide local communications.

He didn't have to go to two hundred feet. That's the only case I know of that deal with this - -

COMM. HINKSON: So, in terms of size, it has to be proportional to what the objectives of the user is?

MR. HOPENGARTEN: Yes, but not proportional to what the neighbors might think or the city might feel is esthetically too large. But, it has to be proportional to the use proposed by the applicant for effective communications.

CHAIR SRINIVASAN: Any other questions?

COMM. MONTANEZ: I just wanted to bring up the aspect of the nuisance.

MR. HOPENGARTEN: Are we talking public nuisance or private nuisance?

COMM. MONTANEZ: The nuisance to the other residents of the building.

MR. HOPENGARTEN: And, your concern is?

COMM. MONTANEZ: When you have a transmitting antenna and people living in the building have TV's or radios, they have the capability of receiving that transmission in a very loud manner and they're precluded from listening to their radios or enjoying their TV's, I believe.

MR. HOPENGARTEN: I rarely get the privilege of saying this but I have some good Federal Law behind me.

To ask that question is improper. I'm quoting Palmer v. Saratoga Springs, the Federal District Court case in the Northern District of New York where that's exactly what the court ruled.

And, the reason it's improper is that interference is way outside the purview of this Board.

It is exclusively federal and there's a U.S Code Section, 302 (a), 47 USC 302A which describes it as exclusively Federal.

Now, for that reason, because it's an always a legal use, it cannot possibly be a nuisance and I have case law, if you'd like to see case law on nuisance, as you describe it.

CHAIR SRINIVASAN: Right. But, I don't think that issue is really relevant to the case that we have right before us.

MR. HOPENGARTEN: I also - - not only do I believe that it's not relevant - -

CHAIR SRINIVASAN: But, I think - -

MR. HOPENGARTEN: I believe it's not relevant and I believe it's improper for your consideration. I don't mean to be offensive at all.

CHAIR SRINIVASAN: Right. And, I think we just focus on the issue over here which is the Building Department's determination and the reason why they believe that this is non-accessory and requires a BSA permit. It was not an issue that they raised regarding nuisance per se so that's why I'm trying to just limit it to what the Building's Department.

MR. HOPENGARTEN: Of course. I'm agreeing with you.

CHAIR SRINIVASAN: I just have a quick question. You'll be providing us papers and - - because you said many things right now today, so you'll be giving us a set of papers. Okay.

You did talk about the fact that the Building's Department is relying on the Botanical Garden's case and maybe you can, in your own words, explain why the Board should not engage in the analysis that was somewhat outlined in that case which the Building Department is relying on?

MR. HOPENGARTEN: First of all, I return to the size matters question. We're talking about a 465 foot tower, 458. I can't remember the number versus a 40 footer?

We're talking about a commercial or a broadcast use versus an amateur use; two-way communications as opposed to broadcast. We're talking about the Botanical Garden.

CHAIR SRINIVASAN: Right. No, I understand that some of the facts of that case may be different from this but some of what the report said seems to be broader than just the facts of that case but about how one looks at accessory use?

And, if you can - -

MR. HOPENGARTEN: Okay, on the facts. I don't think you can find a long-standing custom for putting broadcast towers in Botanical Gardens, but I can find long-standing custom for putting amateur radio antennas on top of buildings.

CHAIR SRINIVASAN: Right. And, I think one of the questions the Board had yesterday and I just want to understand whether you would reject that as a



reasonable question to have the appellants give us evidence on is in terms of the customary use.

I know that they said there are 3,000 other ham radios in the city and I think what the Board really wants to understand is what do they look like? What are they typically? We just don't know that and, so, yes, we have certain facts on this case that we're aware of which is it's 40 feet high and it has a certain type of infrastructure and it has a certain power to it.

And, we just want to understand whether that's something that occurs and we just don't have that information.

MR. HOPENGARTEN: Do you have photos, Commissioner?

CHAIR SRINIVASAN: We have the photos of this particular facility but we don't have photographs of any other ham radio and --

MR. HOPENGARTEN: In that case, I'm going to respond to you that, basically, this is an extraordinarily typical installation.

CHAIR SRINIVASAN: All right. So, isn't it possible for your team to give us other examples so we can, at least, have some context to this?

MR. HOPENGARTEN: Commissioner, forgive me for asking the question this way.

Is the Board asking us to go survey the boroughs and take photos of -- in a city with so many hundreds of thousands of buildings?

CHAIR SRINIVASAN: Well, if you're saying this is really typical, yes, then, in fact, we are. I would say that.

VICE-CHAIR COLLINS: I would agree with that.

COMM. HINKSON: I don't think it's unreasonable to ask.

CHAIR SRINIVASAN: You mentioned - -

MR. HOPENGARTEN: You're asking us to survey the City of New York. I think that is an unreasonable request.

CHAIR SRINIVASAN: Well, we're not asking you to survey each and every example.

MR. HOPENGARTEN: Well, how many pictures would convince you?

VICE-CHAIR COLLINS: A reasonable representation of - -

CHAIR SRINIVASAN: Right.

VICE-CHAIR COLLINS: - - what the universe of these aerials or antennas look like.

CHAIR SRINIVASAN: Let me say this. The Building's Department has said in their papers that they believe these antennas, generally - - I don't know if they're talking specifically about hand radios antennas but what they've seen is about twelve feet and they've talked about it.

I don't think they're necessarily saying those are amateur radios. But, I think that's some context to this and they go on to say that this is forty feet and it has a certain type of infrastructure.

I'm not even asking you to - - I don't know, more examples would give us some idea what we're talking about here.

MR. HOPENGARDEN: Let me explain that. In New York City, an amateur radio antenna is no different than an amateur radio antenna from anywhere else in the country.

The laws of physics don't change just because we've entered the five boroughs. And, the height is controlled by the need to be away from surrounding buildings that will absorb and above the ground for reflections. You bounce the signals off the ground.

CHAIR SRINIVASAN: Right. So, the height is different if you're in an open area versus if you're in a very dense part of the city, something like that, correct?

MR. HOPENGARDEN: But, there's always a certain minimum height and I'd be happy to provide you with a documentation that says about seventy something feet is sort of the minimum height. In fact, in the original request for preemption, it was proposed that cities not be allowed to regulate under seventy feet or seventy-five feet.

The point is that there's a certain minimum height for effective communications at the frequencies of interest.

So, if you're out in an open field, you want to be seventy-five feet above the ground and if you're on top of a building, you want to have the building plus the tower be seventy, eighty, ninety feet. That gets you into the ballpark for the beginnings of effective communications that the applicant seeks to engage in.

It really doesn't change and where I'm going with this is I have a good collection of photographs from around the country. They just don't happen to be New York City

photographs. But, these antennas are sold world-wide. Wherever, they are, they look what they look like.

It's like seeing a Mazda driving down the street and New York City is going to look like a Mazda driving down the street in Omaha. I'd be happy to provide some of those. I have a good collection of those. I think they're all majestic looking.

CHAIR SRINIVASAN: All right.

MR. HOPENGARTEN: Did you want sunsets in the background or the foreground?

CHAIR SRINIVASAN: I just want to see what it looks like.

That's all.

MR. HOPENGARTEN: I'd be happy to do that.

CHAIR SRINIVASAN: Thank you. Any questions?

MR. HOPENGARTEN: Thank you. My colleague wants to finish up with something.

CHAIR SRINIVASAN: Okay. Yes. Mr. Beene for the Building's Department.

MR. BEENE: John Egnatios Beene for the Department of Buildings. Good morning, Madam Chair, Commissioners.

I think the presentation of the appellant is very telling. They wanted this to be a Federal issue.

They wanted this to be a Federal issue. They want the Federal law to control. They don't want to look to any of the Board's cases or the Court of Appeal's case on accessory use.

The Department of Buildings sees this as an accessory use issue. The Department of Buildings regulates accessory use.

We look at the zoning and we say what complies with the zoning. And, the plain meaning of accessory in every case that's been before the Board and before the Court of Appeals, the Botanic Garden case says that you have to look to custom and custom is shown by evidence of similar use throughout the city, the City of New York.

We haven't had anything like that here. We still - - you begged him for some sort of evidence. You asked him to go out and find evidence and maybe they will be able to find it.

And, frankly, if they can find it, many of these three thousand users that are licensed to use their ham radios under the Federal Law that live in New York City actually have forty foot radio towers and the Department is somehow missing the fact that they've all got forty foot towers?

Then, the Department is willing to reconsider its analysis of this matter. But, I don't think that's what they're going to find and the fact is that's why the Department denied this.

We think this is a non-accessory use. We think the Zoning Resolution - -

CHAIR SRINIVASAN: Purely because of its height?

MR. BEENE: Not just the height.

CHAIR SRINIVASAN: The height and power, yes. You said transmission power and - -

MR. BEENE: The power. It's two way instead of one way. It's not the typical aerial, which I described in my papers, which before everyone had cable

television and now internet feeds and so forth, they don't want an aerial on top of their house for ABC, CBS and NBC. That's all they could get.

CHAIR SRINIVASAN: Right. But, Mr. Beene, this is not just an antenna for your television. This is a ham radio, right, antenna?

MR. BEENE: Right.

CHAIR SRINIVASAN: You're not arguing -- are you arguing that that -- I guess you said in your papers -- it's just a little bit confusing. Your papers are --

MR. BEENE: I'll clarify. Madam Chair, I think you said accessory at the Executive Session. Do we object as an accessory use to ham radio?

CHAIR SRINIVASAN: Yes, exactly. Thank you. Right. That was my question.

MR. BEENE: To the extent that the tower that is required for the ham radio is something that can be erected as an accessory use in connection with that accessory use? The Department has no objection to that.

The principal use of residence is sleeping, eating, cooking and some amateur radio, I think, could be consistent with that. It's no different than watching television or playing a video game, for example.

But, there is a scope at which that ham radio usage, for example, when it records a forty foot radio tower in order to transmit is no longer clearly incidental to and customarily found in connection with a residential use.

Now, the First Deputy Commissioner didn't rule on the clearly incidental issue because the Department's position is that this is not customary.

I was unaware of this 1955 -- I guess it's a memo or a letter. It wasn't in any of the papers. Obviously the Department should have all of its own records but there's a lot of these types of things out there.

But, two points about that just based on what he described it as. The first is that the 1961 Zoning Resolution applies to this particular application which has the definition of accessories in it.

Number two, it says numerous radio towers. And, unless -- once we see the document, we'll know what that means but what size? How big? What kind of attachment? What are the details of these numerous radio towers that were requested in 1955? It just doesn't -- it seems relevant, although certainly not dispositive on the issue of whether it's a custom to have a tower of this nature?

I think that the facts of these types of towers throughout the city is what will show the Board whether this is customary or not?

One letter from 1955 certainly couldn't create custom and that's just not what the line of BSA cases and the Botanical Gardens say.

And, I think he also mischaracterized --

CHAIR SRINIVASAN: So, the question is -- but just the plain meaning doesn't mention size or height or anything in it, right? So, what you're saying, the height and type of antenna, the evidence hasn't been given that that is customary.

And while theoretically, yes, ham radio operations are accessory because they're recreational, etc., etc., but this particular one and the qualities or the facts of this particular case don't make it customary because the applicant hasn't provided you the evidence to show it.

Because you can't (Unintelligible) say that because you don't know, like the Board, we haven't been given the evidence, correct?

MR. BEENE: Well, we're waiting. Any time they're ready to come forward with evidence of custom besides one letter from 1955, I think the Department would like to see it just as much as the Board would and that's what the cases require.

Every single accessory use case is about the facts. It's not about one letter and it's not about what the Federal Law says for other jurisdictions.

And, also, I think there's wisdom - -

CHAIR SRINIVASAN: But, you could just argue that the facts are that this is a ham radio operation and it's recreational. It tends to do these things, transmit, receive and that, itself, makes it customary, no?

MR. BEENE: Well, Madam Chair, what I wanted to say and I think in response to that point is that there is some wisdom in the way the Zoning Resolution is drafted.

Non accessory towers require a Special Permit. Accessory towers don't require a Special Permit.

If this particular tower were to be permitted as accessory, there's nothing stopping every single building that has residences in the city from erecting a similar tower. I think that's why you have to get a Special Permit for a tower like this. It's the effect on the neighborhood and that's what the Special Permit process allows for an examination of.



The Board can listen to the community. They can review the necessity of having a tower that's large and I accept that the appellant thinks that it's required for the type of hobby that he wants to engage in.

He doesn't just want to reach people in Iowa. He wants to reach people in the Middle East. And, if he can get a Special Permit from the Board, then the Department of Buildings is happy to help him build that radio tower.

Anyway, getting back to the 3000 users, I think that actually cuts both ways. There are 3000 users out there but the appellant hasn't been able or been willing to get any of them to come to the Board or submit an affidavit or even get photographs showing that they have a tower like this so there are 3000 users and only one of them wants a tower that's forty feet tall.

It seems to me that that doesn't -- that's not a customary use. That's not a customary -- this is an extraordinary ham radio use.

CHAIR SRINIVASAN: But, what about if they're engaging in exactly the same activity as somebody is but because of -- I don't know -- where it's located on the island versus -- you know, Manhattan versus Brooklyn. There are geographical considerations that may interfere or change the height and shape of the tower. I don't know -- I'm just asking, you know, the tower doesn't remain the same wherever you go. But, does it change the way it's being used?

MR. BEENE: Well, Madam Chair, it seemed like you're suggesting that if we allow ham radios as accessory uses, then we could allow anything that you need for a ham radio because it's a permitted accessory use. But, I think that goes too far.

CHAIR SRINIVASAN: I'm asking that question and I think that if the Board wants to support and agrees with the Building's Department - - I know you've talked about the Botanical Gardens case. I'm asking you to give us maybe more than just quote that in your papers so there is something more solid about it. I understand the Building Department's concern.

MR. BEENE: I think what - - we're using the Botanical Gardens. The Botanical Gardens says that when you look at accessory use, you look at the context. You look at the nature of the surrounding area and whether or not the proposed use is accessory compatible with the principal use, not just of the building, itself, but the language that I believe the counsel quoted at Executive Session yesterday, it speaks to the overall character of the particular area.

I mean, areas are defined. They don't mean New York City but they do mean the neighborhood for sure and the Department's position is that this type of tower is not compatible with East Village, fairly low-rise buildings. If it were compatible, we think we'd see more of them for one.

CHAIR SRINIVASAN: Well, I don't know about that. There are 3000 people who - - everybody doesn't have this as a hobby so I don't know if you'll see more than that.

But, I guess what you're saying is that somehow, just to play Devil's Advocate, if the same tower was in midtown and it was forty feet where - - you wouldn't be able to tell the difference with all the other things that are going on, the rooftops, it would be okay?

MR. BEENE: I don't want to speculate. I think it's something I would have to discuss with the technical people at Buildings.

CHAIR SRINIVASAN: I think it's just -- it's a little bit of a -- it feels to me a little bit of a gray area and I think the Board needs to understand. Okay. Yes.

COMM. OTTLEY-BROWN: It just seems, also, that it may not necessarily result in a forty foot tower.

From what the other counsel was saying, it seemed like you need seventy to eighty feet of height but if you're in a six-story building that's already sixty feet tall, you may only need ten extra feet so you may have an antenna that's only ten feet to accomplish the same thing that this person needs a forty foot antenna for because he's in lower building. Is that correct? Was my understanding correct?

MR. BEENE: That's what I got it from the papers but just because someone needs something doesn't mean the Zoning Resolution allows it.

CHAIR SRINIVASAN: No, but if one person is entitled to have this as an accessory use because it's ten feet, should another person not be able to be entitled to accessory use if it's forty feet?

MR. BEENE: Well, one person is entitled to put a garage in their yard because they have enough room in their yard because they have enough room in their yard to provide the required open space, for example, but the other person doesn't and they both are entitled to a garage.

CHAIR SRINIVASAN: But, you're asking us to take a very -- an approach which is about distinguishing this based on zoning districts and a different

context and so it applies one place, it's okay. Another place is not okay and I wondered is that what the Building's Department would do which would engage and always look at the character of each area, specifically, to understand whether it's an accessory use?

MR. BEENE: I think that's what the Botanical Gardens was supposed to do. I don't think it's an easy analysis to do but we do it on a regular basis. We decide whether something is accessory or non-accessory we do. Recently, we decided whether a sign was accessory. We had to determine whether that met the definition.

COMM. OTTLEY-BROWN: Well, it seems, though, that didn't Botanical Gardens really deal with the use as associated with the university? It didn't have to do with the use as associated with the size of the university like a small community college of a thousand people can't have a four hundred foot radio tower but a large university of 3000 people can have a large radio tower.

Whereas, this almost - - if you make that kind of a differentiation based on the size of the tower when the top of the tower is always going to be seventy feet, it's almost like doing the same thing as if you characterize what type of use could be associated with what size university, it seems to me.

The person - - if it's an accessory use and you need seventy feet height clearance in order to be able to communicate to different countries, then why should you be penalized simply because you're in a low-rise building versus in a seventy foot tall building where you might not even need an antenna?

MR. BEENE: Well, in a low-rise building, I think the impact on the neighborhood is different.

COMM. OTTLEY-BROWN: But, we're not supposed to be considering the impact on the neighborhood.

MR. BEENE: Well, we are. The Botanical Gardens says we absolutely should - -

COMM. OTTLEY-BROWN: We're supposed to be limited to customarily found, incidental to and customarily found and maybe the height of the antenna isn't relevant. Maybe it's just customarily found that you have ham radio users.

MR. BEENE: Well, ham radio users, it seems, have different requirements.

He even says in his papers that he thought about having a shorter tower but he couldn't reach the people that he wanted to reach in these far-off lands.

Maybe the rest of the 3000 are fine communicating - -

COMM. OTTLEY-BROWN: But, maybe the rest of the 3000 are in fourteen story buildings where it's not required because they already have that height clearance.

MR. BEENE: I feel like we're speculating. Maybe if we could get some more facts on what else is out there, we'll be able to answer the question of customary.

CHAIR SRINIVASAN: But, I don't see this concern and maybe you can respond back is that, I guess is there any fine line? Is there some bright line which you're saying that this makes it accessory and this makes it non-accessory? And, does it really apply universally? I think we don't want to have a situation where in this particular case it applies?

I think in terms of fairness and how we look at accessory use and how we look at ham radios in the context of accessory use?

I don't know what we would be saying if - - we say this one, how this relates to other accessory uses? I just don't know how it's sort of universally applied?

MR. BEENE: I think that I'll have to go back and think about that and discuss it with our men and see how we can better characterize or at least be more consistent with the way that - -

CHAIR SRINIVASAN: Right. I mean, the reason - - and I just want to go back to - - you're right. We're speculating because we're considering different conditions and how it would apply? But, I would just say that even in the East Village, this building is four stories and I think it's what Commissioner Ottley-Brown is saying. The district allows you to go to six stories. It allows you to go to seven stories. It just so happens that that building is four stories versus seven stories and both of them may have a ham radio antenna on top of it. Both of them may be doing exactly the same. The use is exactly the same use, not the structure.

