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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)

An Inquiry into the Commission's)
Policies and Rules regarding AM)
Radio Service Directional Antenna)
Performance Verification)

MM Docket No. 93-177

REPLY COMMENTS OF CAPITAL CITIES/ABC, INC.

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March 15, 1994

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To: The Commission

REPLY COMMENTS OF CAPITAL CITIES/ABC, INC.

Capital Cities/ABC, Inc. ("Capital Cities/ABC") submits these Reply Comments and the attached Engineering Statement in response to the Commission's Notice of Inquiry ("Notice"), released June 29, 1993, concerning a general inquiry into the Commission's rules and policies governing performance verification of AM directional antenna systems.

As the operator of nine AM radio stations in major markets (five of which use directional antenna systems) and several national radio networks, Capital Cities/ABC has a strong interest in the competitive effectiveness and quality of AM radio and has actively participated in the Commission's ongoing efforts to remedy the problems facing AM Radio.

As the attached Engineering Statement of Kenneth J. Brown, dated March 11, 1994, sets forth in detail, Capital Cities/ABC concurs with petitioners on many points but differs

from them in two principal respects. Capital Cities/ABC believes that theoretical or computer-model approaches to proof of directional antenna performance, while helpful, do not eliminate the need for some field strength measurements taken from at least a few monitor points outside the transmission source to assess actual directional antenna performance and thereby enable stations to determine if their antennas are functioning properly and if they are causing interference, and for competitors to verify that a directional-only station is operating properly. Capital Cities/ABC also believes that restrictions on critical arrays should be continued so that such stations will not be authorized to deviate excessively from their design specifications and thereby encroach on service areas of other stations; however, the arrays that need to be designated critical should be more fairly and precisely defined to apply only to those stations with extremely limited leeway or excessive sensitivity to parameter variations.

Respectfully submitted,

By: *Dvora Wolff Rabino*
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March 15, 1994



**ENGINEERING STATEMENT OF KENNETH J. BROWN
IN CONNECTION WITH
REPLY COMMENTS OF CAPITAL CITIES/ABC, INC.
AM DIRECTIONAL ANTENNA PERFORMANCE VERIFICATION
MM DOCKET 93-177**

I am Manager of Allocations and Licensing for the American Broadcasting Companies, Inc., a wholly-owned subsidiary of Capital Cities/ABC, Inc., with offices located in New York City. My education and experience are a matter of record with the Federal Communications Commission.

This statement has been prepared for filing in connection with the Reply Comments of Capital Cities/ABC, Inc., in response to the FCC's Notice of Inquiry (NOI) into AM Directional Antenna Performance Verification (Proof of Performance).

Engineers for Capital Cities/ABC Radio have reviewed the Comments filed in this proceeding and attended the NAB/FCC meeting held in Washington on January 13, 1994. We have also reviewed, in a late draft courtesy of Ron Rackley, the proposed Rules changes expected to be included in the Reply Comments filed by the five proponent consulting engineering firms. In many ways, we find ourselves in concurrence with the proponent firms. This discussion will be limited to a few ways in which we adamantly disagree.

I. No AM Directional Antenna Station can have field strength measurements entirely eliminated.

There are two reasons why at least minimal field strength readings must be done for all directional antenna AM stations: operation with failed equipment and verification of proper operation by others (including the FCC).

A. Operation with failed antenna monitor or sampling system.

When antenna monitor parameters are found to differ significantly from normal, the first question is whether the failure is of the monitor or sampling system or of the antenna system. Currently, base currents provide redundant information to monitor ratios, and monitor points provide redundant information as to antenna array adjustment. If monitor points are eliminated completely and not available for a station, it becomes very difficult to quickly determine if the station is causing interference.

Rule 73.3549 discusses requests for extension of authority to operate without required monitors and indicating instruments. The rule requires that such requests contain a "brief description of the alternative procedures being used while the

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defective equipment is out of service". For FM stations, Rule 73.258 allows use of the indirect method for determining power in event of failure of the direct power measurement equipment. For AM stations, Rule 73.58 allows use of indirect method or a remote meter if the main power output meter fails. Since AM direct measurement is normally required, both methods will usually be available and the station can operate with either upon failure of the other.

If the redundancy in monitor, base, and monitor point readings is eliminated for an AM directional antenna station, then there may be no expeditious way to tell, upon getting strange monitor readings, whether the failure is monitor or antenna system. While many stations observe common point impedance shifts with most component failures, there are many antenna system failures (particularly with low power towers) which may not shift the common point at all. Currently, Rule 73.62 allows parameters out of tolerance in certain circumstances if monitor points remain in tolerance. Similarly, Rules 73.68 and 73.69 allow continued operation with sample system or monitor failures if monitor points remain in tolerance. If there are no monitor points, then proper antenna performance and interference protection cannot be assured upon monitor or sample system failure.

In accordance with the clear intent of 73.3549 (above), in the absence of alternative procedures (monitor points), we believe that antenna failure must be presumed upon advent of out-of-tolerance monitor readings and Rule 73.1680(b)(1) (operation with emergency antenna upon failure of main antenna) should apply, requiring that power be reduced to 25% or such greater power for which it can be assured that "the radiated field strength does not exceed that authorized in any given azimuth for the corresponding hours of directional operation." Faced with this consequence, maintenance of a few monitor points (suggested -- one in each noncomplimentary null) is simply cheap insurance. Correction for seasonal conductivity changes can be made by reading each point DA and ND both, and establishing a maximum ratio to correct for maximum value exceeded due to soil conductivity change.

B. Confirmation of proper operation by other parties.

I raised this point at the January 13 meeting (a copy of the NAB Summary of Meeting Activity is attached as Exhibit 1) and have heard nothing then or since to change my mind. Briefly, if a station, be it competitor or station entitled to protection, desires to confirm the operation of another station, it is most unlikely that a request to read and confirm the

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licensed parameters on the monitor would be honored. Without on-site observations, field readings are necessary. If the station operates nondirectionally as one regular daily mode of operation, it is possible to investigate a few points on one radial of interest in the hours immediately before and after sunset with some success. If the station does not normally operate nondirectionally, it is currently possible to obtain a copy of the last full proof from the Commission's files and duplicate some of the measurement points. If no reference field readings are available, it becomes virtually impossible to determine if a directional-only station is operating properly without access to the station's monitors.