And, so, how do you say one is accessory? The other one has to go through a Special Permit?

MR. BEENE: I think we're just struggling to give meaning to the term accessory.

If we can't do what we've done in this case and say that we don't see the custom. We think it's very big but we're not going to decide necessarily only on size. We're going to say that we just don't have any evidence that this type of thing was contemplated as an accessory radio tower in the Zoning Resolution.

If we can't do it that way, the way we've done it here, I'm not sure how we could do it. How do we give effect to the language? And, where does the Special Permit requirement come in? It actually applies in manufacturing, residential and commercial districts.

CHAIR SRINIVASAN: Well, we see a lot of commercial non-accessory towers in residential districts. That Special Permit comes -- people come under that Special Permit many times to the Board.

Typically, it's for -- you know, it's for one of the big companies; Nextel --

VICE-CHAIR COLLINS: Right, Verizon.

CHAIR SRINIVASAN: Verizon --

VICE-CHAIR COLLINS: When they exceed the --

CHAIR SRINIVASAN: Well, they're just commercial in nature, I think.

VICE-CHAIR COLLINS: Or when they exceed the allowable parameters of the TPPN if there's a rooftop that has "x" number or "x" amount of square footage or a certain height, whatever those parameters are, we've seen those cases quite frequently.

CHAIR SRINIVASAN: Right. The Special Permit has -- it has meaning so, regardless of this case, but --

MR. BEENE: So, it seems that -- just going back to Botanical because I didn't get to get through everything I wanted to say about it, there was a need in that case, a need that was connected to the institutional mission, Fordham University.

And, in order to carry out that need, they needed a tower of a certain size. And, part of what was established before the Board was that towers of this size were very common throughout the United States for universities that wanted to operate radio stations and I guess there was also a Federal requirement that they be a certain strength in order to - - I think it was an MPR license. I don't remember that precise.

But, the point is is that there was a need. Here, there was a desire. There's not a need to operate ham radio. There's nothing inherent about a residence that - -

CHAIR SRINIVASAN: I don't see that that's been relevant.

COMM. OTTLEY-BROWN: There is a need to reach a seventy foot clearance in order to operate your ham radio properly and reach the Middle East.

There's a need to reach a seventy foot clearance regardless of how you do it, it seems; whether or not you're in a six or seventy story building with a ten foot antenna or a two-story building with a fifty foot antenna or a four story building with a thirty foot antenna on top.

You need to reach that clearance.

MR. BEENE: Well, with all due respect, it seems that the need was - - the nexus between the institutional mission of Fordham and the tower seems a lot closer than the need to have a specific type of ham radio use in a residence.

CHAIR SRINIVASAN: I'm just troubled by the fact that you're interjecting need when, I think, the definition of accessory use doesn't speak to meet.

MR. BEENE: I'm only - - the Botanical Gardens says a little bit more about what accessory use means so we think the text prohibits it. But, the text is elucidated by both BSA cases and the Court of Appeals case.



On accessory use, it tells us what else to think about. It gives us some other language to talk about the relationship between accessory and principal.

CHAIR SRINIVASAN: Right, but I don't think it -- and, you know, I haven't read it recently but I don't know whether -- you see, the facts of that case was that the Board and the courts agreed that it was accessory use and, therefore, I think the issue at need is clear.

But, to say something is non-accessory doesn't necessarily mean that you have to show need or no need.

MR. BEENE: I guess I just wanted to focus on the connection between the radio tower at Fordham and an institutional mission on the one hand. And, on the other hand, just an ordinary citizen that wants to use a ham radio in a residence.

Residences don't have anything to do with ham radio operation. They just don't. It's something that can be done but he could -- even if he wanted to broadcast his own television show, for example, as an amateur, I don't think that the Department would let him do that. I think that would be a commercial enterprise in a residence.

There's no need to do it. He just wants to and in order to broadcast his, whatever it is -- show about insects, he has to have a certain size tower. I just don't see the difference between those two.

COMM. OTTLEY-BROWN: I don't think he's broadcasting, though.

MR. BEENE: He is broadcasting. He has a transmit and receive.

COMM. OTTLEY-BROWN: But, isn't that any type of communication?

MR. BEENE: No.

COMM. OTTLEY-BROWN: Even a telephone communication is transmitting and receiving signals.

VICE-CHAIR COLLINS: But, I think Vice-Chair Collins just said that when the telephone companies want to put up a tower, they have to get a Special Permit.

COMM. OTTLEY-BROWN: (Unintelligible) commercial use.

MR. BEENE: But, the antennas that have been allowed, the aerials under the permitted obstruction provision, 23-62, says or it's referring to your big rabbit ears on top -- rabbit ears is the wrong term -- but just the antenna that we use to get our air channels from. And, there was no transmitting going on. They were simply receiving. You put it up and you get your signal. I think it's a different exchange all together.

COMM. OTTLEY-BROWN: Right. But, I'm just saying that a two-way transmission doesn't mean that you're broadcasting a radio show.

A two-way transmission can be a personal conversation.

The old cell phones used to have antennas for two-way transmission.

MR. BEENE: Well, I guess I'm just distinguishing the aerial which is just the thing that you put on top of your building so you can get a T.V. signal and you just received the T.V. signal from something that you put up so that you can send signals and receive signals.

And, fine, maybe you're not broadcasting on closed circuit T.V. or you're not - - you know, have a public - - even bought some time on PVS in the middle night but it's still a transmission, whereas, the aerial is just a one-way.

COMM. OTTLEY-BROWN: I had ham user radios in my extended family when I was younger and we wanted to reach Trinidad. We needed a two-way transmission.

We were not broadcasting any programs. We literally were trying to reach someone in Trinidad to find out different things that we needed to know about a visit we were making and we reached somebody who lived in Port-of-Spain who was an amateur ham radio user and we had a whole conversation with them. It did not involve broadcasting, you know, major messages from U.S. to Trinidad.

It involved a one on one communication with somebody else over a vast distance of over 2000 miles.

MR. BEENE: You don't remember how tall the tower was, do you?

COMM. OTTLEY-BROWN: Actually, we were not in a tower. We were in Co-op City on approximately the 11<sup>th</sup> floor so we probably didn't need a tower.

MR. BEENE: Again, I think we're waiting on some more evidence about what's really going on in the city and we're not trying to take hard and fast position here. We're just trying to give meaning to accessory use.

CHAIR SRINIVASAN: Okay. We understand. Any other questions? Are there other speakers? Yes, Mr. Slowik, you'll get a chance. Any other speakers? Okay. Yes. Please come forward.

MR. SLOWIK: I just want to address a few points in closing and I want to start by thanking the Board. You've really dug into this and considered this issue from all sides and I really appreciate the attention you've shown to the applicant's case here.

Just a couple of things that I want to address in terms of what counsel said.

The Department seems to indicate that they would be okay within an antenna of twelve feet and that they have a problem with the antenna of forty feet, and I think, Chair Srinivasan, you were alluding to this that there doesn't seem to be a bright line.

There doesn't seem to be anything to say, well, twelve feet is okay but forty feet isn't -- you know, is thirty-eight okay. Is thirty okay? Is twenty-six okay?

There was nothing in the zoning text or anywhere else that speaks to this and I -- in combination with some comments that counsel make that, for the record, frankly, disturb me a little bit and I'm a little disappointed because I've worked well with counsel before.

We've collaborated on a number of cases but that seemed to be or dangerously close to a bias against this activity in saying that it's a desire. It's not a need. It's just a hobby. Why does he need to do this anyway?

Whether or not the Board ultimately decides this issue in terms of just looking at the four corners of the New York City Zoning City Zoning Resolution or whether we turn to Federal Law, there's been very strong findings effect by the United States Congress

that amateur radio is, in fact, a vital service to this country and it is something that is to be encouraged and allowed to flourish in this country.

So, I'd like to just, you know - - again, I'm troubled a little bit by the tone of, well, this is just one guy and what does he need this for anyway?

There's very strong findings to the contrary by the United States Congress that this is something that is, you know, in the national interest.

With regard to the point that was raised. You know, there's been a lot of discussion about the Botanical Garden's case.

And, there is one issue that's raised in that case that I would like to speak to briefly which is kind of implicit in a lot of what's been spoken about here today.

The Botanical Garden's case does distinguish between use and bulk. And, this is pretty elementary land use law. Broadly speaking, there's two things that the Zoning Resolution regulates.

It regulates the bulk, which is how big things can be, and it regulates the use which is what things can be used for.

And, what seems to be happening here is an argument that says the use - - it's not an accessory use because it's too big and I think that's conflating use and bulk in a way that isn't necessarily contemplated by the Zoning Resolution.

With regard to the threat of proliferation of similar antennas, I'll just note that in order to maintain such an antenna in the first place, you need a ham radio license which is not an easy thing to get. It's actually quite a substantial undertaking to get so it's not as if everybody can just run out tomorrow and erect one of these. I just wanted to make that clear.

And, the last point I want to make before we talk about what our briefing schedule is going to be and what more information we can get to you is that I am a little bit concerned.

There's a practical concern with regard to supplying more information to the Board about other users within New York City.

I think there's a very real practical concern with other -- you know, we can't necessarily go to John Doe, who has an antenna, because I think there's a very real concern.

My client considers himself to be enveloped in a legal nightmare right now, and I think there's a very real concern that if we go to someone else and ask him to volunteer information about his antenna, that he'll get similarly involved in a legal nightmare.

And, there's one particular point I wanted to raise with that is that part of the determination being appealed from is that there's still a stop-work order in effect on my client's property that was imposed by DOB and, in the meantime, DOB has issued him several violations for conditions of the building unrelated to the tower.

(Unintelligible) falling, there's currently on the façade of the building and he's in a Catch 22. He can't fix these conditions because there's a stop-work order in place.

And, part of my application to this Board is for a lift of that partial stop -- a partial lift of that stop-work order will leave the antenna in place during the pendency of this case.

But if there's a way as we schedule this case that perhaps can be considered on an expedited basis, I would certainly appreciate that, and I thank you for your time and consideration.

CHAIR SRINIVASAN: Yes. Mr. Beene, go ahead.

MR. BEENE: I can speak to that last issue. There is a safety concern at the building and I invite counsel to contact me directly and I can help with the processing or partial stop-work lift. I was not aware that that was something that was going on at the building and, certainly, safety comes first.

CHAIR SRINIVASAN: Right. I think the two parties can work that out without us.

MR. HOPENGARTEN: Yes, I think we can.

MR. BEENE: Thank you. I just wanted to note that.

MR. HOPENGARTEN: I'm sorry, Madam Chair, the applicant, himself, would like to speak.

CHAIR SRINIVASAN: Yes, all right. Mr. Issacs.

MR. ISSACS: Good morning. My name is Paul Issacs, and I've been licensed by the Federal Communication's Commission for fifty-five years.

I'm also a professor, here, in New York City at John J. College of Criminal Justice. I teach computer security.

Several years ago during the Carter Administration, I received a commendation from the White House. Why? He brought very good - - you reminded me. I was listening one evening on the radio and I heard a distress call from Guyana, South America.

They were asking for any station in Los Angeles to please call them for medical assistance. They were looking for a doctor and I listened on the frequency. Nobody answered them so I turned the antenna towards L.A.

First, I called the people in Guyana, and I said let me see if I could help you.

Then I turned the antenna towards Los Angeles. I said beam L.A. This is W2JJQ. That's my call letters; looking for stations in Los Angeles, and I couldn't believe it. A Los Angeles station answered me.

I said turn your antenna southeast, towards Guyana, South America. They need medical assistance. And, I stayed on the frequency and they found the doctor that these people were looking for, and I was just happy to help them out.

Two weeks later, I received a white envelop, left-hand corner in blue. It said White House, and I opened it up and it said President Carter wishes to commend you for lending your amateur radio station and in helping the people in Guyana, South America.

And, I feel very good about that because, as you mentioned, the antenna is the key to people hearing you all around the world.

And, one of the things ham radio is about is helping people in distress.

During floods in Jamaica, I helped people speak to their relatives because all the telephone lines were down. There's no way you could reach anybody but through amateur radio, it was possible.

And, I just wanted to mention this to you that you brought up a very valid point, and it's been my hobby and I have planned to continue doing it. Thank you.

CHAIR SRINIVASAN: Thank you, Mr. Issacs. All right. So, okay.

So, we'll set a schedule. How much time do you need to get back to us?

MR. SLOWIK: Four weeks.



CHAIR SRINIVASAN: Four weeks. Okay. So, that's September  
18<sup>th</sup>.

MR. SLOWIK: Okay.

CHAIR SRINIVASAN: Building's Department can submit to us  
on October 2<sup>nd</sup>, and we will hear this case on October 16<sup>th</sup>.

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# **EXHIBIT B**

W2JGQ, Paul Isaacs:



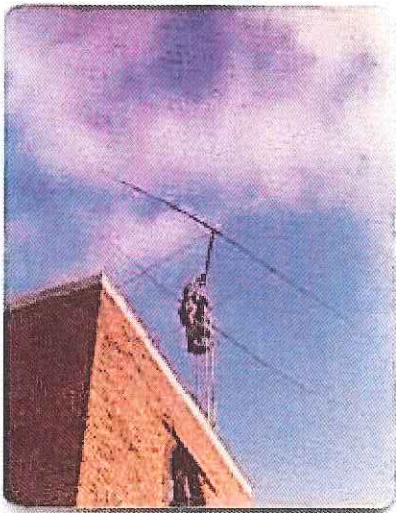
Borough: Manhattan (231 East 11<sup>th</sup> Street – subject property)

Underlying zoning: R8B

Building: 4 stories; 5 residential units (no certificate of occupancy)

Prior W2JGQ antennas at 231 East 11<sup>th</sup> Street:

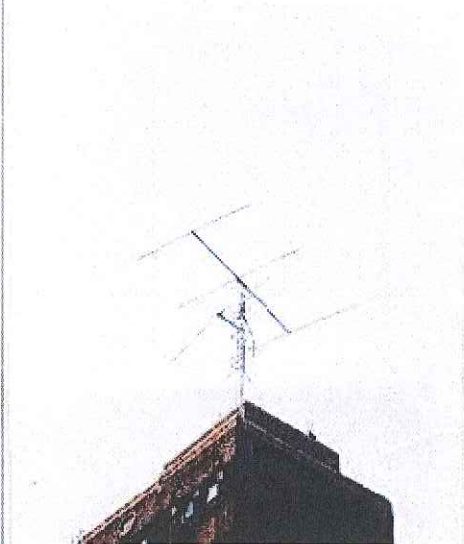
1976 - 1980



1980 - 1984

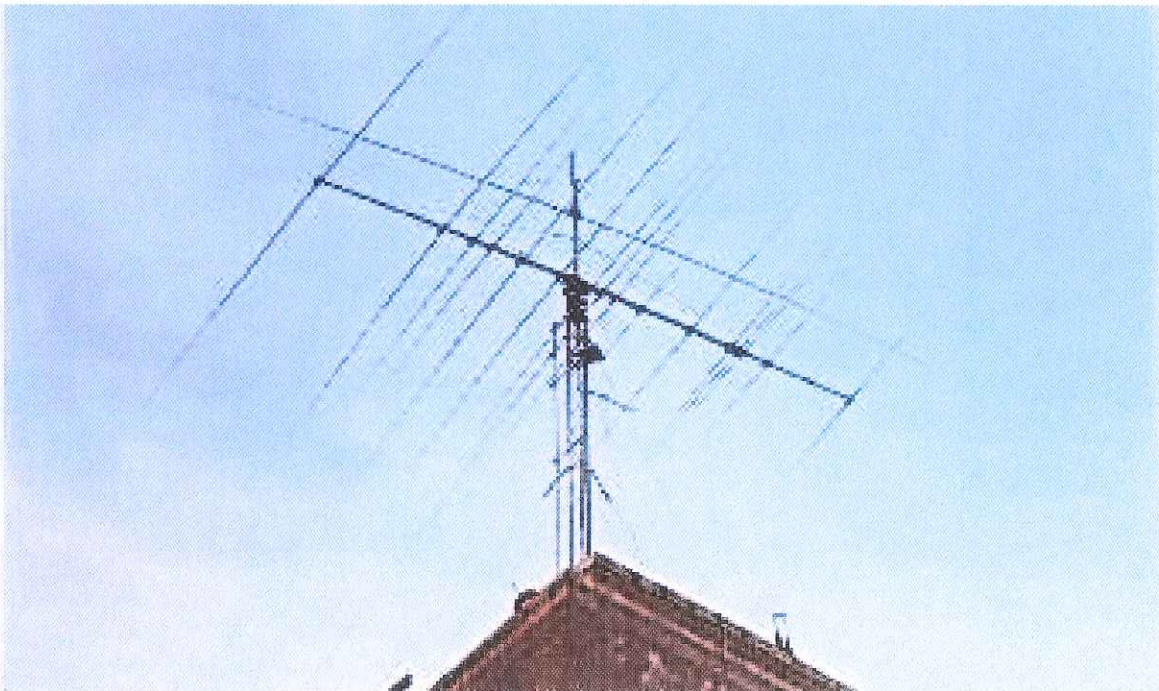
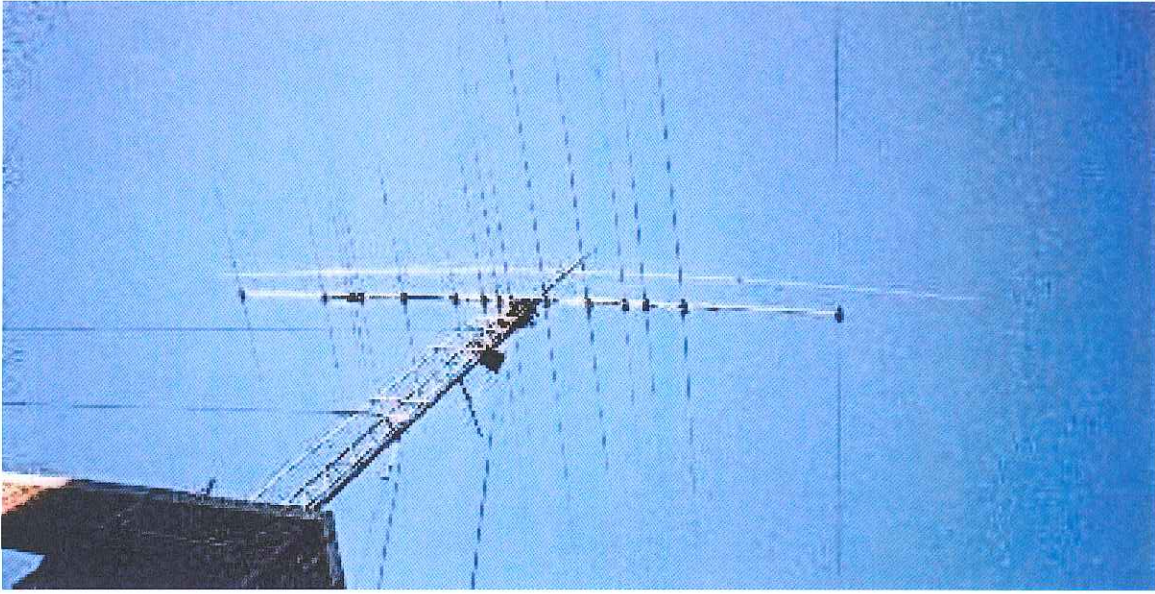