For such a check of proper operation, relatively crude results are generally adequate -- for a station to trace which is the likely interferor (or to have cause to suspect a competitor of excessive signal), the excess is generally much more than a few percent. A few monitor points documented in Commission records can avoid false accusations. Furthermore, recent experiences tend to indicate that, even with good cause to suspect improper interference, the FCC field offices have very limited resources to assist in locating and identifying the cause. Since it is now largely up to us as licensees to develop the necessary information to challenge or even take an interferor to court with little or no help from the regulatory agency, we must have the tools available to us to protect ourselves (see Exhibit 2 for a non-ABC related example; others are currently under investigation or pending).

Then there are cases where in-house readings are "gimmicked" by a licensee. Perhaps the classic case of that was WETT -- Ocean City, MD. In 1975, the application for license renewal of this station was designated for hearing on licensee qualification issues (Docket 20674, File No. BR-3986). As recalled for me in a private conversation by Don Bogert of the FCC Baltimore Field Office, who was the inspector, measurement of the monitor points when the station was supposed to be operating directionally was crucial to discovering the relay device (see Exhibit 3).

II. Critical Arrays Must Be Better Defined, Not Eliminated.

There seems to be a great deal of misunderstanding as to the origin of critical arrays. In my experience, critical arrays came into being because some directional antennas were designed with extremely tight suppressions to protect fragile skywave signals, and with very little leeway for misadjustment or operating tolerance. These antenna systems can virtually obliterate huge areas of skywave service by operating

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significantly out of tolerance because the antenna systems are so sensitive to parameter variation and no leeway was left for operating tolerance. While it is true that virtually any antenna system can be found to exceed its standard pattern in some direction with some set of parameters within 5% and 3 degrees of the designed values, there is a vast difference between a slight excess which may not even cause interference to another station because of leeway beyond the standard pattern envelope, and an entire minor lobe growing to several times its permissible size and encroaching directly into the service area of another station. An antenna system which will exceed its standard pattern and maximum permissible fields to cause interference with parameter variations of less than one percent and less than one degree, if allowed a full tolerance of +/- 5% and 3 degrees, can cause egregious damage to skywave service.

Furthermore, since most stations with critical arrays are Class B stations protecting Class A station service areas, to eliminate the critical array designation and allow this interference to occur would modify the license classification of every domestic Class A station now protected by critical arrays. It would force a reevaluation of the service areas lost, with no predicted service area gain. Where critical arrays are used to protect the service areas of foreign stations, treaty obligations may be compromised. In the Report and Order terminating Docket 18471 [26 RR 2d, 634-646], in which standard phase tolerances were first proposed, some commenting parties cited the differing effects of phase changes and the different protection requirements for different stations (par. 9). The Commission said: "Ideally, permissible deviations in relative phases and current amplitudes should be specified for each station [sic] in its instrument of authorization in the light of its antenna characteristics and its obligations for the protection of other stations. This, of course, is now done for stations having unusually rigid protection requirements." (par. 24). The need for critical array designations has been addressed at length in such classic cases as WCBS vs. KRVN and WGN vs. KDWN and should not be revisited in this proceeding, lest that one issue swamp the proceeding and disrupt the good which could otherwise come out of this inquiry.

What may be appropriate to deal with in this inquiry, however, is how to define an array which needs to be designated critical. Very likely, some arrays have been designated critical which do not really need to be, and certainly some arrays should be designated critical which have not been. It is not really appropriate to designate arrays which cannot cause significant interference, either because suitable leeway has been left in the allocation outside the standard pattern

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envelope or because the array is not excessively sensitive to parameter variation. We tentatively suggest that an array designed with an arc of protection to at least one station of greater than 60 degrees and which also has at least one entire theoretical minor lobe held at or below Q is an excellent candidate for stability study. If the Commission were to establish criticality criteria more useful than simply exceeding the standard pattern, it is more likely that the arrays truly capable of causing massive interference would be more fairly identified. The proposal of Moffet, Larson and Johnson, Inc., (at paragraph III-1 of their comments) that no new directional operations be granted with null depths greater than 20 dB below RMS is a step in the right direction but does not deal with existing problems. Since the Commission identified interference reduction as an important goal for AM in MM Docket 87-267, this issue may need more thought. A few pattern plots of some particularly complex arrays have been attached for reference [Exhibit 4], some of which have been designated critical and some have not, to illustrate the kind of complex arrays in existence and the extent to which signal suppression has been employed. A Petition for Rulemaking, filed some years ago by ABC, which was not acted upon by the Commission, discusses some of these issues. A copy is attached for reference as Exhibit 5.

Many people forget that criticality has little or nothing to do with the likelihood of an antenna system to wander out of tolerance. It has everything to do with how far an antenna system will be allowed to wander from design specification before it must be readjusted. Skywave is a statistical phenomenon which comes and goes, but an array operating in a condition which causes excessive interference while within legal tolerance may continue to do so for years at a time. This has the effect of extending the interfering contour of a secondary station into the predicted skywave service area (and also the groundwave service area) of a primary station on a semipermanent basis with net increase of interference and loss of service.

Fortunately, there is improved monitoring technology available today. We suggest that, as proposed in the comments of Potomac Instruments concerning the resolution and repeatability of the most recent generation of monitors, the precision monitor adapter requirement be eliminated for stations employing current high accuracy and repeatability monitors such as described by PI. Our own experience with these new monitors concurs with the observations of PI.

III. Specific Rules Suggestions

The following specific comments refer to the language drafted by the proponent consulting firms which, we understand, was to have been filed by them at this Reply stage of the proceeding. Where we make no specific reference, we essentially concur with or at least can accept the proposals at this time.

>73.14 Reference to critical directional antenna should NOT be eliminated, as discussed above. Category B directional antenna (ineligible to be Category A) should also include an antenna with a differential of tower base heights (AMSL) exceeding 2% of radiator vertical lead height.

>73.53(c) concerning critical array monitors should not be eliminated but rather changed to accept the latest generation of more accurate monitors, in accordance with the comments of Potomac Instruments.

>73.58(b) should be changed to require a current meter at the point of antenna resistance measurement rather than eliminated.

>73.61(a) should not single out Category B antennas for making monitor point readings; all directional stations need monitor points as discussed above.

>73.62(a) ...unless more restrictive tolerances are specified by the instrument of authorization.

>73.62(b) Remove the proposed limitation to Category B antennas for monitor points as discussed above.

>73.68(a)(2) The first and second sentence references to critical arrays should not be eliminated.

>73.68(c) reference to monitoring points should not be restricted to Category B antenna stations only.

>73.69(a) should not eliminate reference to critical arrays but rather should be revised in accordance with the comments of Potomac Instruments.

>73.69(b) reference to monitor points should not be limited only to Category B antenna stations.

>73.69(d)(1) and (5) should not be revised to eliminate requirement for Special Temporary Authority. When STA is not required and no deadline for completion is set, it is all too easy for a station to "forget" or delay to complete a project.

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Filing of completion data is necessary to close an STA, and modification of license would still be necessary where parameters are different on the new monitor. We have experienced changes in monitor indications where one monitor is replaced by another, especially where the old one needed filters for signals of other stations and the new one did not.

>73.69 should not be modified to restrict monitor point field strength readings to Category B antenna stations.

>73.151(a)(1)(ii) showing should include antenna tower base insulators at equal heights AMSL within 2% of radiator vertical lead height. Further, methods involving correction of magnetic compass for declination should not be considered acceptable for this purpose. There are at least three other accurate methods and we have experienced too much difficulty with surveyors erring in declination corrections to have any faith at all in the method.

>73.151(a)(1)(vi)(1) requires a tower climb when the sampling element is above ground. This is necessary for a new or modified sample line or element, but should be unnecessary where those changes have not been made and no change is found in measurements made at the antenna monitor as specified in the following paragraph (2).

>73.151(a)(1)(ix) showing should include all potential reradiators within 5 wavelengths instead of merely within 1 wavelength. We have experienced serious difficulties with reradiators more than 3 wavelengths away from a directional antenna system, but subject to high incident field, acting as part of the array. Also note that steel frame buildings are potential reradiators. Unused towers should be detuned (as proposed) if necessary to maintain the standard pattern radiation values or if necessary to maintain nondirectionality of a nondirectional mode of operation. Even if only for tower painting and relamping, virtually all directional stations have to operate nondirectionally sometime.

>73.151(a)(1)(x) Reference monitor points in noncomplimentary null radial directions must be identified and measured, in DA and ND modes, as detailed in 73.151(a)(2)(v). The reasons for this have been discussed at length above.

>73.151(a)(1)(xi) For all new or modified directional antennas, if the array is symmetrical and has been moded in the construction or adjustment process, the theoretical parameters of the mode employed should also be provided where different from the theoretical parameters shown on the instrument of

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authorization, to prevent the FCC or future engineers from having to re-derive the mode to determine how far the adjusted parameters are from theoretical.

>73.151(a)(1)(xii) The Commission may at any time require the submission of additional data, specifically including radial field strength measurements, for any Category A directional antenna whose adjustment is in question.

>73.151(a)(2)(i) should determine the horizontal inverse distance field, not the inverse distance field. Also, arrays such as "figure 8" patterns with more than one major lobe should also measure one radial on each such major lobe, to guard against the possibility of a larger lobe being aimed the wrong way.

>73.151(a)(2)(v) should require monitor points for all directional stations, not just for Category B antennas, as discussed above.

>73.151(a)(2)(vii) For all new or modified directional antennas, if the array is symmetrical and has been moded in the construction or adjustment process, the theoretical parameters of the mode employed should also be provided where different from the theoretical parameters shown on the instrument of authorization, to prevent the FCC or future engineers from having to re-derive the mode to determine how far the adjusted parameters are from theoretical.

>73.158(a) When a licensee of a station using a directional antenna system finds that a field monitoring point...
(a)(1) A proof of performance (conducted on the monitored radial for Category B antennas)...
(All stations should have monitor points but only Category B antennas would require radial measurements if this scheme is approved.)

IV. Conclusion

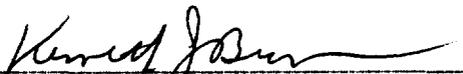
We concur with petitioners that some directional antenna stations may be able to greatly reduce field strength measurements by calibrated in-house monitor measurements. We concur that all directional antenna stations should be able to reduce the complexity of proofs of performance by appropriate use of other data. We do not concur that all field strength measurements may be eliminated for any directional antenna station, nor do we believe that critical array restrictions are unnecessary in all cases, though we believe that a better way is needed of more fairly identifying the arrays which need to be

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designated critical.

We believe that certain measurements are necessary for parties other than the personnel and consultants of any particular station to be able to verify the performance of that station's antenna system. We also believe that the AM allocations system in the United States requires that certain performance standards be maintained in order to assure protection to the service area of each station by each other station, that sufficient measurements must be made to insure the maintenance of these performance standards, and that any station unwilling or unable to assure maintenance of these performance standards, except under such conditions as warrant Special Temporary Authority, does not belong on the air.

DATED: March 11, 1994


Kenneth J. Brown

AM DIRECTIONAL ANTENNA FORUM

Summary of Meeting Activity

The forum was held on January 13, 1994 at NAB in Washington, DC. The purpose of the forum was (1) to foster a better understanding of the benefits and limitations of the available techniques for verifying AM directional antenna performance and (2) to arrive at a consensus on the best ways to improve AM directional antenna performance verification based upon new or revised FCC rules.

The forum was chaired by John Marino of NAB. The forum attendance roster is attached. The forum consisted of presentations and an open discussion on matters related to the *Notice of Inquiry* in MM Docket 93-177. The following is a summary of the issues discussed at the forum:

Introduction:

Bill Hassinger offered a brief overview of MM Docket 93-177. He explained that this is an opportunity for the industry to offer specific suggestions on revising the AM technical rules. He emphasized that specific suggestions have not yet been received, but will be required for the Commission to evaluate any proposed revision of the rules.

Wallace Johnson mentioned some of the problems facing broadcasters in verifying the performance of directional arrays: (1) proving directional arrays in accordance with the present rules is becoming increasingly difficult, (2) the cost of directional proofs is very high, (3) build-up in the vicinity of directional arrays is increasingly inhibiting accurate field measurements. He further explained that array modeling could simplify proving many arrays. He also stated that we now have an opportunity to review the existing directional array performance requirements of the Commission and propose changes which could more accurately prove the operation of directional arrays at a lesser cost to broadcasters.

Presentations:

Ron Rackley: Rackley gave a presentation on the use of MININEC as a method of modeling AM radiators.

Jerry Westberg: Westberg gave a presentation on the use of the moment method of modeling AM radiators.

Karl Lahm: Lahm gave a presentation on a detuned antinode method of sampling RF on a radiator.

Jim Hatfield: Hatfield gave a presentation on moment method basics and provided data showing good correlation between measured and modeled data.