1984 - 1998



1998 - 1999

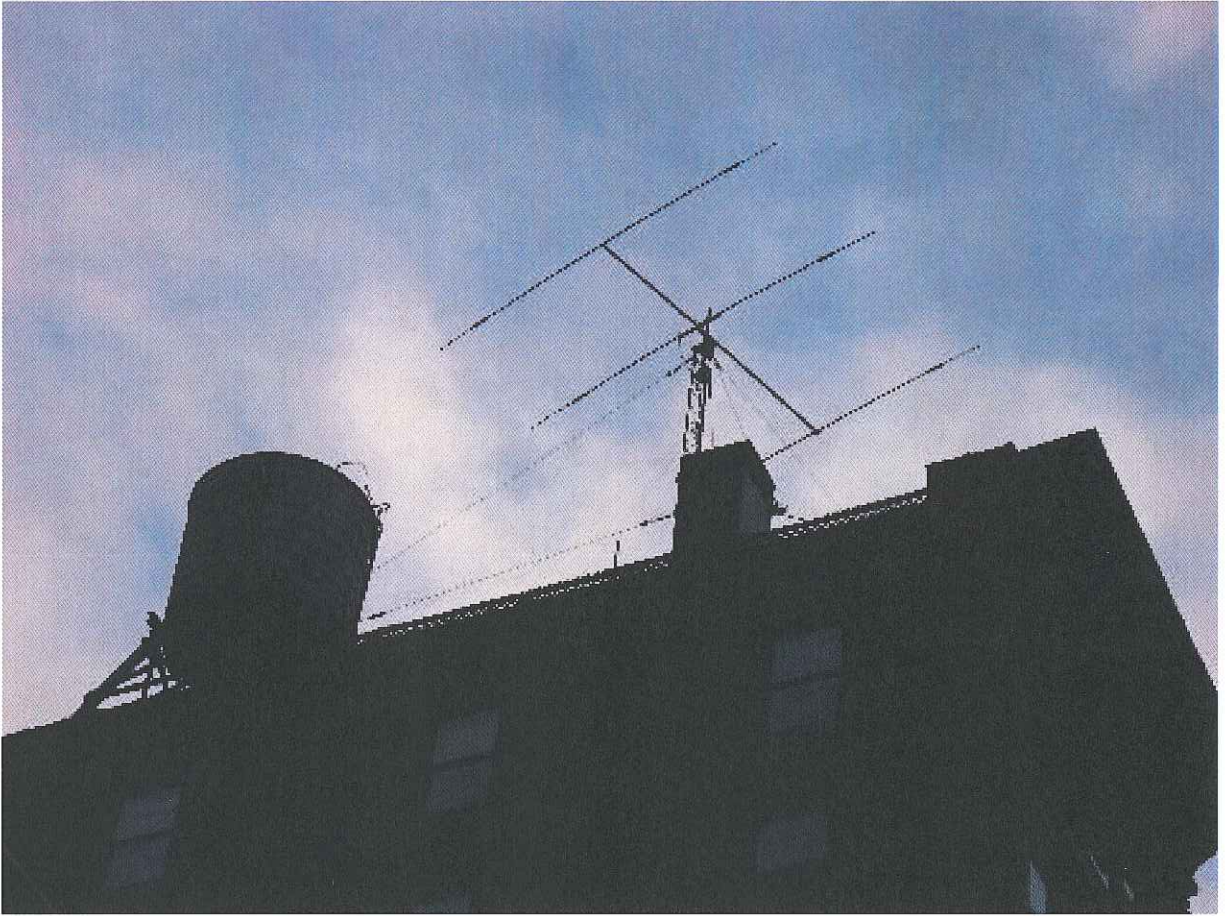




Borough: Manhattan

Underlying zoning: C6-4

Building: 16 stories; Use Group 6 on ground floor, remainder Use Group 2



Borough: Manhattan

Underlying zoning: M1-5M

Building: 11 stories; Use Group 6 on ground floor; remainder Use Group 2



Borough: Bronx (3985 Gouverneur Avenue; antenna erected pursuant to Alt-3 No. 220034807, signed off on 3/17/10)

Underlying zoning: R7-1

Building: 13 stories; Use Group 2



Borough: Queens

Underlying zoning: R2

Building: 1 story, Use Group 1





Borough: Manhattan

Underlying zoning: R10

Building: 19 floors; Use Group 2

(Note: date on photographs is in error. Photographs were taken by Christopher Slowik, Esq., on September 20, 2012).

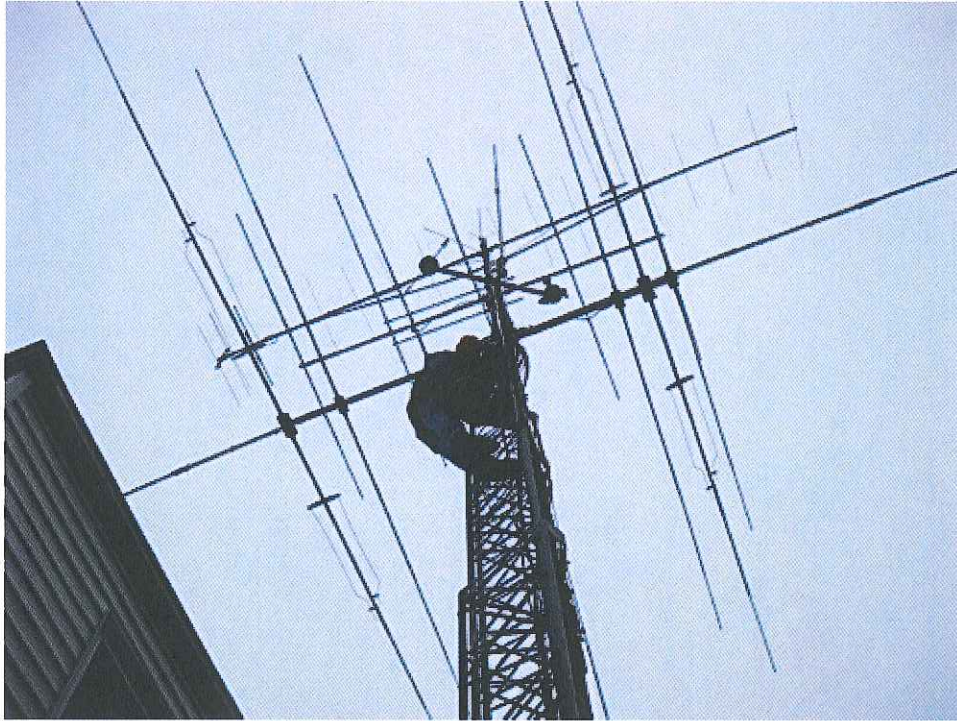


Borough: Queens

Underlying zoning: R2

Building: 1 story; Use Group 1

(Note: antenna was maintained at site from 1968 to 2003. Antenna is no longer at site.)



Borough: Brooklyn

Underlying zoning: R4-1

Building: 2 story; Use Group 1



Borough: Manhattan

Underlying zoning: R10-A

Building: 13 stories; Use Group 6 on ground floor; remainder Use Group 2



Borough: Queens

Underlying zoning: R2A

Building: 2 stories; Use Group 1

# **EXHIBIT C**

C O P Y

THE CITY OF NEW YORK  
Intradepartmental Memorandum

To: Borough Superintendents               Date: November 22nd, 1955  
From: Bernard J. Gillroy                     Subject: RADIO TOWERS  
Commissioner

Numerous radio towers have been erected throughout the city for amateur radio stations. Because of the small size and light construction of such towers and since such towers are frequently used for a temporary period only, they have been accepted as being similar to poles. In order to obtain uniformity in all boroughs, permits for radio towers for amateur radio stations may be issued under the following conditions.

1. The application may be filed by the radio amateur.  
The applicant shall file a location plan, the manufacturer's specification for the tower and its support, the manufacturer's analysis of the stresses in the tower and its supports, the details of footings, guys and braces.
2. Where the tower is erected by a tenant, the consent of the owner shall be filed. Towers shall not overlap adjoining property unless the consent of the owner of such property is filed. Guys may be fastened to anchors on adjoining property, if the consent of the owner is filed.
3. The height of such towers shall not exceed seventy-five feet above the adjacent ground, except that towers constructed of wood may not exceed 20 feet in height.
4. The construction of such towers shall be checked to insure safety. If constructed according to the specifications of the manufacturer, the tower may be accepted. Foundations of such towers shall meet the requirements of the code.
5. The thickness of steel in towers shall be not less than one-eighth inch when galvanized. If not galvanized, steel shall be not less than one-fourth inch in thickness. Aluminum shall be not less than one-eighth inch in thickness when used structurally. Where towers are constructed of tubing, the minimum wall thickness of the tubing shall be not less than one-sixteenth inch and such tubing, if steel, shall be galvanized on the exterior.

6. Such towers may be accepted in rear yards as they are not substantial enough to effect light or air. They may be accepted in residence districts as accessory to the dwelling.

7. Towers constructed of wood may not be erected on roofs.

Bernard J. Gillroy  
Commissioner

cc: Deputy Comm. Crinion  
H. Pine-Bureau of Records  
D. Collins-Legal Division  
T.V. Burke, Ex. Eng.

ARRL  
6102  
MS/L-12  
lc-pw



# **EXHIBIT D**

## Accessory Use Cases

***Village of St. Louis Park v. Casey***, 16 N.W.2d 459, 218 Minn. 394 (1944)

(Holding that a sixty foot high pole and two thirty foot high poles supporting a wire amateur antenna were permitted as an incidental use of residential property.)

The use of radios in private residences is as common as the use of refrigerators. The court takes judicial notice of the custom of householders to use outside antennae or aerials for radio reception. This custom may be waning on account of the improvement of inside aerials, especially for local reception, but it is still recognized as good practice, especially for long-range, short-wave reception, for which most good sets are equipped. While many aerials are attached to poles above the roofs of dwellings, and even to trees, the use of separate poles or masts for this purpose still prevails when a householder seeks the best reception. Such equipment is certainly customarily incidental to a residential establishment.

The use of short-wave amateur sets for both reception and transmission is so common in the United States that the Federal Communications Commission licenses such sets for transmission within certain wave lengths, and there is an American Radio Relay League of the proprietors of amateur stations. That many, if not most, of these amateur stations are operated in connection with residences is too well known a fact to be ignored. The evidence in the case at bar tends to show that there are at least six amateur stations in plaintiff village, some with higher poles than defendant's.

There is no evidence in the record that the use of defendant's set for transmission requires a change in the type of structure for long-range reception, but, even if it does, it would not change the legal aspects of our problem. Neither the height of such poles nor their appurtenances are regulated by ordinance so long as they present no hazard to person or property. Whether the pole was short or long, its use was for the same purpose. If long, it was more effective in certain ranges.

No aesthetic considerations are here involved. No relief is sought on the theory of nuisance or interference. There is no competent evidence of such. On the determination of this branch of the question before us, the sole issue is one of customary use. That defendant's indoor equipment cost him nearly \$10,000 and that he uses it for the purposes hereinbefore stated does not present a [218 Minn. 398] difference in the kind of use to which he devotes his exterior equipment from that of the ordinary radio set. It is merely a difference in degree. It is still radio communication. If the proprietor of a radio set is willing to make the necessary investment in a set capable of communicating with other parts of the world, he is still, if licensed so to do, within the legitimate field of amateur radio and within the normal, and, so far as amateurs are concerned, within the customary use of residential establishments by such amateurs.

At 460-461.

***Lord Appeal***, 368 Pa. 121, 128, 81 A.2d 533 (1951)

(Holding that a self-supporting tower, triangular, 39" face at the base 12" face at the top and 32' high in a backyard which is, from the house to the rear boundary, 50' x 60', with a 4 element rotary Yagi on 12' boom was a customary use.)

There was no evidence to establish that the structure would be unsightly, although it is probable that some people would consider it so. A home owner cannot be deprived by zoning of a right to use his own property as he wishes merely because a zoning board believes that what he intends to erect is not artistic or aesthetic: *Liggett's Petition*, 291 Pa. 109, 118, 139 A. 619; *White's Appeal*, 287 Pa. 259, 266, *supra*; *Miller v. Seaman*, 137 Pa. Superior Ct. 24, 8 A.2d 415. Whether the antenna mast is an accessory use, customarily incidental to other uses permitted in an "A" residence district, is a close question. A similar but much smaller antenna had been erected and was in operation for many years in and on top of the petitioner's house without the slightest objection from anyone. In passing through numerous urban areas, one is impressed with the seemingly endless line of television antennae on nearly every house for mile

after mile. Antenna for radio and television have become a part of the home of countless Americans in every economic strata of life.

Does the fact that this mast (and antenna) are considerably larger than the usual mast (and antenna) take it out of the permitted and customary uses? We believe that to so hold would place an unnecessary and unwarranted block in the road of progress and in the legitimate enjoyment of private property.

***Wright v. Vogt***, 7 NJ 1, 80 A.2d 108, 109-110 (1951)

[P]laintiff applied to the defendant building inspector for leave to erect in the rear of the plot 'a triangular-shaped support of uniform cross section with exposed faces of 13 inches to a height of 60 feet, for the purpose of supporting plaintiff's directional rotary antenna' . . ." at 109

"There is express provision in the ordinance for an 'accessory building customarily incidental' to the residence and other uses permissible in residence zones. The word 'building' is defined by the ordinance to include 'structure.' And the term 'accessory building' is defined as 'a building such as a stable, garage, playhouse, barn, or greenhouse, which is subordinate to the main building on a lot and used for purposes customarily incidental to the main building.' Thus, the proposed metal shaft or tower would constitute a permissible accessory use in residential districts . . . at 110

***Skinner v. Zoning Bd. of Adjustment of Cherry Hill Tp.***, 80 N.J. Super. 380, 193 A.2d 861 (1963)

(Holding that a radio tower and antenna not to exceed 100-feet in height was an accessory use in a residential zone.)

The primary question involved herein is whether a radio tower for use by an amateur as a hobby constitutes an 'accessory use' within a residential zone so as to be \*384 permissible without the need for a variance. The Law Division so found, relying upon *Wright v. Vogt*, 7 N.J. 1, 80 A.2d 108 (1951). We agree with its conclusion as to that aspect of the case, because *Wright v. Vogt* expressly so declared, holding that an amateur's radio tower, used by him in the pursuit of his hobby, was an accessory use and 'customarily incidental' to the enjoyment of a residential property. The ordinance in question permits accessory uses in a residential zone and defines an accessory use or building as: 'A subordinate use or building the purpose of which is customarily incidental to the main use or building and on the same lot.' Similar language involved in the ordinance in *Wright v. Vogt* was interpreted to permit a radio tower and antenna, 60 feet in height. See also *Borough of Chatham v. Donaldson*, 69 N.J. Super. 277, 282, 174 A.2d 213, 216 (App. Div. 1961), in which we said: 'Use by a family of a home under our customs includes more than simple use of a house and grounds for food and shelter. It also includes its use for private religious, educational, cultural and Recreational advantages of the family. at 383-384

The 1960 Cherry Hill ordinance made it clear that an accessory use in a residential zone may include a private garage, a swimming pool and a tool house, but we do not regard the express inclusion of those three items as an intended exclusion of all other accessory uses. No contention is made that plaintiff's contemplated use of this radio tower is for any business purposes. At 386

***Dettmar v. County Bd. of Zoning Appeals***, 28 Ohio Misc. 35, 273 N.E. 2d 921, 922 (Ohio Ct. Com. Pl. 1971)

[http://scholar.google.com/scholar\\_case?case=16778308918302091389&q=Dettmar+v.+County+Bd.+of+Zoning+Appeals&hl=en&as\\_sdt=40000002](http://scholar.google.com/scholar_case?case=16778308918302091389&q=Dettmar+v.+County+Bd.+of+Zoning+Appeals&hl=en&as_sdt=40000002)

(Holding that 64-foot antenna tower was a customary residential use.)

Appellant is an amateur radio operator. This is a hobby through which the "ham" operator gains skill in science, electronics and radio technique. It is carried on purely for the development of the individual and not for any financial gain. Family hobbies, recreation and education are without question accessory uses customarily incident to single family dwellings. The words "uses customarily incident to single family dwellings" mean the class of activity a family customarily does in or about their home. It does not limit the use to the identical activity chosen by the neighbors, As long as the activity is a form of family hobby, recreation or education it is permissible even though it may be unusual unless it is specifically excluded by a zoning restriction. The fact that not many people have amateur radio antenna no more precludes this use than the fact that not many people have tennis courts precludes their use.

***Town of Paradise Valley v. Lindberg***, 551 P.2d 60, 27 Ariz. App. 70 (Ariz.App.Div.1, 1976)

(Holding that the erection of a 90-foot amateur radio tower in conjunction with a homeowner's hobby as a ham radio operator is a permissible accessory or incidental use.)

The court, on July 26, 1974, issued its judgment, together with findings of fact and conclusions of law, finding that a special use permit was not required for the construction of an amateur radio tower; that such a tower was an accessory use to the residence; . . . At 60

The primary question to be resolved here is whether the erection of an amateur radio tower in conjunction with a homeowner's hobby as a ham radio operator is an incidental or accessory use to the permitted use of the property, a single family dwelling. The trial court so found and we agree. At 61

[T]he [trial] court's language is representative of the rationale of the other courts similarly ruling, supra, and is the view we adopt:

'Appellant is an amateur radio operator. This is a hobby through which the 'ham' operator gains skill in science, electronics and radio technique. It is carried on purely for the development of the individual and not for any financial gain. Family hobbies, recreation and education are without question accessory uses customarily incident to single family dwellings. The words 'uses customarily incident to single family dwellings' mean the class of activity a family customarily does in or about their home. It does not limit the use to the identical activity chosen by the neighbors. As long as the activity is a form of family hobby, recreation or education it is permissible even though it may be unusual unless it is specifically excluded by a zoning restriction. The fact that not many people have amateur radio antenna no more precludes this use than the fact that not many people have tennis courts precludes their use (in Arizona we could also add swimming pools).' *Dettmar v. County Board of Zoning Appeals*, supra, 273 N.E.2d at 922. (Bracketed material added) At 62

# **EXHIBIT E**

## Consideration of the Potential for Radio Frequency Interference is Improper

### 47 USC § 302a. Devices which interfere with radio reception

#### SUBCHAPTER III - SPECIAL PROVISIONS RELATING TO RADIO

...  
(f)(2) A station that is licensed by the Commission pursuant to section 301 of this title in any radio service for the operation at issue shall not be subject to action by a State or local government under this subsection. A State or local government statute or ordinance enacted for purposes of this subsection shall identify the exemption available under this paragraph.