Discussion:

Problems with field measurements: Build-up in the vicinity of arrays has created, at many facilities, an environment that precludes accurate RF measurements for the purpose of verifying array performance. The measurement problems are due mainly to re-radiation. In some cases, in order to satisfy the Commission, arrays must be adjusted away from original design parameters to provide proper monitor point tolerance. This practice may affect the interference environment.

Ron Rackley suggested that field measurements may not be necessary if assurances can be made that array parameters will not vary significantly from the original design parameters. This would prevent the need to field adjust the array to meet specific field intensity requirements in the near field. Ben Dawson stated that due to environmental effects, field measurements are often not repeatable.

Antenna modeling: Computer software exists that can be used to accurately model antenna elements. The most common software for antenna element modeling is MININEC. Users of MININEC attending the meeting discussed its usefulness and its limitations. Sufficient data now exists with many MININEC users to correlate measured vs. modeled data.

Ben Dawson suggested that there are some instances where antenna modeling cannot be used, however in most cases modeling will provide results that correlate well with measured data. Jules Cohen stated that the characteristics of stations which can take advantage of moment method analysis should be defined. Ron Rackley suggested that the following cannot be accurately modeled:

- Folded unipoles
- Non-uniform cross-section towers
- Shunt fed antenna elements
- Towers heavily loaded (with land-mobile antennas, etc.)
- Skirted towers

Additionally, an attendee stated that arrays sited on non-uniform terrain may create modeling problems.

Karl Lahm suggested that sufficient data now exists to show that uniform cross-section series fed towers can be accurately modeled.

Jim Hatfield suggested that at least 7 segments (moment-method analysis) are necessary to adequately model a uniform cross-section radiator. Radiators thus modeled show good correlation with measured data. Bill Suffa suggested that array modeling can take into effect re-radiators, since re-radiators can be included in the modeling process.

Enforcement and compliance: If field measurements are eliminated, other methods of verifying compliance with a station's authorization must be developed. The issue of FCC enforcement must also be considered.

Ron Rackley stated that monitoring array performance internally is superior to external monitoring (i.e. using monitoring devices at the station rather than taking field measurements). Karl Lahm stated that new ways must be developed to monitor array performance. David Harry stated that stations should have a way to cross-check antenna monitoring equipment with actual array performance. Bill Suffa suggested that an array's sampling system specifications could be included on the station license. Bill Suffa further suggested that stations may be able to measure some close-in points and interpret the readings with respect to a properly operating array. This may satisfy a cross-check requirement.

Ben Dawson described the problems associated with measuring base currents with thermocouple ammeters. Ron Rackley suggested a better method of determining base impedance may be to measure base voltage instead of base current. Bill Suffa suggested a useful test may be to excite the sample loops and measure voltage at tower bases.

David Harry stated that based upon the discussion he feels that it is certainly feasible to design monitoring equipment suitable for array performance verification.

Ken Brown asked how stations would deal with perceived interference. With a station's array performance based upon internal measurements, there would be no way to gather array data besides going onto a station's property. Milford Smith stated that he feels that external measurements cannot be totally discarded. There is a need to know how, for instance, a competitor's array is performing. Jules Cohen stated that field measurements should certainly not be outlawed. He suggested that field measurements in conjunction with an analysis of stations' antenna monitors will provide good potential interference control. Ted Schober suggested that guidelines should be established on how near-field measurements should be used. Karl Lahm suggested that near-field measurements can be used for a "reality check" but they are not good enough for precisely determining array performance. Ted Schober stated that there are those who may deliberately break the law by intentionally misadjusting their arrays. He further stated that procedures cannot account for these situations. Ron Rackley added that gathering evidence of an improperly operated array can certainly be done by accepted field intensity measurement techniques. Bill Suffa suggested making some close-in measurements and interpreting these measurements with respect to a properly operating array.

Conclusions:

The consensus of those attending the forum can be summarized as follows:

1. The present AM technical rules regarding AM directional antenna performance verification should be revised.
2. Method of moments analysis of antenna elements of uniform cross-section and series fed has proven to be sufficiently accurate for FCC consideration in future rule making.
3. That field measurements should not be outlawed. In some situations they may not be necessary, but can be used as a cross-check to verify proper monitoring equipment performance.
4. In all cases the directional antenna proof of performance requirements should be relaxed.

Respectfully submitted,



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February 10, 1994

AM "Pirate" Loses Civil Court Trial

by Dee McVicker

MILFORD, Conn. In an unprecedented municipal court judgment, a Milford AM station recently won a civil suit against a man it claims pirated its frequency.

Absent from the proceedings, however, was the FCC, which was not able to devote enough manpower to catch the pirate, a Boston field office spokesman said.

On Aug. 4, the Superior Court in Milford, however, was sufficiently convinced by evidence gathered by the station that it found ham radio operator Paul Matar guilty of interfering in business

relations, and slandering WFIF-AM, a religious-format station, and one of its announcers.

Over \$12,000 in damages were awarded to the religious station, which claimed Matar called its staff "born-again scum," and "thieves" over the airwaves.

Despite the judgment, the station said the broadcasts have continued.

The suit covered a period from January 1990 through August 1991. Testimony by station staff and other witnesses maintained that the pirate would come on the air on WFIF's 1500 kHz frequency after the AM daytimer signed off.

After-hours broadcast

The unauthorized broadcasts made slanderous statements about the religious station, its staff and advertisers, the station charged. The pirate station also made a harassing phone call to an advertiser, according to the station, and replayed unauthorized portions of the Howard Stern morning radio show.

Station Attorney William Secola said WFIF proved that Matar made illegal broadcasts on WFIF-AM's frequency and that he made the harassing phone call to the advertiser. To his knowledge, this is the first pirate radio case to be tried and won without FCC involvement.

Matar denied the allegations and plans to appeal the decision, claiming he did not violate Section 301 of the Communications Act. "I'm going to bring it up on the appeal that I wasn't charged by the FCC. They never came down and charged me on this, and they wouldn't because they never would have traced (the signal) here," he said.

According to Secola, however, Matar was justly charged by the court. He said persuasive evidence included testimony by engineers from WICC-AM/WEBE-FM in Bridgeport, Conn., who said they were able to trace the signal to Matar by using a field strength meter.

The judgment apparently did little good in stopping the broadcasts; the "Vigilante DJ," as the pirate calls himself on the air,

has continued to broadcast illegally, Secola said.

WFIF recently filed another motion in Superior Court, charging Matar for contempt of court. The station also plans to send "relevant" documents to the FCC so the Commission may pursue the matter.

The last resort

"I believe this court judgment is a basis for them (the FCC) to go down and seize the equipment," Secola said.

At press time, the FCC had not received the court judgment, according to Joseph Casey, regional director for the FCC Boston Field Operations Bureau. He said his office has no immediate plans to act based on the judgment.

The station unilaterally pursued the court action in 1990 and 1991 to try and shut down the pirate when FCC efforts

and again in July 1991. FCC field inspectors monitored for piracy, according to Vincent Kajunski of the FCC Boston office, but the effort was unsuccessful.

Not enough money

The FCC conceded that it could not put a full effort into trying to catch the pirate.

"His (the pirate) operation was sporadic enough and with funding levels where they are, we couldn't afford to put somebody down there and have them wait around until he came on," Casey said. "So if we were in the area at the time, we kind of kept our eyes open. But we were never there when he came on so we never got any first-hand evidence of illegal activity."

In August 1991, the station again sent a letter to the FCC requesting action. Enclosed were photographs of Matar's



This may be the first "pirate" radio case to be tried and won without FCC involvement.

failed to silence the broadcasts.

WFIF sent its first letter to the FCC on March 10, 1990, identifying Paul Matar as the one pirating its frequency after the station signed off for the evening.

Although FCC policy provides for a Notice of Apparent Liability to be drawn at the time a pirate is identified, King Hall of the FCC's Signal Analysis Branch said the FCC Boston Field Operations Bureau has no record of issuing this legal instrument.

"To my knowledge, I don't know that we've ever issued a Notice of Apparent Liability strictly on third party, civilian evidence," Casey said. "It's simply too easy to be discounted in court."

The Commission had hoped to catch the pirate during operation when FCC field inspectors made visits to the area on other matters, he added, estimating WFIF to be some 200 miles from the closest FCC field office in Boston.

While in the Milford area in March 1990

residence showing a long-wire antenna and copies of police reports regarding several complaints by WFIF that Matar was pirating its frequency.

The Commission also had reports on file from Ed Butler at WEBE-FM that a pirate was operating in the area on WFIF's frequency.

On August 8, 1991, the Commission finally sent a letter to Matar requesting that he "cease and desist" broadcasting if he was doing so. In the letter, the FCC cited potential penalties of one year imprisonment and/or \$10,000 fine for the first violation and two years imprisonment and/or \$10,000 fine for the second violation.

Matar also was informed that "criminal or administrative sanctions" could be brought against him if he was in violation of FCC rules.

Matar did not respond to the letter. Illegal broadcasts continued on 1500 kHz, along with telephone harassment of WFIF advertisers.

Matar did not, according to FCC documentation, respond to another letter dated May 29, 1992, in which the Commission requested information regarding broadcast equipment in his possession.

In September 1991, Secola sought the injunction restraining Matar from unlawfully interfering with WFIF business, including broadcasting on its frequency. The restraining order was issued by Superior Court during the August 4 judgment against Matar.

Because the unauthorized broadcasts have continued, Secola wrote a letter to the Milford Superior Court on August 7, 1992, requesting that the judge rule on the contempt of court charges. In the letter, Secola stated, "Because of Mr. Matar's obstinance, we will not merely be asking for monetary fines but we will be asking for a period of incarceration."

If the Superior Court again rules in WFIF-AM's favor, Matar could very well be the first person to face imprisonment for conviction of piracy by a municipal

SUBSCRIPTION READER SERVICE FORM



FREE Subscription/Renewal Card

I would like to receive or continue receiving Radio World FREE each month. Yes No

Signature _____ Date _____

Please print and include all information:

Name _____ Title _____

Company/Station _____

Address _____

City _____ State _____ ZIP _____

Business Telephone () _____

Please circle only one entry for each category:

I. Type of firm

D. Combination AM/FM station	F. Recording Studio
A. Commercial AM station	G. TV station/teleprod facility
B. Commercial FM station	H. Consultant/ind engineer
C. Educational FM station	I. Mfg. distributor or dealer
E. Network/group owner	J. Other _____

II. Job Function

A. Ownership	G. Sales manager
B. General management	E. News operations
C. Engineering	F. Other (specify) _____
D. Programming/production	

III. Purchasing Authority

1. Recommend 2. Specify 3. Approve

<p>Reader Service</p> <p>Oct. 7, 1992 Issue Use Until Jan. 7, 1992</p> <p>Please first fill out contact information at left. Then check each advertisement for corresponding number and circle below. NOTE: Circle no more than 15 numbers. Otherwise cards will not be processed.</p>	<p>001 023 045 067 089 111 133 155 177</p> <p>002 024 046 068 090 112 134 156 178</p> <p>003 025 047 069 091 113 135 157 179</p> <p>004 026 048 070 092 114 136 158 180</p> <p>005 027 049 071 093 115 137 159 181</p> <p>006 028 050 072 094 116 138 160 182</p> <p>007 029 051 073 095 117 139 161 183</p> <p>008 030 052 074 096 118 140 162 184</p> <p>009 031 053 075 097 119 141 163 185</p> <p>010 032 054 076 098 120 142 164 186</p> <p>011 033 055 077 099 121 143 165 187</p> <p>012 034 056 078 100 122 144 166 188</p> <p>013 035 057 079 101 123 145 167 189</p> <p>014 036 058 080 102 124 146 168 190</p> <p>015 037 059 081 103 125 147 169 191</p> <p>016 038 060 082 104 126 148 170 192</p> <p>017 039 061 083 105 127 149 171 193</p> <p>018 040 062 084 106 128 150 172 194</p> <p>019 041 063 085 107 129 151 173 195</p> <p>020 042 064 086 108 130 152 174 196</p> <p>021 043 065 087 109 131 153 175 197</p> <p>022 044 066 088 110 132 154 176 198</p>
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Copy & Mail to: Radio World, PO Box 1214, Falls Church, VA 22041

OPTIONAL FORM 98 (7-93)

FAX TRANSMITTAL

of pages 3

EXHIBIT 3

To	Ken Brown	From	FCC Balto
Dept./Agency	ABC	Phone #	410-952-2729
Fax #		Fax #	410-952-2713

Handwritten notes and signatures

NSN 7840-01-217-7568 5010-101

GENERAL SERVICES ADMINISTRATION



Federal Communications Commission
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81003

Report No. 12881

ACTION IN DOCKET CASE - April 19, 1987 - B

FCC JUDGE DENIES RENEWAL OF LICENSE TO WETT, OCEAN CITY, MD.
(DOCKET 20674)

FCC Administrative Law Judge James K. Cullen Jr. has denied the application of Public Service Enterprises, Inc. (PSE) for renewal of its license for standard broadcast station WETT, Ocean City, Md.