***Freeman v. Burlington Broadcasters***,  
204 F. 3d 311, 323-325 (2d Cir. 2000), cert. denied, 531 U.S. 917 (2000)

(VT). Holding that "given the FCC's pervasive regulation in this area" (at 323), "allowing local zoning authorities to condition construction and use permits on any requirement to eliminate or remedy RF interference 'stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress.'"(at 325))

***Palmer v. City of Saratoga Springs***, 180 F. Supp. 2d 379 (USDC NDNY 2001)(Mordue, J.)  
[http://scholar.google.com/scholar\\_case?case=6669713392523172990&q=palmer+v.+city+of+saratoga+springs&hl=en&as\\_sdt=2,22&as\\_vis=1](http://scholar.google.com/scholar_case?case=6669713392523172990&q=palmer+v.+city+of+saratoga+springs&hl=en&as_sdt=2,22&as_vis=1)

The few Planning Board requests that Palmer refused to agree to were unreasonable on their face. . . . Palmer refused to give the Planning Board any additional information on the issue of interference for the simple reason that the issue of possible interference was beyond the Board's purview. At 385.

# **EXHIBIT F**

# 9/11/01: "This is *Not* a Test."

Amateur Radio operators mobilized within minutes of the first attack on the World Trade Center, then responded magnificently in the Washington, DC, area and Pennsylvania.

**On** September 11, 2001, and in the days and weeks since, Amateur Radio operators have demonstrated their readiness, perhaps as never before. While Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service training might not have readied them to fully comprehend the terrible events of that day, Amateur Radio operators were among the first to volunteer their stations, their skills and themselves.

"The SET is cancelled; this is the *real thing!*" said ARRL New York City-Long Island Section Emergency Coordinator Tom Carrubba KA2D, who only weeks earlier had been outlining plans for his section's Simulated Emergency Test in October. The events of September 11 changed all of that, and without the

luxury of the sort of advanced warning that might occur in a weather-related disaster. Amateur Radio was up against its greatest challenge ever.

"We found ourselves faced with a disaster that no one in their wildest dreams could have ever imagined," Carrubba said. "And this one was right in our own backyard."

## "This is Not a Test!"

Providing emergency communication tops the list of reasons that validate Amateur Radio in the eyes of the FCC. Given the ubiquity of the cellular telephone these days, some have predicted this particular mission would evaporate. When the terrorists struck in New York City and Washington September 11, however, commercial telecommunications

systems—wired and wireless—were severely compromised. New York City broadcasters using the World Trade Center antenna went dark.

As soon as the nature of the threats was recognized, federal, state and local officials declared states of emergency. Along with other federal agencies, the FCC shut down. No one knew what to expect. RACES teams found themselves suddenly and unexpectedly activated, not just in the immediately affected areas of New York City and Washington, DC, but across the US. ARES groups went on alert everywhere.

Montgomery County, Maryland, Deputy RACES Officer John Creel, WB3GXW, said nothing in his experience had prepared him for "the feeling that went through my mind when I picked up

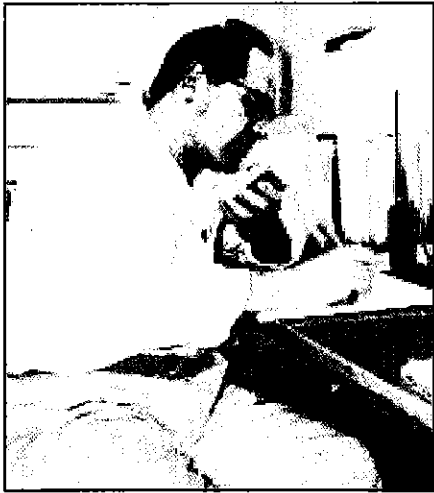


American Red Cross Disaster Telecommunications Staff Partner Jay Ferron, N4GAA (right), points to Ground Zero as ARRL President Jim Haynie, W5JBP (center), and ARRL Hudson Division Director Frank Fallon, N2FF, look on.



At the American Red Cross radio room in Brooklyn, Daytime Shift Manager Mark Dieterich, N2PGD (standing), checks the volunteer shift schedule. Simone Lambert, KA1YVF, handles schedule management from the World Trade Center Disaster Relief Communications registration Web site. Both volunteered from Rhode Island.





**John Allocca, WB2LUA, was among the operators at the Red Cross Brooklyn headquarters.**

the microphone and said the words, "This is not a test!"

Americans were just learning of the events unfolding at the World Trade Center when the Pentagon attack occurred and a fourth aircraft crashed in rural western Pennsylvania. In the immediate aftermath of the crisis, telephone lines were jammed, and cell systems overwhelmed. Chaos reigned.

Amateur Radio played a role in helping to restore order. "Never have I felt more strongly about what a great privilege it is to be part of the extraordinary global community of Amateur Radio," declared ARRL President Jim Haynie, W5JBP, as amateurs sprang into action to do their part.

### **New York City-Area Amateurs Respond to "The Real Thing"**

Terrorists had crashed two airliners into the World Trade Center. The famed Twin Towers then collapsed, setting off a chain of events that involved all of New York City's rescue services. With air travel suddenly suspended, countless passengers found themselves stranded with nowhere to go.

The first to respond were New York City firefighters, police and other rescue workers. Many of them were lost as the buildings fell. Most are still unaccounted for. As this is written, the total number of people missing stands at more than 6400.

As it turned out, New York City's Office of Emergency Management had been located on the 21st and 22nd floors of the World Trade Center. Many local officials had been evacuated to the mayor's "bunker" nearby. It also became unusable in the hours after the attack.

ARRL Hudson Division Vice Direc-

tor Steve Mendelsohn, W2ML, works for ABC News and was in Manhattan during the World Trade Center attacks. He called the scene there "surreal," with police checkpoints set up along highways and military jets criss-crossing the skies above the city.

Former ARRL Headquarters staff member Warren Stankiewicz, NF1J, was in Manhattan from the West Coast on business when the attacks occurred. "The damage is unbelievable," he reported the evening of the attacks. "Grand Central was a panic, and the trains were packed beyond belief. I talked to one woman who had walked four miles with borrowed shoes to get to the train."

But, as Mendelsohn was to later observe, "A city thought of by many as cynical pulls together as few others have in times of crisis."

With a state of emergency in effect, Amateur Radio's resources soon mobilized. Ivan Rodriguez, KC2CHE, of

Brooklyn, told ARRL that the New York City ARES net came alive within five minutes of the first plane attack. "It's the first thing I thought about," he said. "We may be needed."

### **Answering the Call**

As lower Manhattan quickly took on the look of a war zone, New York City ARRL District Emergency Coordinator and RACES Radio Officer Charles Hargrove, N2NOV—who served as the ARES/RACES incident commander—put out a call to the ARES and RACES leadership. Hargrove and his staff found themselves thrust into the midst of the activation.

New York City-Long Island Section Manager George Tranos, N2GA, huddled with Carrubba at the SEC's Long Island home as the activation got under way. ARES and RACES concentrated their efforts to provide support for the New York City OEM and for American Red

### **The Youngest Volunteer**

Ten-year-old Beverly Holtz of Huntington, Long Island, New York, was distraught after hearing of the tragedy at the World Trade Center.

"I slowly explained what the news footage meant," said her father Fred Holtz, K2PSY. "The first thing she said was that she wanted to help."

Neither of them realized just how soon she would get the chance.

About six years ago Fred Holtz had revived his interest in Amateur Radio. Soon his young daughter showed an interest in the hobby. Together they studied the electronics, and Beverly was especially interested in the questions on emergency procedures.

"I told her that they were very important and you never knew when you would need them," Holtz said.

Father and daughter joined the local radio club and started going to meetings. Eventually she took the FCC exam for the Technician license and passed! She couldn't wait for her license to arrive and was ready to get on the air.

Beverly's new ticket finally arrived Friday, September 14, and she was officially KC2IKT. The next day she and her dad were running errands in the car, listening to an emergency net on a local repeater, when they heard a call go out for volunteers to staff a shelter as part of the response to the World Trade Center attack.

"We can do that!" Beverly told her dad. Fred Holtz called net control and explained that his daughter was only 10 and wanted to help.

"No problem," they were told. That afternoon they reported to the Red Cross shelter in Valley Stream, New York. Some 40 European students were staying at the shelter after being stranded when flights were cancelled at the nearby airports in New York City.

Using her dad's hand-held transceiver, Beverly answered questions from net control, relayed health-and-welfare traffic and was the only radio operator for the entire eight-hour shift.

"I was very impressed that [net control] treated her as an equal and that she was able to do it," her dad said. "She really had a trial by fire!"

Beverly said that the eight hours seemed like one hour. "I can't wait to do more," she said. "It made me feel good to help."—*Diane Ortiz, K2DO*



**Beverly Holtz, KC2IKT**

FRED HOLTZ, K2PSY



David King, AA2KV (right) gets an assignment from Dave Pizzino, WB2EAR, who's handling radio duties at the Red Cross Headquarters in Brooklyn.



ARRL Manhattan Emergency Coordinator John Kiernan, KC2UN, works the phones during the New York City activation.

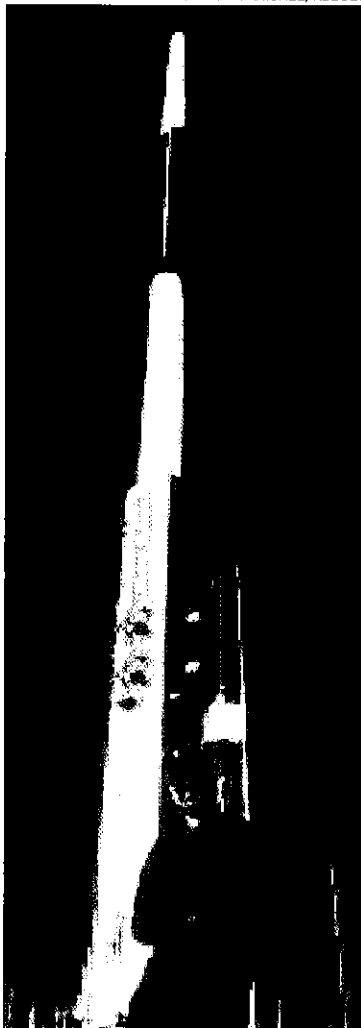
### New York City Broadcasters Regroup

The collapse of the World Trade Center brought down the master TV transmitting antenna that served most New York City broadcasters as well as amateur and other repeaters. "The broadcast community is in absolute shock," said Hudson Division Vice Director Steve Mendelsohn, W2ML, who works for ABC News. "We all knew transmitter engineers, we all knew people who worked up in those towers near those big television transmitters, and they're gone."

TV and radio stations that had sites on the World Trade Center rushed to make other accommodations, Mendelsohn said. WCBS, channel 2, which maintained a backup transmitter site on the Empire State Building, offered assistance and space to help the other stations get back on the air from its site, he said.

"None of the other transmitters exist anymore. They're in the rubble along with the master antenna system, hundreds and hundreds of two-way radio system antennas, and boxes and, of course, untold thousands of people who perished."

One antenna site now being used by some New York City broadcasters is the Alpine, New Jersey, tower erected decades ago by Major Edwin Armstrong, the inventor of FM. The 425-foot tower is located on the Palisades overlooking the Hudson River. Several stations were operational with low power from the Alpine site. Other stations switched to back-up sites elsewhere in the city, but a permanent central site to replace the World Trade Center remains under study.



WPIX transmitter engineer Steve Jacobson, N2SJ, shown here atop the World Trade Center, was among those lost when the building was attacked and collapsed.

Cross relief and recovery efforts. The logistics were unbelievable.

Hundreds of Amateur Radio operators from the Greater New York City area answered the call for assistance. Some of the first deployed were from Long Island. In the hours after the attack telephones, cell phones, pagers and other wireless devices were rendered unusable. For as much as a 50-mile radius there was difficulty getting a dial tone, and Internet service was spotty.

Hams communicated via the area's main repeaters, most of which were unaffected by the disaster. Nets were established, and the trained cadre of volunteers, experienced and ready, were organized and dispatched under Hargrove's and Carrubba's joint leadership.

The common ARES/RACES emergency net established on Manhattan's WB2ZSE 147.000 MHz repeater promptly became the primary conduit for emergency traffic. "It made things seamless, and everyone knew what was going on," Carrubba explained. "You don't have to monitor several radios."

Amateurs also shadowed some New York City officials, handled medical traffic, stood by at hospitals and prepared to assist the American Red Cross Headquarters. Other ARES units stood by at local emergency operations centers. The American Red Cross Emergency Communications Service in Queens—one of the many area clubs and organizations that contributed the use of repeaters and spread word that volunteers were needed—activated an emergency net on its WB2QBP repeater. A New York State RACES net was operational on 7.248 and 3.993 MHz handling emergency and government-related traffic.

## The Red Cross Role

The Red Cross opened a command center in its Brooklyn headquarters, which became a staging area for the Red Cross Emergency Response Vehicles—or ERVs—as well as for volunteer personnel and supplies. A dozen Red Cross shelters soon were up and running around the clock, with Amateur Radio providing operators, equipment and expertise. In the early hours and days of the response, finding victims trapped in the rubble was foremost on everyone's mind.

Hams were assigned to Red Cross headquarters, the various shelters and other subsidiary Red Cross sites around the area, including the five New York City boroughs—Manhattan, Queens, Brooklyn, Staten Island and the Bronx—plus New York's Westchester, Nassau and Suffolk counties and across the Hudson River in New Jersey. ARES-staffed nets provided the needed communications support, coordinating shelter health-and-welfare traffic and logistics.

Carrubba said the high call volume continued to tax the telephone system in lower Manhattan. Telephone service was available, but it often took 15 or 20 tries to get a call through, so ham radio was bridging the gap. "American Red Cross communications are overloaded, and traffic from the shelters is coming into the New York City net at a rapid pace," he said on Day Two of the response. "The Amateur Radio ops are doing a great job under very difficult and strange conditions, but this is what they have trained for; they are getting it done well."

SM Tranos made announcements and helped coordinate the efforts of the ARES staff. Key players in addition to Tranos,



New York City-Long Island SEC Tom Carrubba, KA2D (left), and New York City ARRL District Emergency Coordinator and RACES Radio Officer Charles Hargrove, N2NOV, compare notes on the ARES/RACES effort.

Carrubba and Hargrove, included Manhattan ARES Emergency Coordinator John Kiernan, KE2UN, and the Red Cross's Jay Ferron, N4GAA.

Other ham radio volunteers were dispatched to staff, establish and maintain communications among the World Trade Center disaster site, Red Cross on Amsterdam Avenue in New York, Red Cross Queens Chapter, the multiple Red Cross shelters in Manhattan and Shea Stadium—home of the New York Mets—where a staging and relief area for the thousands of emergency workers had been set up.

At least in the early going, ham volunteers being transported from the Brooklyn Red Cross facility had to be self-sufficient. Dual-band (VHF/UHF) mobile radios, power supplies, mag-

mount antennas, coax, power cables, boots, dust masks and even respirators, latex gloves, bottled water and snacks were among the requirements for those stationed near "Ground Zero," as it came to be called, where conditions were frequently described as hellish and protective equipment and clothing were a necessity. Shift after shift of volunteers trekked to and from assignments burdened with bulging backpacks.

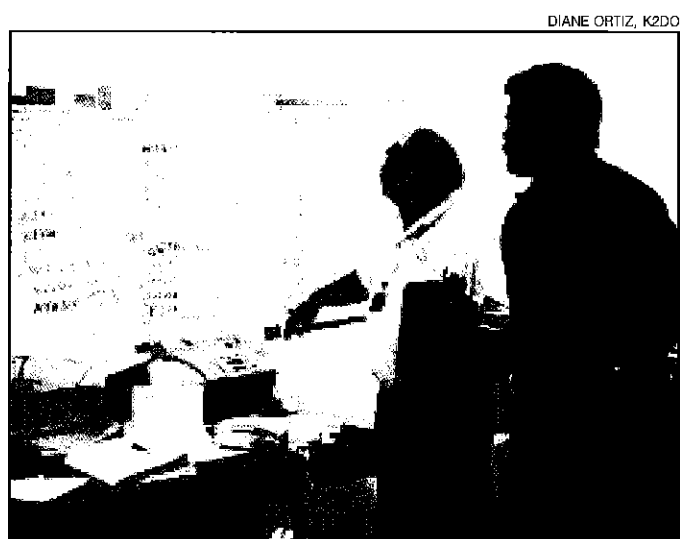
"This requires a big commitment," Tranos advised. The shifts were 12-plus hours, and often it required considerable time to get credentials and transport in and out of restricted areas, especially at Ground Zero.

Amateur Radio operators volunteered from as far away as Canada, Maine, Texas and California. Several visiting hams from outside the area rolled up their sleeves, including Robert Gissing, VE3ZLV, who assisted the Red Cross in Brooklyn. Suresh, VU2LOT, an Indian ham who was already in Northern New Jersey offered his services. Professional firefighter Wayne Souza, KA1LH, from Fall River, Massachusetts, had hoped to volunteer with his New York City brethren but was told his unit was not needed. Souza decided instead to get involved in the ham radio effort. "It was one way that I could still help," he said. ARES initially turned away most long-distance offers of help because there were no provisions to house the volunteers, entry into New York City was difficult, and parking next-to-impossible.

Even so, many wouldn't take no for an answer and said "I'm coming," despite the requirements and risks involved. SEC Hargrove said the outpouring of people who wanted to help was tremendous. "It's



Volunteer Robert Gissing, VE3ZLV (left), briefs ARRL President Jim Haynie, W5JBP, at Brooklyn Red Cross headquarters.



NYC-LI SEC Tom Carrubba, KA2D (left), and NYC-LI SM George Tranos, N2GA, check the volunteer grid for openings.

been hard to keep people away," he said. "That's the kind of disaster it was." The Red Cross's Ferron agreed. "The Amateur Radio community has come out very big and very strong," he observed.

Tranos put it more succinctly. "I'm very proud of my section," he said.

### Across the River

New Jersey amateurs also mustered their resources as the emergency unfolded. Hospitals had been designated and shelters set up across the Hudson River to handle any overflow from New York City.

ARRL Northern New Jersey SEC Steve Ostrove, K2SO, said that dozens of amateurs from his section helped with emergency communications following the attacks. Amateur Radio operators were stationed at four Red Cross shelters in New Jersey, helping to back up the spotty telephone communication. Among other things, the shelters provided a haven for those unable to return home because of restricted traffic into Manhattan. Northern New Jersey operators also supplemented and relieved the New York City ARES team.

A Red Cross emergency net ran on the NO2EL 145.37 MHz repeater, and an ARES net was activated on the WS2Q repeater, with liaison to New York City's ARES/RACES net on 147.000 MHz. The nets were able to coordinate volunteer efforts and blood donations. Several Red Cross chapters in New Jersey were linked by Amateur Radio.

According to Rich Krajewski, WB2CRD, the Jersey City Amateur Radio Club was called on to assist the Red Cross after their repeater atop the World Trade Center was lost in the building's

collapse. Club member Stan Daniels, KB2FY, and John Hunter, KE2ZZ—who drove from South Jersey to help—were the backbone of an effort that set up a 2-meter station that allowed communication with local emergency officials and a Red Cross net. Hams also added 2-meter capability to Red Cross emergency vehicles to help them keep in touch as they delivering cots, meals and supplies to shelters in Hudson County.

About a dozen members of the David Sarnoff Radio Club voluntarily activated N2ARC on the 146.46 MHz repeater September 11 to help the American Red Cross Central New Jersey Chapter in Princeton Junction.

### Doing The Iron Man Act

A regular cadre of volunteers—two dozen or more per shift—settled into a routine. Hundreds of prospective volunteers signed up via the World Trade Center Disaster Relief Communications registration Web site, developed at the suggestion of Suffolk County DEC Bill Scheibel, N2NFI, by Joe Tomasone, AB2M. "It allows us to make the best use of the volunteers," Carrubba said. The system worked superbly.

Ham volunteers provided their own protective gear and arranged transportation to and from dispatch locations, often carpooling and sharing resources. Yaesu, ICOM, MFJ and other suppliers came forward with loans of transceivers and accessories.

Amateur Radio volunteers were rotated in and out of areas and duties in an effort to equalize the stress. The mood remained largely positive as the response extended past Day 10, Carrubba reported. Still, volunteers were getting tired, and

some needed to return to their normal lives and jobs. Shifts scheduled to run 12 hours typically were much longer. "The first 30 or 40 hours everybody does 'the iron man act,' I call it, because they're running on adrenaline," Carrubba said. After that, he said, everyone realized they need some rest and unwound a little bit. "The people that are going back are fresh."

One early volunteer, ARRL member John Stuart, K1OE, of Rowayton, Connecticut, found himself inspired by the experience. After signing up and reporting, Stuart found himself part of a group of hams from eastern Long Island. "We each became the 'communications person' for shelters throughout lower Manhattan, reporting needs of the shelter to Red Cross headquarters through a net and also reporting, on hourly intervals, the personnel status of the shelter," he said. All told, Stuart spent about 20 hours in New York. "It was a great experience," he said. "I met a lot of wonderful people, the shelters are providing an important function, and the hams are *the* communications backbone of the operation."

ARRL President Haynie took an opportunity September 21 to visit with some of the New York-area hams at the heart of the communication effort. "On behalf of the 680,000 ham operators in the US, thank you for doing such a fine job," he said.

ARRL Hudson Division Director Frank Fallon, N2FF, accompanied Haynie on his visit. "From the very first day I have been proud of the way ARRL members in the Hudson Division responded in overwhelming numbers," Fallon said. "So many responded that many, unfortun-



TOM GREGORY, N4NW



PAT WILSON, W4PW

Shift change at Salvation Army Arlington Headquarters, where Jerry Shadle, WA3UTL (left), and Spike Boyd, K9MX, were among the operators for the ARES Pentagon recovery support.

ARRL President Jim Haynie, W5JBP, and ARRL Virginia SEC Tom Gregory, N4NW.



Lewis Cheek, K4HR, assisted in configuring the repeater and duplexer on the temporary repeater on loan from the Stafford Amateur Radio Association to Virginia ARES to support the Salvation Army Disaster Relief operation. Tom Harmon, AK1E, who served as incident commander, provided the small trailer housing the machine. The south face of the Pentagon is in the background. This photo was captured prior to US Department of Defense restriction on photography in the vicinity of the recovery operation.

## Washington, DC-Area Hams Rally to Support Pentagon Response

In the Washington, DC, area, Amateur Radio rallied in response to the attack on the Pentagon. Montgomery County, Maryland, RACES was activated right away and remained on alert for about a day, as local governments provided what support they could to the Pentagon disaster site. In the immediate aftermath, Montgomery County RACES Deputy Radio Officer Creel characterized the mood of the Amateur Radio community as "somber but professional."

Amateurs provided reliable communication among five civilian hospitals in Montgomery County in anticipation of casualties. Later, the RACES team aided the American Red Cross to overcome telephone system overload. Creel reported that the telephone and cellular telephone system in the DC area was rendered useless within a short time. "It just didn't hack it," he said.

A Federal Emergency Management Agency team was among those that checked into the RACES net the day after the attack to seek possible communication support.

"If you're not a member of an ARES or RACES group, now's the time to seriously consider joining," Creel said, adding his voice to the growing chorus of those recommending that Amateur Radio operators be ready to respond and react. He said it was difficult for him to turn away offers of help from non-members who would not have been allowed access given the "lock-down" situation that followed the attack on the Pentagon.

## ARES Marshals Support for Salvation Army Effort

In response to a request from the Salvation Army, Virginia Section Emergency Coordinator Tom Gregory, N4NW, put out a call for hams in the Washington, DC, area to support the Salvation Army's volunteer effort. Amateurs were needed to provide communication to coordinate trucks and supplies. Maryland-DC SEC Mike Carr, WA1QAA, assisted in recruiting volunteers, and Chuck Rexroad, N4HCP, assisted Gregory in the early stages to coordinate the volunteer response.

Gregory said many of the more than 100 volunteers who reported for duty between September 11 and September 18—when the ARES group stood down—gave up time with their families and their jobs. In a few cases, he said, he even wrote letters to employers requesting that volunteers be allowed time off to work the incident.

At the peak of the activation, Gregory reported an "upbeat" crew of about two dozen Washington, DC, area amateurs staffing six Amateur Radio stations in the immediate vicinity of the Pentagon. Yaesu arranged to loan equipment to the operation.

The ARES activation—with Virginia ARES District 4 Emergency Coordinator Tom Harmon, AK1E, as incident commander—provided logistical support between the Salvation Army's relief and recovery effort on site and the agency's Arlington headquarters. The Salvation Army was providing food and refreshments to the crews engaged in the Pentagon investigation and recovery.

Initially, a portable repeater was set up in a parking lot. The unit let hams run H-Ts at their lowest power settings to conserve batteries. A net was established on the Alexandria 145.17 MHz repeater for the canteen units, and an operator was detailed to the Salvation Army headquarters in Alexandria.

Operating conditions were less than ideal. "What we're finding is that communication is very difficult because of the tremendous amount of noise from the construction-type equipment and the generators providing power for the lights and support staff," Gregory said as the response was ramping up. Because of the noise level, on-site managers opted to rotate operators in and out of the immediate vicinity of the attack as frequently as possible.

"There's the emotion of it, and there's the tremendous amount of noise, and it's very grating on you because you can hardly hear the radio to communicate," Gregory explained. In addition, the cellular telephone network was swamped, and, because the Pentagon remained open, there was a lot of other RF in the vicinity to complicate matters.

But Gregory said what shocked him the most was the devastation visible 100 meters from the building. "The destruction is total," he said.

Gregory described the entire area as "very crowded with people" inside and outside the Pentagon. "People and equipment cleaning up, finding bodies, finding plane parts, firefighters still checking for hot spots, hoses, equipment," he said. "The damage to the building looks worse when you are right next to it than it does on TV."

The site remained under an umbrella of tight security, and soldiers armed with M-16s and police controlled entry to the fenced-in compound. A temporary road was constructed from Washington Boulevard extending several hundred feet to the hole in the building in order to move

ately, were turned away." Ultimately some 500 amateurs would answer the call for volunteers.

"It really has been our finest hour! It has made us all very proud to be Amateur Radio operators," Fallon said.

John MacInnes, a Red Cross communications officer based in Tucson, Arizona, approached Haynie with high praise for the Amateur Radio community and for ARRL. "We wouldn't be where we are today without the ham radio operators," he said. He told Haynie that he should be very proud of his organization and asked him to relay his message of thanks throughout the amateur community.

The New York City ARES/RACES operation in support of the American Red Cross stood down the week of September 23.

heavy equipment. Hams who volunteered had to run a strict security gauntlet. "Candidly, if you have outstanding parking tickets or some other issue where you may be wanted, you will not get an access ID but may get taken into custody!" Gregory warned potential volunteers.

Harmon put it another way: "Security is so *tight* that the wind does not blow across the parking lot without approval."

Gregory said that newcomers viewing the ghastly damage for the first time often were speechless. "I found that it took me a few minutes to realize the gravity of what was going on and the importance of what we hams are doing in our own small way to help out," Gregory said. "The devastation of that building is awesome, and it puts things in perspective and it certainly made me proud to be an Amateur Radio operator and serve the people of the United States by offering this support."

ARRL President Haynie briefly visited the ARES Pentagon team September 17. Gregory said he appreciated Haynie's encouragement at a difficult time. Accompanying Haynie were ARRL First Vice President Joel Harrison, W5ZN, FCC Special Counsel for Amateur Radio Enforcement Riley Hollingsworth, and ARRL Virginia Section Manager Carl Clements, W4CAC.

Haynie spoke briefly on the net and thanked the amateurs on hand for volunteering. Hollingsworth—initially called in to check into the possibility of interference to the Pentagon site repeater—volunteered to operate, if needed, and offered to loan the ARES team the ham gear he had in his vehicle, Gregory said.

Gregory said amateurs who volunteered did not let their emotions get in the way of doing a good job. "It's helping them to help out," he said. "It's part of the healing process."

As the Salvation Army regained the ability to manage its own support operations via telephone, the need for Amateur Radio ended September 18, and the supporting ARES operation terminated.

"Amateur Radio performed exactly as it was supposed to," Gregory said afterwards. "We responded to the need to provide communications where none were available." He said the Virginia ARES organization stands ready to jump in again "at a moment's notice" if the need arises. "If someone calls on us, we're ready to respond," he said.

Harmon said he continued to be impressed throughout his time at the Pentagon site by all those who volunteered. "Position and job are relatively unimportant," he said, since *all* folks there are required to make that small town function."

## Georgia Amateurs Travel "Up North" to Help

A group of Georgia amateurs accompanied Southern Baptist Convention Disaster Relief crews to the New York City area in the wake of the September 11 terrorist attacks on the World Trade Center. The hams provided communication support to the Convention's mobile kitchens and shower units, deployed at the request of the Federal Emergency Management Agency.

The communications van of the Chattahoochee Baptist Association Amateur Radio team was stationed at a staging area at the Raritan Valley Baptist Church in Edison, New Jersey. Operating as W4CBA, the volunteers in Edison utilized the nearby New Jersey Institute of Technology Amateur Radio Club's K2MFF 147.225 MHz repeater in Newark to communicate with deployed kitchens and showers in the old Brooklyn Navy Yard and near Ground Zero in Manhattan. Amateurs were accompanying volunteers from eight states into the field as they served meals to relief workers and displaced residents.

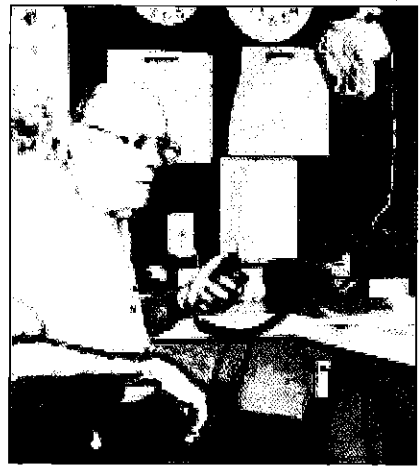
According to Jackie Whitlock, N4JJW, the call from FEMA came

Another amateur team consisting of Vienna Wireless Society and Arlington County Amateur Radio Club members and other amateurs provided communication and technical support to the American Red Cross relief effort at the Pentagon site. Arlington County ARES Emergency Coordinator Alan Bosch, KO4ALA, said his team was able to stand down September 22.

## Hams Support Western Pennsylvania Crash Site

At the so-called "fourth" plane crash site in rural Somerset County western Pennsylvania, Kevin Custer, W3KCC, reported a busy scene as the investigation continued. Custer, who lives nearby, had arranged preliminary repeater communication into and out of the crash site to help the Red Cross, Salvation Army, Pennsylvania State Police, the FBI and other state and federal agencies on the scene.

"I have communications in place for hand-held coverage of the crash site to our local emergency operations center and three surrounding counties," he said. Eric Hegerle, N3VOC, of the Salvation Army Team Emergency Radio Network reported that SATERN used three linked repeaters for communication between Pittsburgh and the crash site.



Ed Cravey, KF4HPY, at the controls of the Chattahoochee Baptist Association's W4CBA mobile unit in Edison, New Jersey. Cravey is an ARRL member from Gainesville, Georgia.

the day after the attacks. By September 14, two kitchens had been deployed, with a third unit in reserve at Edison. In their first 36 hours on the scene, 89 volunteers had served more than 7500 meals at the Manhattan and Brooklyn sites.—*Brennan Price, N4QX*

"Things have calmed down since the FBI has taken over the site and has secured it as a crime scene," Custer reported a few days into the response. "This place has literally turned into a small city."

## Amateurs Contribute to SHARES, SATERN

The World Trade Center attack prompted an immediate response from the SHARES network of federal agencies assisted by the Amateur Radio operators who participate in MARS—the Military Affiliate Radio System. A little-known emergency service, SHARES—the HF "Shared Resources" program of the National Communications System, US Department of Commerce—allies MARS-certified amateurs with federal agency operators when normal communication breaks down. SHARES nets operate on government frequencies outside the amateur bands.

MARS and SHARES rely heavily on the availability of hundreds of trained volunteer operators throughout the 50 states provides as one of the keys to needed connectivity. Amateur participants—selected by Navy-Marine Corps, Air Force and Army MARS managers—provide skilled net control stations as

[Continued on page 59]

well as broad geographical coverage.

Within 15 minutes of the first incident in New York City, the first of many alert messages was transmitted by a MARS member to the Pentagon. Within an hour, a coast-to-coast backup net formed. Among the participants were Federal Emergency Management Agency outposts, Federal Aviation offices, the American Red Cross, and state emergency operations centers, as well as MARS members enrolled in SHARES. Regional SHARES nets also activated across the country, bringing in many additional hams.

Interestingly, one of the first government agencies to require emergency communications was SHARES itself. Located in an office near the Pentagon, the SHARES staff was immediately evacuated. Operations chief Ken Carpenter, KD6DBX, a retired Marine Corps communicator, quickly returned to the air with portable equipment from a safe Northern Virginia location.

The SHARES emergency activation ended September 12. During its 15 hours of operation, the National Communications System headquarters received more than 800 station availability reports from across the US.

Reporting on the parallel Army MARS operation, US Army MARS Chief Bob Sutton, N7UZ, said that 23 state and regional nets had been activated with 229 individual stations participating. These figures do not include numerous Air Force and Navy-Marine Corps members activated.

During the two-day period there was no attack on communication lines—although a massive surge of calls had the effect of blocking normal connections into much of Washington and New York in the initial hours. But MARS and its allies in NCS SHARES had demonstrated their effectiveness in a genuine emergency of international scope. Sutton thanked all that were involved in the MARS support. “You have done a great job,” he said.

SATERN—the Salvation Army Team Emergency Radio Network—activated its HF net on 14.265 MHz shortly after the attacks. The net initially served as a backup communication link to Salvation Army headquarters and units throughout the nation. SATERN helped to coordinate blood supplies across the US and handled health-and-welfare inquiries.

Immediately after the terrorist attack, Salvation Army Major David Dalberg, National Disaster Services Coordinator,

requested a SATERN operation at SATERN territorial headquarters. Bill Davidson, W9SWW, Greg Buttmer, N9SA, and Harry Gilling, W9IB, set up a G5RV dipole above the building’s eighth story and snaked the feedline 350 feet down to the disaster services area.

The SATERN net operated from the onset of the disaster for two days, then reduced its activity to the regular 1400 UTC net time. SATERN asked Amateur Radio volunteers to continue to monitor the net frequency to pass any needed information.

“It seemed on Tuesday that the entire nation’s amateur corps was there supporting the endeavor,” said National SATERN Director Major Pat McPherson, WW9E. “It speaks to the spirit and ‘can do’ reflex of all those dedicating their time and resources to help. It also speaks to the patriotism of amateurs in our nation.”

### REACT’s Role

At press time, Radio Emergency Associated Communication Teams—REACT International—was seeking additional Amateur Radio operators and licensed GMRS users, primarily to support the Salvation Army’s relief efforts in New York City. REACT is a participant of the National Volunteer Organizations Active in Disaster (NVOAD) to help provide coordinating communications and support to the other members of this organization. The ARRL and REACT have a memorandum of understanding.

REACT International Secretary Lee Besing, N5NTG, told ARRL that some shifts had gone unfilled as volunteers started burning out or having to return to their jobs. He said REACT was running 20 volunteers per shift. Jeff Schneller, N2HPO—who’s also a SATERN liaison—was helping to coordinate the New York City response.

Charles Bessels of the Southern New York REACT Council reported that REACT teams were assisting the Salvation Army in Manhattan. “REACT units are making rounds to the different canteens around Ground Zero and at other positions,” he said. These included the medical examiner’s office, the Javits Convention Center—where volunteers were signing up to help—and the Armory on Lexington Avenue, where families of victims met with officials to give DNA samples and provide additional information. The REACT units were making sure the Salvation Army canteens had all the supplies, fuel and personnel they need. They also handled emergency deliveries of needed items.

“There was a very good working relationship between all parties involved,” Fred Lanshe, N3QLU, a REACT International vice president, said in a report posted on the REACT Web site, [www.reactintl.org](http://www.reactintl.org). “Good communication has been established.”

Federal City REACT volunteers in Washington, DC, equipped with GMRS, also staffed barricades in the Capitol Complex, freeing up uniformed police for more pressing duties. Montgomery County, Maryland, REACT members were said to have assisted the American Red Cross relief and recovery effort.

### Staying the Course

In New York, SEC Carrubba urged those who volunteered but were not ARES members to get involved in their local ARES programs. That way, he explained, not only could they take advantage of the various training opportunities, they wouldn’t have to wait in line to volunteer, because they’ll be assigned from the outset.

The Red Cross’s Ferron said hams “do whatever it takes to do the job—and they’re doing it.” He advised amateurs everywhere to be preparing now for disaster. “If you know your plan, you’re ahead of the game,” he said. “Practice, practice practice.”

Carrubba estimated that it would take many weeks and maybe months before the missing could be identified and the served agencies get back to normal. “This is the *real thing*,” he said, “and Amateur Radio has proved itself to be a valuable resource and service to the community in this time of need.”

In the wake of the Pentagon ARES activation, Virginia ARRL Public Information Coordinator Patrick Wilson, W4PW, reflected that all the amateurs who volunteered were ready and willing to go where asked and stay as long as they were needed. “This is what we do,” he said. “Everywhere we went at the site, people stopped us and thanked us for what we were doing to help the effort. It embarrassed me a little, because compared to what some others were doing, our jobs were a piece of cake. Did and does ham radio play a part where needed? A resounding ‘yes’ is the answer.”