Judge Cullen found that PSE had been guilty of numerous violations of FCC rules and the station license; that it failed to ensure that it had the financial ability to continue operation; and that it lacked candor in its dealings with the Commission.

"These facts regarding PSE's past record require the conclusion that PSE can not be expected to act in the future in the responsible manner required of Commission licensees," Judge Cullen stated.

The WETT renewal application was designated for hearing by the Commission on December 22, 1975, to determine whether PSE willfully or repeatedly failed to operate WETT substantially as set forth in its license and in compliance with FCC rules, whether PSE was financially qualified to be or remain a licensee, and whether grant would serve the public interest.

If it were determined that the hearing record did not warrant denial of renewal, the Commission said it must be determined whether PSE willfully or repeatedly violated the terms of its station license or the rules and whether a forfeiture order in the amount of \$10,000 or less should be issued.

Hearing sessions were held last September 27, 28 and 29, and October 15. The record was closed on the latter date.

Leonard Grazier Jr. and his wife, Regina Grazier, are stockholders, officers and directors of WETT.

(over)

- 2 -

Judge Cullen said the findings clearly establish that PSE repeatedly and willfully operated WETT in modes and powers other than authorized, and the station manager, Regina Grazier, admittedly had the transmitting equipment altered by adding a relay device which greatly increased the WETT signal in directions where signal suppression was mandated by the station authorization.

He said Regina Grazier took substantial steps to conceal that alteration from the Commission. While the FCC has stated that "the integrity of our entire system for allocation for broadcast facilities demands that the technical aspects of all stations be maintained and operated in absolute compliance with all the terms of their licenses," Judge Cullen said both Regina and Leonard Grazier ordered or permitted the station to be operated in a completely unauthorized manner for extended periods.

Even after an FCC inspector discovered the relay device and discussed it with Mrs. Grazier, the station was still operated illegally, Judge Cullen said, adding that Leonard Grazier joined in the decision to continue use of the relay device.

PSE continuously disregarded its responsibilities as an FCC licensee and its actions demonstrate complete disregard for the integrity of the FCC's allocation system, the judge stated. He said the record requires the conclusion that on this basis alone a grant of renewal would not serve the public interest.

Judge Cullen said PSE willfully and repeatedly failed to operate WETT as set forth in its license. From early spring 1973 until June 1975, Judge Cullen said, the station frequently was willfully operated with an unauthorized non-directional pattern; from April until June 1975, such operation was continual, and even when the relay device was not activated there were occasions when WETT's power was not reduced from 1 kw to 500 watts at the proper time. Also, in June 1975 and even up to September 1976, the judge said the phase relationships were not properly maintained; and field strength readings were not taken at the proper points or were not taken at all.

He said PSE's continuous falsification of station logs made it impossible to determine the extent of its failure to operate as set forth in the WETT license, but the licensee's own admissions indicate a failure of sufficiency to warrant denial of renewal.

The judge said PSE repeatedly violated technical, measurement, inspection, logging and operator rules.

He added that for years PSE continuously violated Section 73.932 which requires that licensees operate equipment capable of receiving emergency action notifications and terminations transmitted by other broadcast stations.

PSE also repeatedly violated Section 73.961(c) which requires that an Emergency Broadcast System (EBS) off-the-air monitor test be conducted by all AM stations once each week and that appropriate entries be made in the station operating log, he stated.

- 3 -

Of particular note, Judge Cullen said, was PSE's continual failure to have a licensed operator on duty while the station was transmitting. The practice of leaving the station unattended, also compels the conclusion that PSE is not qualified to be a Commission licensee, the judge added.

Judge Cullen said the record conclusively established that PSE willfully and repeatedly falsified its operating and maintenance logs with the intent to conceal facts from the FCC, again requiring the conclusion that PSE is not qualified to remain a Commission licensee.

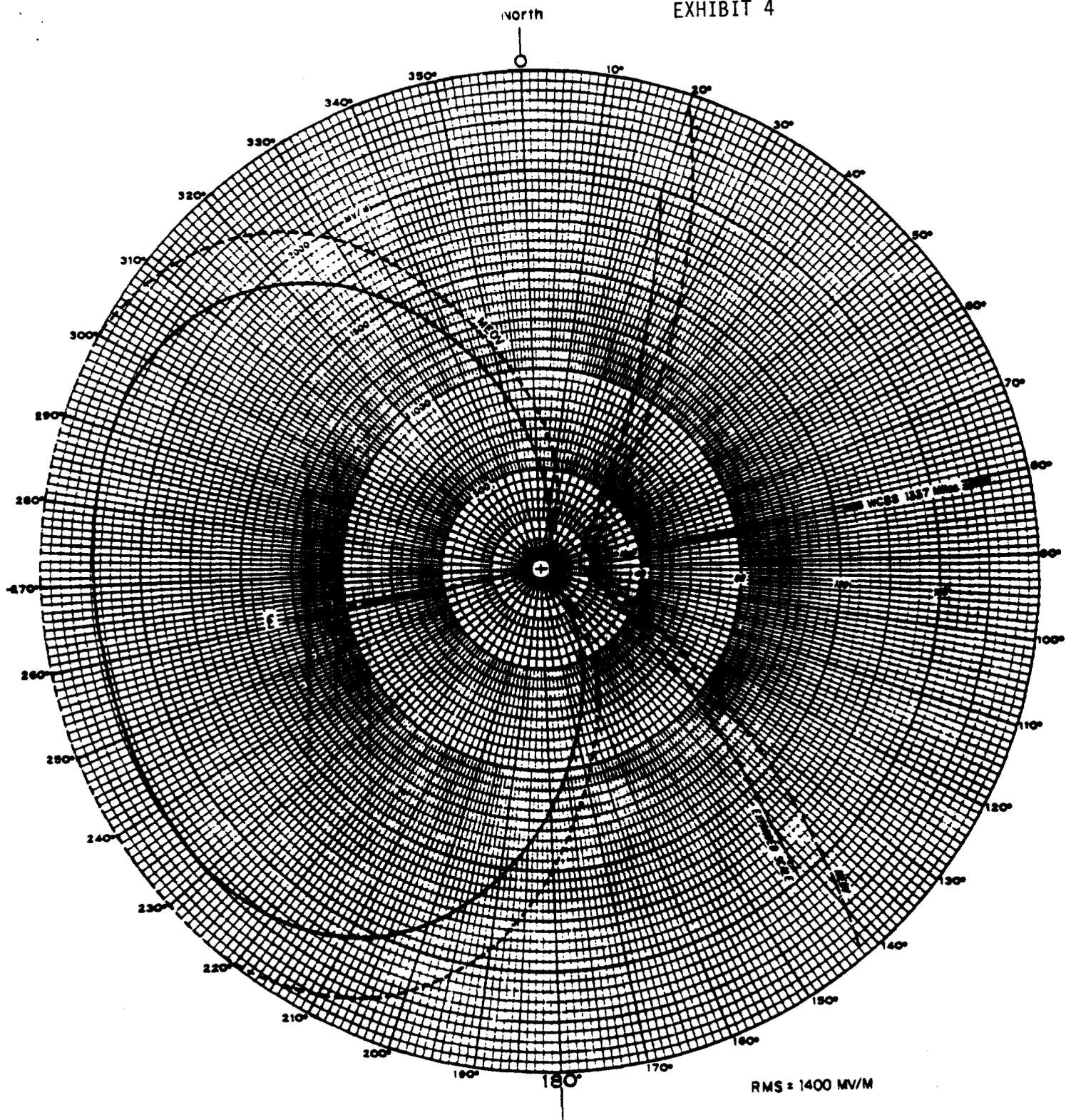
Subsequent to the last hearing date, PSE's major creditor, Calvin B. Taylor Banking Company foreclosed and the station's real property and radio equipment covered by the mortgages were sold at public auction, Judge Cullen pointed out. He said bankruptcy adjudication on March 1, completed the financial demise of PSE.