*Authors’ note: Our thanks to Jennifer Hagy, N1TDY, Brennan Price, N4QX, Jennifer Stocker and Bill Sexton, N1IN, for their assistance in the preparation of this article. We also express our gratitude to the many amateurs and organizations that went unmentioned in this summary account but whose contributions were nonetheless important to the overall success of these activations.*

# "A Dedication to Emergency Service"

# 9-11-01

As we reflect on the 6 months that have passed since the terrorist attacks, we'd like to share some personal recollections received from the amateur community since our report in the November 2001 issue.

## WORLD TRADE CENTER NEW YORK CITY

### *SATERN's Volunteer Effort*

The Salvation Army Team Emergency Radio Network (SATERN) Amateur Radio volunteer support effort in New York City ended October 18, according SATERN Amateur Radio Liaison Officer Jeff Schneller, N2HPO. The Salvation Army relief operation itself has continued, relying on NEXTEL and cellular telephone service.

Over some five weeks, several dozen Amateur Radio operators from the Greater New York City area and elsewhere assisted the Salvation Army. Ham radio primarily was used to provide logistical support for the organization's canteens and feeding centers. Schneller said hams volunteered from throughout the US, including New Hampshire, Ohio, North Carolina, Florida and Missouri. Offers of help came from England and Canada.

Among the later group of volunteers were Steve and Kim Merrill, KB1DIG and KB1GTR, from Dover, New Hampshire, who did an arduous but rewarding tour of duty October 7-18.

We arrived at Salvation Army Headquarters in Lower Manhattan on Sunday, October 7, at 4 PM—on Steve's Birthday. We walked into the building and went right to work. Jeff Schneller, N2HPO, from SATERN greeted us. We were introduced

to everyone and received our IDs and special passes. There was a large amount of information to review. The emphasis was placed on the new role of providing logistical support, via Amateur Radio. The debriefings lasted till 10 PM. With Jeff's help we adjusted our radio equipment and were ready for work the next day.

Our shifts ranged from 14 hours a day

during the first week we were there to around 10 hours a day the second week. We all set our own pace. Time went quickly.

Kim spent the majority of the time at one of the canteens located at Ground Zero. She made sure that the personnel were well stocked with supplies. The orders were radioed to Headquarters via Gary Smith, the Salvation Army site coordinator. Kim utilized her Yaesu VX-5R hand-held with a 19-inch Comet whip antenna and a hand microphone attachment. This was ideal, because it enabled her to monitor radio operations and, between transmissions, to assist in various other duties. She served food to the many workers who came through the line, emptied trash cans and helped out in various other clean-up/maintenance duties. She very much enjoyed meeting the people and getting to know them.

At first, the RF interference around the WTC was terrible. Communication by 2 meters was difficult but manageable. NEXTEL and cell phones were subject to intermittent lockups or failures.

It was very spooky being there. There was so much devastation. Nothing we had read in the newspapers or seen on TV could have prepared us for the actual sight of all of this.

Steve spent most of his time driving all over Lower Manhattan. Our little Mitsubishi pickup truck was well-suited for the job. The mobile radio was the Yaesu FT-2500M along with a Larsen glass-mount antenna. Our truck was washed with fire hoses twice

RICHARD MCABEE, W4MTK



George Kay, KU4DE (left), and Richard McAbee, W4MTK, two South Carolina hams inside their communications van at the Brooklyn Navy Yard on September 13.





Kim, KB1GTR, and Steve, KB1DIG, Merrill, of Dover, New Hampshire, were among the hams who arrived from all across the US to assist when the call for ham volunteers went out.

each time it drove out of the WTC disaster area. This was to remove some of the contamination from the tires and such.

Steve also used a Yaesu VX-5R for times when he was out of the vehicle. Steve transported people and supplies and was in constant contact with the control operator at Salvation Army Headquarters. We logged roughly 300 miles of travel in the time we spent there. Some of the time spent was just talking to people and cheering them up.

We lived a lifetime in a few short days in New York City and made friendships that will last a lifetime. SATERN is to be commended. They were more than nice to us. We felt like a part of a family!

SATERN's Schneller urged all Amateur Radio operators to prepare for the future by first getting acquainted with and joining their local ARES or SATERN teams, then by taking the ARRL Amateur Radio emergency communications courses, [www.arrl.org/ece](http://www.arrl.org/ece). More information about SATERN is available on the SATERN Web site, [www.satern.org](http://www.satern.org).

### Eastern New York Hams Respond

Eastern New York Section Manager Pete Cecere, N2YJZ, said some 160 amateurs from the ARRL Eastern New York Section were among those responding to the New York City World Trade Center disaster. Volunteers worked via the Westchester Emergency Communications Association (WECA), which served as a staging point for all volunteers arriving from north of the city.

Under the direction of Eastern New York Section Emergency Coordinator Ken Akasofu, KL7JCQ, three District Emergency Coordinators—Joe Bruno, WB2VVS; Frank Stone, KB2YUR; and

George Odom, KB2SIY—guided the process of grouping and funneling volunteers to the Westchester County staging area to await assignment.

"We're very fortunate to have so many hams in our section who have a tremendous amount of expertise and have demonstrated such a high level of dedication and professionalism," Akasofu said. "Their investment of time participating in public service events, local and section-level nets, SETs, and other training activities have really paid off."

Akasofu said the magnitude of the disaster even affected telephone service outside of the Greater New York City area for a time. "To get around this, we arranged for some of the Eastern New York Official Emergency Stations to be on standby," he said. "They were far enough away from the area so that their phone lines weren't affected, and they had the capability to reach the repeater used by the staging area in Westchester."

Cecere said Akasofu ended up putting in so much time volunteering that he got into a bit of hot water with his employer. "He told me that he was taking calls at work pertaining to the disaster, even during meetings," Cecere said. "Fortunately his company also realized that Ken had a big obligation to the community with his service in Amateur Radio."

SATERN



At the SATERN communications center, Jim Wingate, WA2EIU (standing), and Michael Gomez, N2WGC, review field reports from canteen and feeding locations before forwarding them to the Salvation Army logistical officer.

Ulster County ARES operated from September 11-16 from the Ulster Amateur Radio Club to pass traffic to the Westchester American Red Cross chapter and to monitor the ARC net on the Northeast Link repeater, reported Frank Stone, KB2YUR. Said Dutchess County EC Adam Nowik, KC2DAA, "It was amazing that we had 49 members respond, who took time off from work and refused to take breaks when we got busy."

Cecere said WECA deserves special mention for handling the staging of "all these great volunteers."

### From Standby to Action

ARRL Life Member Douglas Bard, W2ING, lives in Newburgh, New York—some 60 miles up the Hudson River from Ground Zero. He was on stand-by duty with Orange County ARES/RACES Tuesday and Wednesday, September 11-12, when he learned of the critical need for amateurs to help the Salvation Army at its headquarters on 14th Street in Manhattan.

I received the call to assist on Friday. Fortunately my oldest daughter, Nancy, also came along to do the driving, while I handled communications and navigation via GPS. We arrived at the headquarters by 8 AM. We were soon dispatched as the only amateur mobile unit in Manhattan to cover the 13 mobile canteens.

Traffic was awful, and confusion was generally the rule, but everyone was quite courteous throughout the whole episode. In New York City? you ask. Yup!

We had a map of where the canteens were supposed to be located, but many had relocated slightly, and informing net control of these changes turned out to be one of our jobs.

We double and triple-parked. As soon as police saw our Salvation Army signs, barricades were removed, and we were able to get to some of the canteens more easily.

Friday, September 14, President Bush visited the WTC site. By this time we were on Canal Street and couldn't get to the canteens farther south until later. The whole area was in "lockdown." Police were everywhere. Many were volunteers who had just come to help, as did many EMTs and firefighters.

Residents of Greenwich Village—close to the disaster—had been evacuated from their buildings, as the structures were deemed unsafe. Several were trying to get escorted to pick up a few belongings but weren't allowed, due to the lockdown. Nevertheless we saw many residents taking food to the police, who had to stay in place.

We'd heard that a nearby telephone central office had been destroyed. Cables were being laid at street level. Most

cellular phones were useless.

We finally were able to move farther south on West Street, to get to the canteens closer to Ground Zero. Headquarters had lost contact and needed reports of canteen vehicle numbers, fuel supplies, locations, supplies needed. Pictures don't do justice to the scene. One look at the faces of the rescue workers told the story. Several wanted to talk. I listened.

We reached a point where it was easier to walk to three of the nearby canteens. One had too much soda; one not enough—so some trading was in order. There was a NYC prisoner van parked near the bridge in the background. The cop said he had a load of underwear and sweatshirts and asked if I could get them picked up, as he was not allowed to move. One of the Salvation Army cadets had just put in a call to net control for sweatshirts, so that van was cleaned out on the spot.

Net control called and told us to go home, as four amateurs were inbound. As I was reattaching one of the antennas a voice behind said, "If you weren't a ham I'd bust you!" It turned out to be a NYC cop, who said he had had a 440-MHz repeater on the WTC. A couple of blocks north, Nancy suggested we pick up three tired-looking guys walking out. As it turned out, they were off-duty Suffolk County police officers who had showed up to help. They talked about what they had experienced. As we went past the barricades, crowds of people were on the street corners holding candles and signs and cheering.

I can't say too much about the Salvation Army. These people are truly dedicated. Nancy and I will never forget that day in New York.

### **ARRL Special Service Club Responds**

"WECA Operators Shine in the Gloom of WTC Disaster," proclaimed the October 2001 issue of *The WECAGRAM*, the newsletter of the Westchester Emergency Communications Association—an ARRL Special Service Club. "The hours of training, public-service events and drills WECA operators culminated in an overwhelming, well-organized response to the World Trade Center disaster on September 11 in New York City," the article read.

According to *The WECAGRAM*, WECA members who served as Amateur Radio Emergency Service (ARES) or Radio Amateur Civil Emergency Service (RACES) leaders also helped mobilize the Westchester chapter of the American Red Cross and the County Emergency Operations Center to provide key assistance to New York City counterparts. Nearly 50 WECA members contributed to the rescue and relief effort.

*The WECAGRAM* Editor Mike Arrow,

K2NR, summarized his organization's experiences in "What WECA Did: A 911-Style Response to the 9/11 Emergency," excerpted here.

The news came to Tom Raffaelli, WB2NHC, at about 9 AM on September 11, 2001: a jet airliner had crashed into a tower of the World Trade Center. At that moment, Tom, the WECA emergency services director, assumed his alter ego as communications director of the Westchester County chapter of the American Red Cross and rushed to chapter headquarters in White Plains. On the way, he notified WECA member and ARRL Westchester County Emergency Coordinator Alan Crosswell, N2YGK. Joe Bruno, WB2VVS, a WECA member and the RACES coordinator for Westchester, also was mobilized early on.

Westchester County official Liam Murphy, deputy director of the county Office of Emergency Management activated RACES. A call for amateur volunteers was made via the WECA repeater on 147.060 MHz, which was activated as the Amateur Radio emergency network hub in Westchester.

The role of Amateur Radio became clear as landline and cellular telephone services rapidly overloaded with frantic calls from victims and escapees of the disaster and from worried family members. Even police and fire radio networks became swamped with calls. Amateur Radio became a vital means of communication.

For many of the critical early hours, Assistant EC Adam Epstein, N2DHH, served as the amateur network control operator at the EOC. But the New York City EOC already was in danger. The collapse of the twin 110-story towers rained down debris on the 40-story 7 World Trade Center, which subsequently collapsed—destroying the New York City EOC within. City officials fled to a remote temporary EOC.

Greater New York City Red Cross chapters mounted relief efforts to aid injured and displaced disaster victims. The Westchester County chapter was a vital part of this effort, and WECA members established a communications center at the chapter. Relief stations called "care centers" were quickly established to provide mental and physical first aid. Amateurs staffed centers in White Plains as well as Mount Vernon, New Rochelle and Yonkers.

WECA operators also joined New York City-based relief efforts that continued for weeks afterward. Hundreds of radio amateurs from many areas responded quickly, willingly and unselfishly to the call to aid the rescue and subsequent relief effort.

The Westchester ARES/RACES network operations closed down on September 22, followed on September 24

by the closing of their larger NYC counterpart operations. The club credited the success of its response to a "dedication to emergency service through programs of formal off-line training, on-the-job training at public service events and participation in emergency drills."

### **RACES Member Recalls "Distant Explosion"**

As it did for most Americans, September 11, 2001, began routinely for RACES member Ryan Jairam, AB2MH, of Manhattan—except on that day, he did not have a radio or TV turned on. At around 9 AM and with his wife already out the door to work, he heard "a distant explosion" that shook his house—a "sonic boom" he thought at first. "Twenty minutes later my wife walked back into the house and told me that she had watched the second plane crash into the south tower," Jairam said.

He immediately checked into the "TAC-2" citywide RACES net and soon had his first assignment—to report to the Staten Island Ferry Terminal in St George and act as a communications shadow for one of the doctors. Hundreds of emergency workers—from medical to fire and police personnel—gathered there to act as triage units for anticipated casualties. Once it became apparent that no major casualties would be arriving, however, personnel were dispatched back to their respective home bases. Jairam spent more than a week volunteering.

Tuesday evening I was sent to the Red Cross shelter at Curtis High School, where 120 students from lower Manhattan schools had been evacuated. I was relieved at 9 o'clock the next morning and reported back at 10 that night. A mag

RYAN JAIRAM, AB2MH



Left to right: Ryan Jairam, AB2MH, Joe Lipton, N2IOZ, and Steven Greenbaum, WB2KDG take a break from their responsibilities in the aftermath of the World Trade Center attack.

mount antenna sitting on a window sill provided good communication with TAC 2.

Friday I reported to the Staten Island Red Cross Chapter headquarters on Richmond Avenue for a five-day tour. The chapter mission was to collect and distribute donated supplies. Many monetary contributions were also collected. With a mobile antenna and pie tin ground plane mounted on a metal fence outside of the building I was able to hit the TAC 2, TAC 10 and TAC 12 repeaters with no difficulty.

On Tuesday, New York City District Emergency Coordinator Charles Hargrove, N2NOV, called the Staten Island Red Cross Chapter and asked if I would volunteer for a "special assignment." Once we'd determined that a radio operator was no longer required there, we shut down the radio operation.

A disaster coordinator at the Red Cross had initiated an "outreach program." Instead of immediately setting up one or more service centers, the Red Cross would send six multi-disciplinary teams to various parts of the affected area to assess resident needs and provide whatever help they could. According to Assistant Director of Communications for the Red Cross Jay Ferron, N4GAA, the coordinator of the so-called Multi-Disciplinary Operational Teams (MDOT) did not want any ham operators to participate—a cell phone in each team member's hand would be adequate. Jay absolutely forbade the operation to continue without an Amateur Radio operator on each team, however. This proved to be an extremely wise decision.

Our mission was to canvass residential buildings in the affected area, going door to door if necessary, and start getting needed aid to residents.

Communication gear consisted of a cell phone for the radio operator, a wireless e-mail device called a Blackberry for the team

leader, myself and one for each set of two volunteers—plus I had my dual-band H-T. Net control at Red Cross also had a Blackberry. The Blackberrys were provided by IBM, but we were on our own for training. As expected, cell service was extremely unreliable and became my last resort. I was on MDOT 1—the only team to enter Ground Zero. Our assigned location was the Gateway Plaza section of Battery Park City, one block from the south tower and filled with dust and debris. All of the buildings already had been evacuated and searched. Residents were given 15 minutes to return in small groups, gather any belongings they could and cart them away.

We had an hour, but it wasn't long enough. Even though only a handful of residents were coming through, most needed some assistance from the Red Cross—a place to stay, trauma counseling, etc. We were hard-pressed to make it back in time for the buses to return us to Brooklyn.

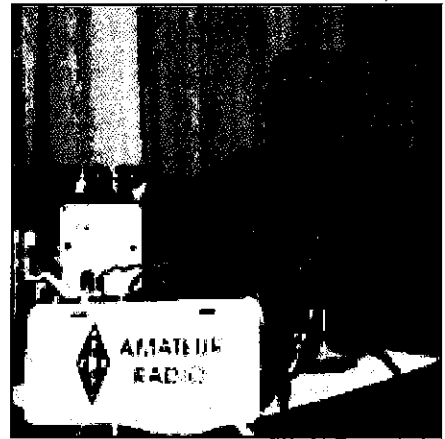
On Thursday, September 20, it rained! We were instructed to don Tyvek hazmat suits. Outfitted in these white suits combined with white hard hats we looked like a team of ghostbusters!

That day we were able to process many more clients. Needs varied from a place to sleep to prescriptions and lost wheelchairs.

As many of us learned, an amateur hand-held radio is not always so handy. Perhaps it would be good to require members of ARES/RACES to have a mobile radio and a magnetic antenna mount. In some locations, we needed an outdoor antenna. At Ground Zero, we found that an H-T with a gain antenna would work in most spots. The Blackberrys turned out to be a good way to network non-hams.

### ***New Jersey Ham Assists at Ground Zero***

Barry Pearse, N2RPL, of Perth



**Barry Pearse, N2RPL, rushed from his home in nearby New Jersey to assist at Red Cross Headquarters in lower Manhattan.**

Amboy, New Jersey, volunteered to help in the days following the WTC attack. Pearse reported for duty September 15 at Red Cross Headquarters after contacting ARRL Northern New Jersey SEC Steve Ostrove, K2SO.

As I traveled through Staten Island, I could see where they were dumping the rubble from the World Trade Center and searching through it. As I got closer to New York City, it hit me as I looked at where the World Trade Center used to stand and only saw smoke rising above the skyline. Military aircraft were flying over Manhattan to protect against further attacks.

After arriving at Red Cross Headquarters and receiving my Ground Zero security pass and paperwork, I received my assignment. Then we were taken to our assigned positions, and the scene was more than words can describe. As we got closer, we were stopped at roadblocks for our security passes.

My job was to provide communication for the Red Cross personnel on location and to request supplies. Neither the cell phone nor the landline systems worked well. Our radio links were the first line of communication.

My first shift ended some 19 hours later. Most shifts were between 13 and 16 hours long. After my shift we were brought back to Red Cross Headquarters for a debriefing on what we saw.

During the remainder of my six days in New York City, I was posted to the temporary Office of Emergency Management site.

In all, I spent seven days handling communication. I was honored to have been able to serve in this way and to represent the American Radio Relay League, Amateur Radio Emergency Service, Radio Amateur Civil Emergency Service and Amateur Radio in this terrible event.