PSE's current liabilities substantially exceed its current assets, the judge said, adding that PSE offered no concrete plan on how to deal with its financial problems.

He said PSE bore the burden of proof of establishing its financial qualifications to remain a licensee, and it has failed to sustain its burden. PSE's past stewardship, including extended periods of silence directly resulting from financial problems, was insufficient to support the likelihood of continued station operation, Judge Cullen said, concluding that PSE is not financially qualified to remain an FCC licensee.

The initial decision becomes effective in 50 days unless there is an appeal by one of the parties, or the Commission orders review on its own motion.

-FCC-



North Latitude 40° 31' 03"
 West Longitude 99° 23' 20"

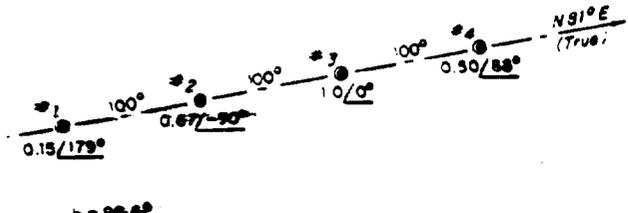
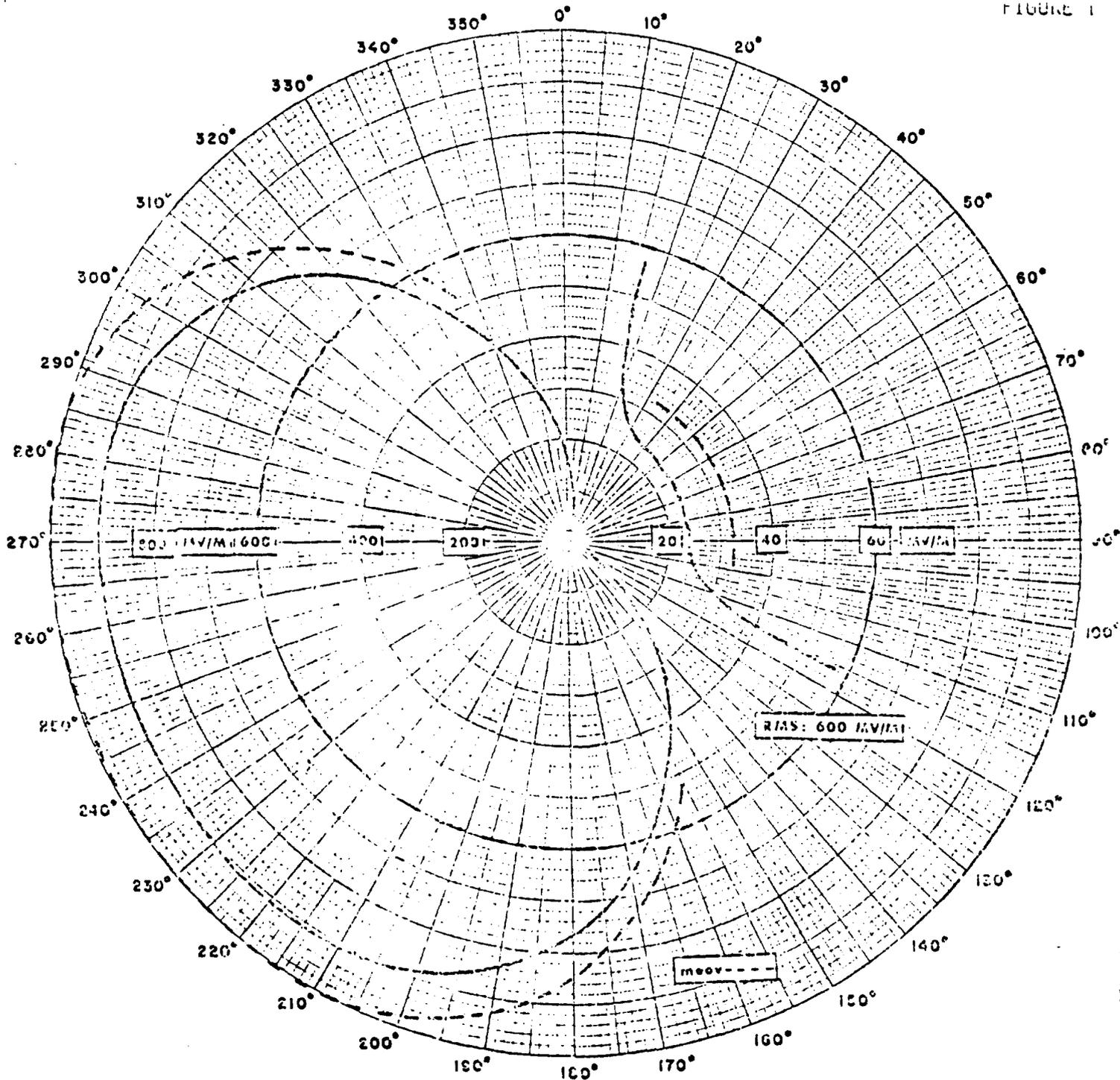