DOUGLAS BARD, W2ING



**At the collection point for donated clothing, food and water for the rescue workers. The photographer reports: "Hundreds of people were donating so many items for the WTC workers that the fire captain shown in the photo quickly ran out of storage. We called in for three large trucks to clear the area."**

## AND AT THE PENTAGON. . .

The team managed by Virginia Amateur Radio Emergency Service to support the Salvation Army's disaster relief operation at the Pentagon stood down September 18. Virginia Section Emergency Coordinator Tom Gregory, N4NW, said the support provided at the Pentagon site as well as in New York City and Pennsylvania "clearly demonstrates the resolve and commitment by so many hams to meet the needs of our fellow Americans at this time of great tragedy."

### **Observations from the Pentagon Salvation Army Support Effort**

ARRL member Paul Konigsburg, K3MZ, of Great Falls, Virginia was among those who turned out September 14-15 to support the Salvation Army communications effort.

As I rode in the Salvation Army van, I first saw the gouge in the Pentagon. It looked similar to what I had seen on TV. As we drove around the parking lot, I saw three dogs resting on the grass. To get badges many people were waiting in line staring at the hole in the side of the Pentagon 200 feet away. It smelled like a fire that had been recently put out. Several generators were running nearby, so the burned smell mixed with exhaust odor. Heavy machinery was moving in and out.

Police were there in many forms: FBI, NTSB, ATF, OSI and MP. The Secret Service was also there. Then there were rescue people and firefighters from the surrounding area. There must have been 600 rescue people on-site.

While I was in line, the three dogs headed into the breach with their handlers. Construction workers who could run the heavy machinery to remove the debris, truck drivers to haul the debris away, and others who could install temporary wood bracing to stabilize the building also milled about. Secretary of Defense Donald Rumsfeld came walking past, clasping his hands together and looking pleased at the level of support.

I finally get my badge and can help.

At least 2000 people worked this crash site, and they all needed to be fed. The Salvation Army set up four feeding centers—two outside and two inside the restricted area. The amateurs relayed information to and from the various canteens. Many messages were similar to "need 50 meals at site 1" or "need gasoline at site 2." My job was to shadow Capt Burton of the Salvation Army, who was making the rounds of all the sites. This was a controlled net, so all communications went through net control at a local Salvation Army site.

From a radio perspective, the area was

very noisy. I saw the military had set up wireless communications, and from the size of their antenna, it looked like they were using a frequency somewhere between our 2 meters and our 70 cm. On the amateur frequencies, there were lots of beeps, squawks, chirps and other forms of radio interference, plus the audible noise from the generators. You needed an in-the-ear type speaker. Many messages had to be repeated.

There was a temporary chain link fence with black plastic on the chain. Capt Burton said that was where they placed the victims' bodies. I was glad it was covered up.

Some firefighters came by later in the evening and asked for some hot food. We put some trays together and then went into the restricted area. When you were in a cart or in a vehicle, dogs would sniff you for bombs. I asked a firefighter if there was any chance of finding people alive. He shook his head, no.

Most of the workers wore grim expressions mixed with a little exhaustion. I didn't see much hope on their faces. They were doing their jobs and were going to let the emotions have their time later.

As the warm day turned into a cool evening, calls on the radio changed to requests for sweatshirts, socks and underwear. A call came on the radio that Station 1 needed dog treats.

This was a day where I got to witness firsthand some of the worst of humanity. While destruction was horrendous, I thought to myself that, as bad as this was, New York City must be 20 times worse. I also got to see some of the best of humanity—people volunteering their time and special skills, people doing all they could to rescue their fellow man, people

and corporations giving food and clothing.

I realized that these specialized rescue people need ordinary folks to feed them, clothe them and give them fresh batteries. I was glad to be a part. I was honored that I could help. And yes, the dogs got their treats.

### **Observations from the Pentagon Red Cross Support Effort**

Another amateur team consisting of members of the Vienna (Virginia) Wireless Society, the Arlington County Amateur Radio Club and other amateurs provided communication and technical support to the American Red Cross relief effort at the Pentagon site. Arlington County ARES Emergency Coordinator Alan Bosch, KO4ALA, said his team ran shifts from 8 AM through 1 AM each day. His report appeared in a September 16 special edition of the Montgomery County (Maryland) Amateur Radio Club *MARC Mini-News*.

At first we ran stations out of the Red Cross chapter house and in the Pentagon south parking lot, then added one at their operations base set up in a former Montgomery Ward store on US Route 50. Later, we went back to two sites—one at the Pentagon and one at the Montgomery Ward's location.

Things were pretty straightforward using our 145.47 repeater and the chapter station to anchor things, but we had to iron out antenna and equipment glitches at the Ward's station before we got running smoothly. I got the Red Cross to acquire half a dozen FRS (Family Radio Service) hand-helds early on, which kept their on-site staff glued together until they got the higher-powered Vertex UHF business-band hand-helds

DAVID G. BOYD, K9MX



The net control station at the Pentagon, photographed just before photos were banned from the area. The partially hidden ham in the red shirt is Chris Hanslets, KA8UNO. The photographer, K9MX, whose day job is with the Justice Department, procured specialized cameras, robots and other high-tech equipment following the attack.

(donated by Vertex Standard), which relieved us of having to hunt down Red Cross personnel in an incredibly congested and chaotic area. One persistent occupational hazard was nearly getting run down by golf carts full of VIPs or supplies.

A real problem was the news helicopters—they were everywhere all the time the first few days, and they made hearing even nearby conversations challenging if not altogether impossible. My heartfelt advice to any ham working any emergency is to bring an earphone. Just don't leave home without it!

Another issue was security. On one shift the Red Cross transport vans could drive inside the perimeter to the activity center; on the next shift, they could not. One day drivers' licenses were sufficient ID; the next we had to have Red Cross event photo ID badges. Finally we were supposed to have little yellow dots on the badges to be permitted anywhere outside the ARC tent. That proved rather comical, because you could not see the dots from more than about 3 feet away.

From where we were on the ground, we could not see the impact zone directly. The odd thing was that, except for the smoke and fire early on and the cranes that appeared later, the building itself looked perfectly normal.

A memorable aspect of this effort was the North Carolina Baptist Convention Disaster Response's mass cooking operation. These wonderful people were at it 24 hours a day. In the afternoons the smell of chicken barbecuing on a grill several square yards in size suffused the area.

## WESTERN PENNSYLVANIA CRASH SITE

Amateurs provided communication support for investigators and outside relief agencies at the so-called "fourth crash site" in a rural part of Somerset County, Pennsylvania, where United Flight 93 went down after a heroic effort by passengers to keep the hijackers from using the aircraft to wreak further destruction.

Kevin Custer, W3KKC, arranged preliminary repeater communication into and out of the crash site to help the Red Cross, Salvation Army, Pennsylvania State Police, the FBI and other state and federal agencies. SATERN's Eric Hegerle, N3VOC, said his organization was able to take advantage of linked repeaters set up in the vicinity of the crash to keep in contact with the Salvation Army's Pittsburgh headquarters. Custer said communication was "basically non-existent" because telephone and cellular systems were shut down or overloaded.

Somerset County RACES Radio Officer Jim Crowley, NJ3T, says he was at work



This billboard and others like it reflect the mood of the American people in the wake of the events of September 11.

when the plane crashed September 11. Crowley, who is also president of the Somerset County Amateur Radio Club, contacted Scott Zimmerman, N3XCC, who had already started an emergency net on the Somerset County Amateur Radio Club's 147.195 MHz repeater. Soon, Emergency Management Agency/911 Director Richard Lohr, N3VFG, had requested amateurs at the county EOC.

Crowley shared a summary of his report to Western Pennsylvania ARRL Section Manager John Rodgers, N3MSE, on the events of September 11-12, 2001:

Our RACES/ARES volunteers established preliminary communication between the EOC and the crash site EOC quickly and professionally. Volunteers were poised to help continue communication as needed.

Artis Kitchens, N3XGL, and Barry Shaffer, N3XDZ, took over the net from the EOC Amateur Radio station, while Scott, his wife, Elisha, KB9WCX, Kevin Custer, W3KKC, and his friend Dawn Mello traveled to the crash site to set up communications there. I joined Barry and Artis as soon as I got off work. A new ham in our area, Bill Smith, KB3GUN, also stopped by the EOC to offer his help.

Jack Humberson, N3SQH, chairman of disaster services for the Keystone Chapter of the American Red Cross was at the site and in touch with the EOC. Kevin assisted SATERN by linking the 145.39 repeater—which is close to the crash site—to the 146.835 repeater on Laurel Mountain in western Somerset county. Kevin informed me the 146.61 repeater in Pittsburgh also was linked to the 146.835 repeater.

The Red Cross and the Salvation

Army—with help from numerous volunteers from Shanksville and surrounding communities—were working hard to feed the investigators and officials at the crash site.

Meanwhile, Richard Warren, WB3HGL, stayed in contact with the Western Area RACES Net on 75 meters and relayed information for the EOC. Many Amateur Radio organizations, clubs, RACES/ARES groups and individuals from the surrounding counties offered equipment and volunteers.

We learned that evening that the FBI was treating the crash site as a crime scene, and the agency had established its own communications for security purposes. Additionally, portable cell phone sites were erected. Roadblocks were set up around the area.

Due to the level of security, it was decided on September 12 to put RACES volunteers on high-alert stand-by status until further notice. We were asked to monitor the linked 147.195 and 146.625 repeaters for possible reactivation orders. Fred Maize, KM3M, who was handling RACES operations at the Pennsylvania Emergency Management Agency's Western Region headquarters in Indiana, Pennsylvania, told me he would continue to monitor our local repeater.

This particular emergency was much different from anything we were used to.

Everyone who responded should be proud to be a ham and proud to be an American! Our condolences and deepest sympathies go out to the families of those who died in the crash. We will never forget their bravery and ultimate sacrifice. We would also like to extend our thanks to all those hams from surrounding counties who offered their help.



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## New Jersey Legislature Honors Amateur Radio's 9/11 Role:

from The ARRL Letter, Vol 22, No 02 on January 11, 2003  
 Website: <http://www.arrl.org/>  
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### New Jersey Legislature Honors Amateur Radio's 9/11 Role:

The New Jersey Legislature has honored the role of Amateur Radio operators in the aftermath of the September 11, 2001, terrorist attacks. On hand in Trenton to witness a joint proclamation December 12 were ARRL Hudson Division Director Frank Fallon, N2FF, Hudson Division Vice Director Steve Mendelsohn, W2ML, Northern New Jersey Section Manager Bill Hudzik, W2UDT, and Bergen County District Emergency Coordinator Mike Adams, WA2MWT, who's also a member of the New Jersey PRB-1 Task Force.

"I would like to take this opportunity to commend you for your hard work and efforts," said Assembly Speaker Albio Sires. "During times of disaster, your group has displayed superior service and dedication to the safety of our citizens. I applaud the efforts of the independent radio operators and thank you for your selfless actions on September 11, 2001. Allow me to express my sincere gratitude for your participation with the New Jersey General Assembly on this day, December 12, 2002."

On behalf of the amateur contingent, Hudzik thanked the 80 members of the Assembly. Among the cosponsors of the resolution was Assemblyman Matthew Ahearn, KB2PNN, a Democrat from Fair Lawn and sponsor of an Amateur Radio antenna bill, Assembly Bill 3065, in the Garden State.

While in the state capital, the ham radio delegation took the opportunity to promote A3065, "The Amateur Radio Antenna Bill." The measure would codify the limited preemption known as PRB-1 into New Jersey's statutes. In addition, it would preclude local ordinances or regulations that effectively prohibit an antenna support structure of 70 feet or less above ground level exclusive of any antenna upon the structure. The measure has been assigned to the Housing and Local Government Committee chaired by

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Assemblyman Jerry Green (D-Plainfield). The text of the proposed legislation <http://www.njleg.state.nj.us/> is available on the New Jersey Legislature Web site. Search on "A3065" in the "Bill Search" engine.

Ahearn will be seeking cosponsors in the New Jersey General Assembly and Senate. Interested New Jersey amateurs may contact him via e-mail [asmahearn@njleg.org](mailto:asmahearn@njleg.org). Amateurs may contact their state lawmakers to express their opinions on the bill or to urge their cosponsorship. Visit the New Jersey Legislature page <http://www.njleg.state.nj.us/> and look under "Members--Find Your Legislator."--Michael Adams, WA2MWT

**Source:**

The ARRL Letter Vol. 22, No. 02 January 10, 2003

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**New Jersey Legislature Honors Amateur Radio's 9/11**

by [KC0MY](#) on January 17, 2003

[Mail this to a friend!](#)

my name is justin kc0my and i am in annandale MN. some kids at school are always telling me thant ham radio is dumb. but I tell them it helps save lives. and the kids say "ham radio does not help save lives" well they are wrong. I am going to print that off and show them that this hobby does save lives.

73 kc0myy

**RE: New Jersey Legislature Honors Amateur Radio's**

by [KC8JU](#) on January 23, 2003

[Mail this to a friend!](#)

I think it is great to see how ham radio is helping out, i like to know iam a part of that, iam also in the civil air patrol and we help with the efforts of 9/11.

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## CT ham operators remember September 11th attacks

HOBBY RADIO | SEPTEMBER 10, 2011 | BY: PETER MILLER |



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As the nation pauses to remember the victims of the 9/11 (<http://www.examiner.com/topic/911>) attacks in New York and Washington, D.C., CT ham operators recall the role amateur radio played after the World Trade Center was brought down 10 years ago.

In addition to the huge loss of life, the attacks left communications in Manhattan in a state of chaos, since land line phones and cell phones were overloaded, police and fire radio systems were

swamped, and the city's emergency operations center, located at 7 World Trade Center, was destroyed.

Brian Fernandez, who became Connecticut Section Emergency Coordinator (SEC) after 9/11, says many local hams were among the more than 500 operators who handled messages in New York City in the days and weeks that followed.

"After 9/11, the Island of Manhattan was, for all practical purposes, sealed off, but the skills and equipment of amateur radio operators were needed badly," he said.

He said the Red Cross set up a volunteer intake facility in Westchester, where arriving ham operators were sorted out and given places to stay. Their equipment was checked and transportation was provided into Manhattan through authorized check points.



<http://www.examiner.com/video/red-cross-and-ham-radio>

Video: [Red Cross and ham radio](#)

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"Hams poured in from all over the country but Connecticut played an unusual role because WTC was so close and many people from Connecticut had ties and family in New York City," he recalls.

Fernandez, whose callsign is K1BRF, worked as chief of the night shift at a heavily fortified communications center, surrounded by trucks with 50 caliber machine guns and braced for an assault.

"Nothing is more sobering than travelling over a familiar highway and finding it totally empty except for checkpoints manned by armed soldiers and tanks," he told Examiner.com.

Red Cross placed hams at over 50 locations, from the mayor's temporary command post on a pier in the Hudson River, to a heavily guarded facility under the Brooklyn Bridge.

From that location, Red Cross was able to reach out and communicate with all of its shelters, feeding stations and critical infrastructure centers, he said.

Independently, hams from New York set up their own network (under Amateur Radio Emergency Services), and that allowed radio contact between mobile units, shelters and food distribution centers.

"It was almost 'business as usual' after a while, even though it was far from a 'usual' environment, Fernandez said of the radio operators' efficiency.

One of the more touching messages he handled involved a request from Ground Zero, for more protective boots for the search dogs, because they suffered from the heat and harsh conditions.

Fernandez handled radio messages at the net control desk, helped assign hams and equipment (such as donated computers) where they were needed, issued official credentials, and worked on something

called the "DIOS," - a list of who ran what division across the entire response, and how they could be reached. In all, he volunteered in New York for 31 straight days.

"I want to make it clear that there were loads of people helping me out and they did outstanding work, and it was totally a team effort that achieved what it achieved - which was miraculous," he said.



**Peter Miller, Hartford Hobby Radio Examiner**

Pete Miller is a lifelong radio fanatic, beginning in childhood when his father was a ham radio operator and civil defense volunteer. Like his dad, he is an avid ham operator, holding the callsign W1AMJ and getting on the air as much as possible. Pete is also a fire and medical dispatcher, and...

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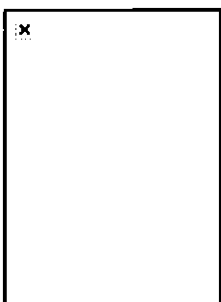
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## Front Page

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### Local Ham radio volunteer honored for 9/11 by Jessica Scarpati



"Top Gun," Tom Carrubba, hammed it up at this year's Hamvention Warm-Up Bash, the largest amateur radio convention in the United States. Carrubba, a Babylon resident and FCC licensed amateur radio operator, was presented with the Top Gun award at the event, which was sponsored by Kenwood Radio USA equipment suppliers. The dinner and award ceremony was held on May 16 at the Doubletree Hotel in Dayton, Ohio.

Emergency situations like September 11 are what we train for. That's what we do. -Tom Carrubba.

Although there were other recipients of the award, said Carrubba, he was presented with the award for organizing recruiters to relieve the overworked Manhattan amateur radio operators who responded to the crisis situation of September 11. Carrubba admitted that receiving the award was "flattering, but humbling," and accepted it on behalf of over 800 amateur radio operators that had volunteered over 15,000 hours to the situation.

"I'm not accepting it just for myself" he told the group. "The 800 people who put their lives on hold deserve credit. I'm one of the background people that makes things happen."

Like all amateur radio operators, Carrubba is a trained volunteer and uses his own equipment in order to provide communication in emergency situations. He is the American Radio Relay League Section Emergency Coordinator for the New York City and Long Island area. Carrubba is also a member of the Amateur Radio Emergency Service (ARES) and the Great South Bay Amateur Radio Club.

Fellow club member, Diane Ortiz, recalled that Carrubba had spent "hundreds of hours volunteering his time coordinating the amateur radio response to the World Trade Center disaster" in September.

Carrubba responded to Ortiz's comment with a humility that mirrored the way he chose to accept his Top Gun award.

"Emergency situations like September 11 are what we train for. That's what we do," said Carrubba. "This is a team deal."

Although Carrubba already had experience in emergency situations from his work during the 1992 and 1993 blizzards, as well as the Suffolk County wildfires, he admitted the biggest setbacks he faced on September 11 were conflicts with security clearances.

"Because this was an act of war, a wide response was turned on by this event for many things," said Carrubba. "In addition to the Long Island area, I had volunteers and recruiters from Pennsylvania, Riverhead, Albany, and Connecticut all willing to 'fill in the grids'."

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and take over the twelve hour shifts for the ham radio operators in Manhattan. It was hard to get security clearances for these things because it was a national disaster."

Amateur radio began as a hobby in high school and college for Carrubba, and he received his license in 1978. Two years later, Carrubba joined the Town of Babylon ARES and remained active with the group as he started a life with his wife, Barbara. An injury in 1992 led to an early retirement from his 20 year career as an auto-racing crew chief in a local shop, but the accident renewed his interest in amateur radio. Increased participation in the Town of Babylon ARES led him to become Assistant Department Radio Officer; he was promoted to his current position in 1998.

In an age of the internet and cell phones, Carrubba assured that there is still a place for the amateur radio operators today.

"Absolutely, there is still a role for us. We say our work is '24/7' because we are constantly training and having meetings," said Carrubba. "And when there aren't any emergency situations, we are involved in helping secure and control many organizations and events. September 11 may be over, but we were at the Multiple Sclerosis walk in Manhattan, the New York City marathon, and even the 24 hour walk at West Islip High School. We are always on standby."

Carrubba is a graduate of Farmingdale High School and the State University of New York in Farmingdale. He was born in upstate New York, but said he was raised in Massapequa and Farmingdale. Carrubba, or "KA2D" as he's known over the amateur radio, now resides in Babylon with his wife and three children.

Anyone interested in becoming an emergency situation amateur radio operator can visit the website for Babylon's club at <http://www.gsbarc.org>; according to Carrubba, the club is still very active, and it teaches classes and gives the FCC test for amateur radio licensing. Thomas Carrubba invites anyone who has any questions about amateur radio operating to email him directly at [KA2D@arrl.net](mailto:KA2D@arrl.net).



Rick Palm, K1CE, k1ce@arrl.org

# At Ground Zero

Disaster at the World Trade Center — one ham's story.

Bob Hejl, W2IK

September 11, 2001, the day our world changed, started like any other weekday morning: I dragged myself into work at Farmingdale Public Schools on Long Island and began setting up my schedule. I lazily turned on a television and heard the news that one of the World Trade Center's Twin Towers in New York City had caught fire. I half-listened — there have been fires in skyscrapers before. Shortly, the world discovered it was a terrorist attack on the United States.

When I saw the horrific scene of the second plane crashing into the second tower, I quickly surmised that victims would go to the various hospitals on Long Island. I also feared the beginning of a larger series of attacks that could possibly engulf Long Island. I took leave from my job and drove to my town's Emergency Operations Center (EOC) in Islip. As an ARES® Assistant Emergency Coordinator (AEC), I used my mobile rig to declare a radio emergency and started a net on the repeater.

Local ARES/RACES members began checking in. I planned to send operators to the area hospitals. We were well trained for hospital duty thanks to annual drills with their facilities and staffs. Upon arrival at the EOC, I turned on a bank of radios and put our communications "war room" in order. I asked on our repeater for a formal list of check-ins and availability of operators for deployment to hospitals, shelters, government buildings or other locations should other attacks be committed. Our tightly knit ARES/RACES group trained extensively for a variety of emergencies, including terrorist actions.

I called the area hospitals we covered. South Side Hospital in Bayshore requested support, so I immediately dispatched two hams there. Officials in New York City told the

hospital they would transport victims who were Bayshore residents there — the number could be in the hundreds. A short time later, our "sister" town, Babylon, activated its net.

A few minutes later, the television at the EOC displayed the even more terrifying scene of the Twin Towers collapsing. Emptiness overwhelmed me, as I thought, "There might not be many victims to be transported to our hospitals." I continued getting our communications plan in order.

I received a phone call from New York City-Long Island ARES Section Emergency Coordinator Tom Carrubba, KA2D, who had been monitoring our town's operations. Since our operation was proceeding smoothly, he asked me to seek operators who could deploy to New York City and provide communications for the Red Cross. Several experienced operators would respond to the request and I was one of those deployed. When the Twin Towers fell, so did the many antennas for radios from varied agencies resulting in a critical loss of communications at a time when they were vital.

I consulted with a few veteran emergency operators and met them at the Islip train station. I brought my extended duty go-kit along with my dual-band 50 W VHF/UHF radio, a lightweight switching power supply and a magnetic-mount dual-band antenna. I also brought my handheld transceiver and a charger.

Our train ride into Manhattan was somber. We had no idea what lay ahead for us. I was afraid that I wasn't qualified for the task at hand. When we arrived in Manhattan, Penn Station was subdued. Everyone seemed to be moving as if in a trance. Their faces revealed a wide range of dark emotions. Some were frightened. Some were crying. Deep anger painted most faces. The shock had truly struck home.

**...the television at the EOC displayed...the Twin Towers collapsing.**



We took a subway train to Red Cross headquarters, where there was a long line of people wanting to either give blood or sign up to help, all with the look of helplessness in their eyes. As we walked toward the building, people spotted us in our crisp, white ARES/RACES uniforms with official patches. Several came running up and asked if they could help. Half were in tears. When we entered the building, we were escorted into the Red Cross' makeshift radio communications center where we were greeted by the ham responsible for signing in new operators. Personnel on telephones were arranging for others to report to the many Red Cross shelters. With airports closed for fear of additional jet plane attacks, there were thousands of displaced travelers who needed a place to stay.

I was told I was needed at the command center at ground zero. They gave me a special cell phone and I boarded a waiting van. My ARES/RACES uniform, with my Red Cross badges along with my AEC badge, was my pass.

### Into the Mouth of Hell

The ride in the van to my post at ground zero took longer than expected; our route was clogged with hundreds of emergency vehicles. The slow advance to the site gave me time to prepare both mentally and emotionally. As we entered the disaster area, it looked as if several blocks of the city had

been bombed out, a vast expanse of ruins. The massive piles of "steaming" rubble, which once were two of the tallest structures in the world, lay directly in front of me. Smoke and dust hung in the air. Several buildings were still ablaze. Thousands of rescue workers and firefighters were scurrying to find survivors.

I got out of the van, but before I could turn to say anything to my ham buddy in the vehicle, it sped away to deposit its passengers at the next location. My "old world" had just left in that Red Cross van. I felt alone. It was now up to me to handle one of the most important communications tasks I or anyone might ever be assigned.

It was time to go to work. Burying my emotions, I asked a police officer where the command center was. He pointed to an elementary school blanketed in a cloud of dust, closer to the site. As I slowly walked there, I noticed a unique smell, the smell of death. Yet there was also something in the air that reminded everyone of the possibility that people were still alive buried beneath the remains. Both men and machines were there, trying desperately to find them. I would be a part of that team for the next 3 days.

Upon entering the buzzing command center, I took stock of my surroundings, supplies that might be available and who was doing what. I reported to the Red Cross official in charge and told her that I was there on behalf of ARES/RACES to perform communications and other tasks. She looked tired and introduced me to five other Red Cross workers, all of whom looked as if their own families had died. She then showed me where they'd been working, an area at the back of the main room, which was encapsulated to keep the dust out.

Plugging in my radio, putting my magnetic-mount antenna on the metal frame of a folded twin lunch table and placing it up as high as possible, I attempted to check into the repeater that was supporting Red Cross communications, but couldn't hit it. I "stole" an extension cord and ran my radio, power supply and antenna up to the third floor. I called, held my breath and was then in touch with the Red Cross headquarters communications team — with a good full-quieting signal.

They immediately gave me a list of things to ask the "shelter manager," her designation, even though it wasn't really a shelter (there was fear that if my location was identified as

a command center, terrorists might strike it to inhibit the rescue operations and to increase fear throughout the city). We were all aware that even our own communications might be intercepted and used against us. I even had to send phony messages so it appeared that I was at a shelter.

Not having communications with ground zero until I arrived, Red Cross HQ needed an update on several items such as food, cots, clothing and water. I was also asked to go to the high school across the street once each hour to assess it, as it was a relief/first-aid center, and report any needs.

### **When the Twin Towers fell, so did the many antennas...resulting in a critical loss of communications...**

All communications sites, ground zero, the mayor's command center and the various shelters were requested to give updates each hour on personnel, clients served, supplies and other items. We used tactical calls, ones that would not give exact locations away.

I had no idea that my "12 hour shift" would become three straight days of being on duty. In retrospect, my location was a hot spot, unlike a shelter detail, requiring smooth, continuous communications. This was not a duty site for a beginner. The air was filthy and there was the constant fear of further terrorist strikes. It was a dangerous location.

I passed many messages over my radio and knew that the press was listening. I tried to be as professional and as precise as I could. One slip, saying the wrong word, could easily be misinterpreted by the press and reported to the public. In the early stages, I arranged with my ham counterpart at the mayor's command center to use a unique frequency that we would shift on a time basis so it would be harder to intercept. It was our form of a "secured line" — a protocol we used only for a few extreme, sensitive messages.

When I took one of my excursions closer to "the pile," there were many signs that lives had been snuffed out. Papers that hadn't been consumed in the inferno littered the streets surrounding the destruction. Picking up one such piece, I read a page from an appointment calendar. It had belonged to a person who worked for an insurance company in one of the towers. Although charred around the edges and somewhat blackened, I could easily make out a list. It was of items he was probably asked to pick up on his way home. I reverently placed it back on the ground.

### **I had no idea that my "12 hour shift" would become three straight days...**

So many brave rescue workers were trying with all their capacity to find survivors, all going through their own personal hell. Some workers just lay down on the dusty cement sidewalks for rests.

### **Not Just a "Radio Hugger"**

I went back to the command center to see what else I could do. I assisted the MTA (Metropolitan Transportation Authority) to get a diesel generator working again. It was the same generator that I mooched power from for my radio. My back was turned to the disaster site when all of a sudden I felt a wall of dust and debris hit me — it was as if a dirty wind had struck me. When I turned around WTC Building #7 had just fallen.

I wasn't just a "radio hugger," performing communications duties only. I did whatever needed to be done. I unloaded cots so tired bodies could rest. I distributed food. I ran power cables to support the MTA's task of supplying power.

Since the entire area's power had been shut off, there was a great deal of scrambling to ensure needed lighting. My communications location on the third floor had no building lights, so I plugged the classroom's overhead projector into my power cord from the generator to supply light for my communications and writing. Light also seeped in through the dust-covered classroom windows from the towers supporting spotlights illuminating "the pile."

The dust was part pulverized building materials, including asbestos, and part cremated victims. I filled a large, empty Gatorade bottle with the dusty sediment. In the aftermath, I filled almost two dozen

plastic test tubes and sealed them. I gave them to families who lost loved ones so they could have something to bury at the

countless services. With each vial I handed out, it felt like someone was "returning home."

### **Terrible Truths**

One evening at a particularly somber meeting, officials revealed a terrible truth: Toxic chemicals that were part of the twin towers physical plant operations had been released. The list of chemicals was long — and horrible. By themselves, each was a deadly toxin. An official started running scenarios of chemicals mixing into "soups." One soup mentioned, which caused a quiet to fall over all of us, was a form of mustard gas.

Next, it turned out that one of the smaller

buildings destroyed, number 7, contained a medical unit so there was also a chance biohazards might have been spread over the area and released into the air. All of us got the message: We were living and working at a much more hazardous place than anyone had ever thought. Requests for full-face respirators increased. We were told that if such a cache of poison were to be unearthed during the site operations, we would have to evacuate quickly, dropping everything and running for our lives.

I continued doing my job, but my hourly reports and requests took less of my time, so I was able to help in other ways. As time went by, and the incident management changed to less of a rescue operation and more of a debris removal job, the communications needs decreased. I had a chance to try that fancy cell phone I was given when my tour began. It didn't work. No one's cell phones worked. Most local cell sites were either destroyed or had no power to operate. The only real way I had to communicate was by Amateur Radio.

### My Last Day in Hell

On my last day at ground zero, Damage Assessment teams checked to insure that it was safe for residents to return to the surrounding buildings. I didn't envy those inspectors going into dark buildings, checking for structural damage armed with only a flashlight and most without proper breathing protection. This disaster displaced thousands of downtown residents. The Red Cross housed many in shelters, staffed by Red Cross personnel and Amateur Radio operators who constantly handled traffic to and from the Red Cross headquarters. My next assignment would be at one of these shelters.

I was surprised when all of a sudden an Amateur Radio operator came in and replaced me. He told me he volunteered after seeing a ticker running along the bottom of the ABC news screen. The ticker announced that a lone ham radio operator had been at an undisclosed ground zero area for several days and there was a desperate need for a replacement experienced in emergency communications. Thank you, WABC-TV.

The most moving experience of my tour was my getting back to Red Cross HQ. It was after 2 AM. The gray dust stained my body, clothing and "go-bag." I, along with some nurses, spotted an SUV with a makeshift cardboard sign that read "Rides Uptown." We jumped in and got a ride up the West

Side. Although the police passed us through most traffic lights, we did have to make a few stops. At every corner, at 3 in the morning, there were crowds of people cheering us;

**...all of a sudden I felt a wall of dust and debris hit me...**

hundreds whistling, clapping and holding signs that read "Bless you, our heroes." At one stop, a young woman ran up to my window and gave me a flower. She told me how grateful she was that we helped. Ever see a grown man cry? I am no hero. I am just an Amateur Radio operator, doing what I could.

The driver dropped us off near Penn Station and then a police officer stopped a cab and ordered him to take me to Red Cross HQ. The cabbie didn't charge me for the trip. The cabbie was of Arabic descent and he told me how horrible he and others of his family felt about the attacks.

### Epilogue

After a short respite at home, I once again volunteered for duty as a communicator. The Red Cross, by this time, had moved their operational headquarters from Manhattan to their Brooklyn complex. I walked into the Red Cross building. The person in charge of the communications operation came in and briefed us on what duties we might have. Mine would be at a shelter at a high school in midtown Manhattan. This was quite a distance from the disaster scene and housed mainly people who were either displaced when their buildings were damaged or whose travels were interrupted when the airports were shut down.

One night, at about 3 AM, a shelter resident who had become drunk, brandished a handgun. Everyone took cover, except the not-so-bright Amateur Radio operator — me. I looked at him and said "I had a gun like that when I was in Vietnam. It might be the same model. Can I take a look at it?" The gunman, in his state of drunkenness, said "sure" and handed me the gun. Another worker got the police who quickly cuffed him; I gave them the gun and it was over.

In 2009, I developed Post Traumatic Stress Disorder (PTSD). It is something I'll have to deal with for the rest of my life, just as I have to keep a careful eye on the particles in my lungs.

[A longer version of this article appears on the author's website, [www.w2ik.info](http://www.w2ik.info). — Ed.]

### Postscript

Bob Hejl, W2IK, was first licensed in 1967 and has held the positions of Assistant Emergency Coordinator and Official Emergency Station. In addition to his 9/11 experience, Bob worked many disaster events including the "Storm of the Century" — also known as the Great Blizzard of '93 — that killed more than 300 people and the New England ice storm, which devastated parts of northern New England, northern New York and southeast Canada in January 1998.

He has activated three lighthouses on Long Island during Amateur Radio Light House Society ([arlhs.com](http://arlhs.com)) events and during mini-DXpeditions. During the "Mile Beach March," part of the first Cedar Island (Point) lighthouse operation, he had to backpack all his gear and supplies a mile along a beach route just to operate.

Since 2005, Bob has conducted his annual "Jump Team Boot Camp" in Texas to field train disaster response communicators. The "boot camps" are not desktop drills, but real

"get down and (very) dirty, do everything" 3 day exercises covering all aspects of disaster communications for both

hams and Military Auxiliary Radio System (MARS) operators so they will be able to deploy to any location to create an operational communications system where *nothing* might be left standing.

### Remembrances

On the first anniversary of 9/11, then ARRL President Jim Haynie, W5JBP, noted the role of Amateur Radio in the disaster: "As a ham, I will remember it as the day that the entire amateur community stood proudly together and provided the only foolproof communications system." "Literally within minutes of the incidents, teams of amateurs were mobilizing to provide emergency communications within the zones." "In metropolitan areas that no longer had phones or electricity, local hams were handling vital information out of the region and assisting their fellow man."

A United Flight 93 Memorial service held in Pennsylvania in 2002 had Amateur Radio providing communications support.

Len Signoretti, N2LEN, of Brooklyn, New York spearheaded a commemorative 9/11 net that logged more than 400 check-ins.

New York's Kings County Repeater Association ([kc2ra.org](http://kc2ra.org)) commemorates the disaster regularly with a special event station.

Bob Hejl, W2IK, can be reached at PO Box 6731, San Antonio, TX 78209-0731, [w2ik@arrl.net](mailto:w2ik@arrl.net).



## **A BBC BROADCAST - "UNSUNG HEROES"**

**The BBC broadcast a special documentary a few years ago about amateur radio and it's involvement in the World Trade Center Disaster: "Unsung Heroes" and may be listened to at the following Internet web site:**

**<http://www.g7ltt.com/audio-files/911r4.mp3>**

**In the middle of this broadcast, you will hear a short snippet of my actual communications from "Ground Zero". (You'll notice that I said in my transmission that I was in a shelter NEAR "Ground Zero" since I didn't want anyone listening in to know I was at the ICC for fear of additional attacks - net control knew exactly where I was) Proof, again, that you never know who is listening when you perform your emergency communications duties.**

Source: Bob Hejl, W2IK, <http://www.w2ik.info/> (visited September 25, 2012)



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

## 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 section. 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."

**[Full HTML version of this story which may include photos, graphics, and related links](#)**

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## 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 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.

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.

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## Ham radio volunteers help re-establish communications after Katrina

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

News Story by Todd R. Weiss

SEPTEMBER 06, 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.

Source: <http://www.computerworld.com/printthis/2005/0,4814,104418,00.html>

## IN KATRINA'S WAKE

# Power Outages Hamstring Most Emergency Communications

By CHRISTOPHER RUKALDS  
And AMY SCHATZ

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 \$800 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 oper-

ates 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 Court-

ney McCarroll, 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.

## In many locations, cell towers, 911 centers and emergency communications equipment are underwater in Katrina's aftermath. The gap is being filled by ham-radio operators.

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 walk 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 Madson, 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.



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PC Magazine

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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=1:317616881&start=1> as retrieved on Oct 13, 2005 13:09:10 GMT.



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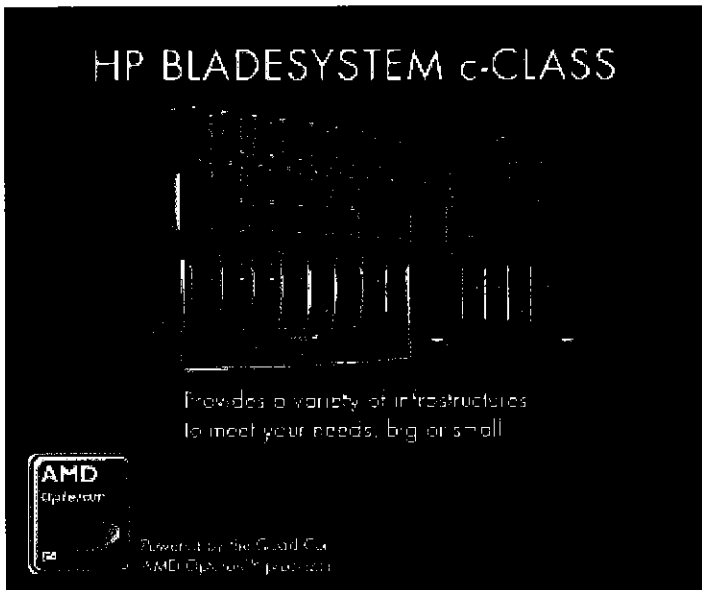
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# Ham radio volunteers help re-establish communications after Katrina

Some 700 operators are already at work, with more on the way  
Todd R. Weiss



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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.