FIGURE 1
 NIGHTTIME HORIZONTAL PLANE
 RADIATION PATTERN
 KRVN 50 KW, DA-N 880 KC
 LEXINGTON, NEBRASKA

Prepared by
 Lohnes and Culver Washington, D. C.
 August, 1970

FIGURE 1



ANTENNA NO	1	2	3
FIELD	0.5	0.9945	0.5
PHASE	-87.5°	3°	87.5°
SPACING	100°	0	100°
ORIENTATION	246°	0	66°
HEIGHT	50°	90°	90°

N. LAT.	36° 04' 21.5"
W. LONG.	114° 58' 23"
RMS	600 mV/m

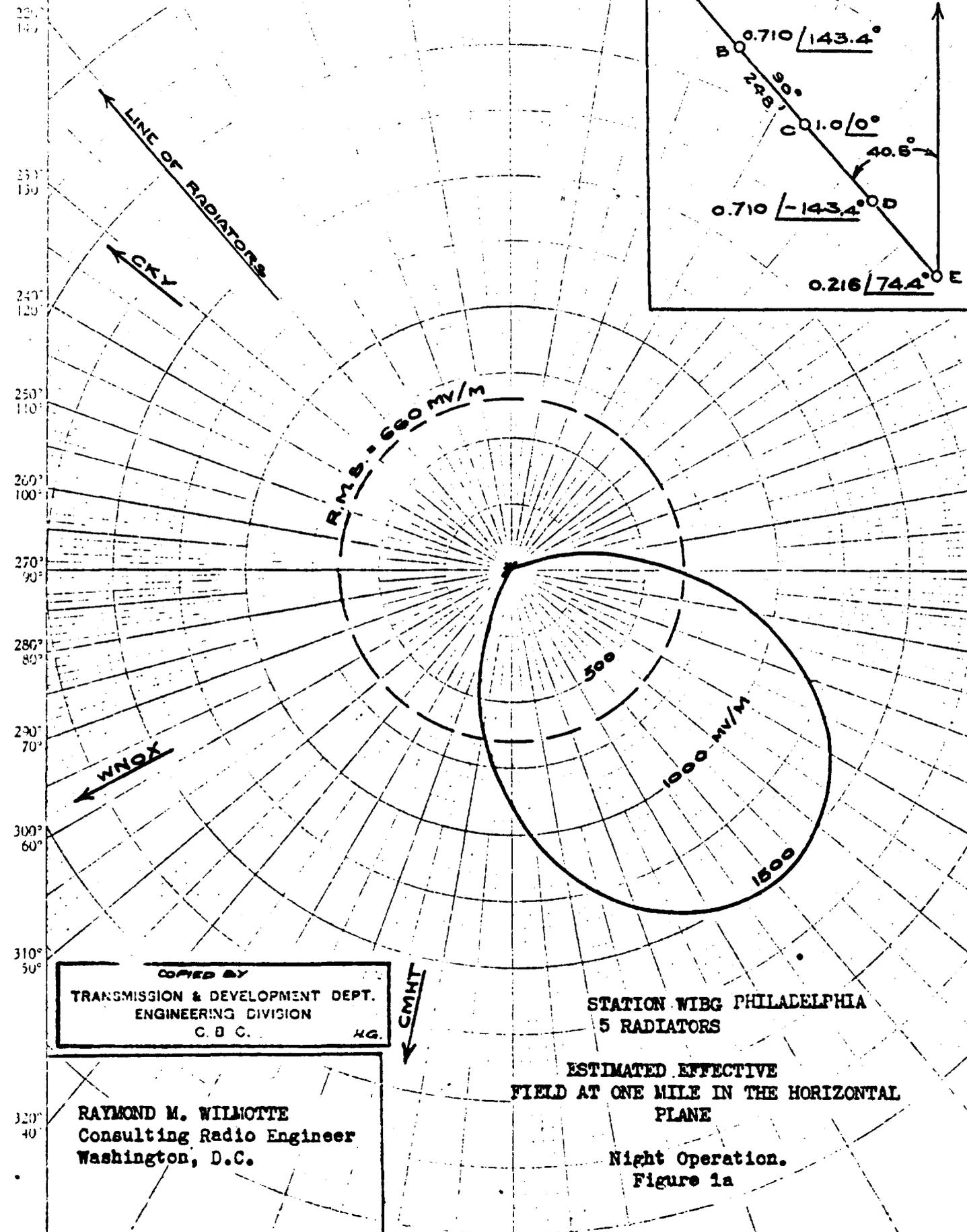
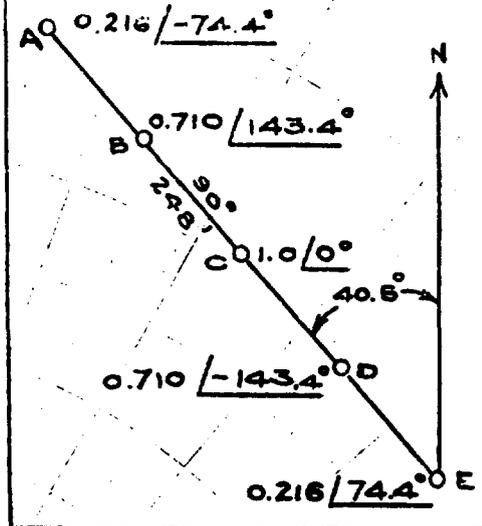


**PROPOSED NIGHTTIME
 HORIZONTAL RADIATION PATTERN
 KQRX - LAS VEGAS, NEVADA
 720 kHz - 10N/50D - DA-N
 SEPTEMBER 1974**

GAUTHREY & JONES - CONSULTING ENGINEERS

PATTERN NO: 420112
SUPERSEDES: 410523
REINSTATES:

ANTENNA HEIGHT = 250'



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 ENGINEERING DIVISION
 C. B. C. H.G.

RAYMOND M. WILLOTTE
 Consulting Radio Engineer
 Washington, D.C.

STATION WIEG PHILADELPHIA
 5 RADIATORS

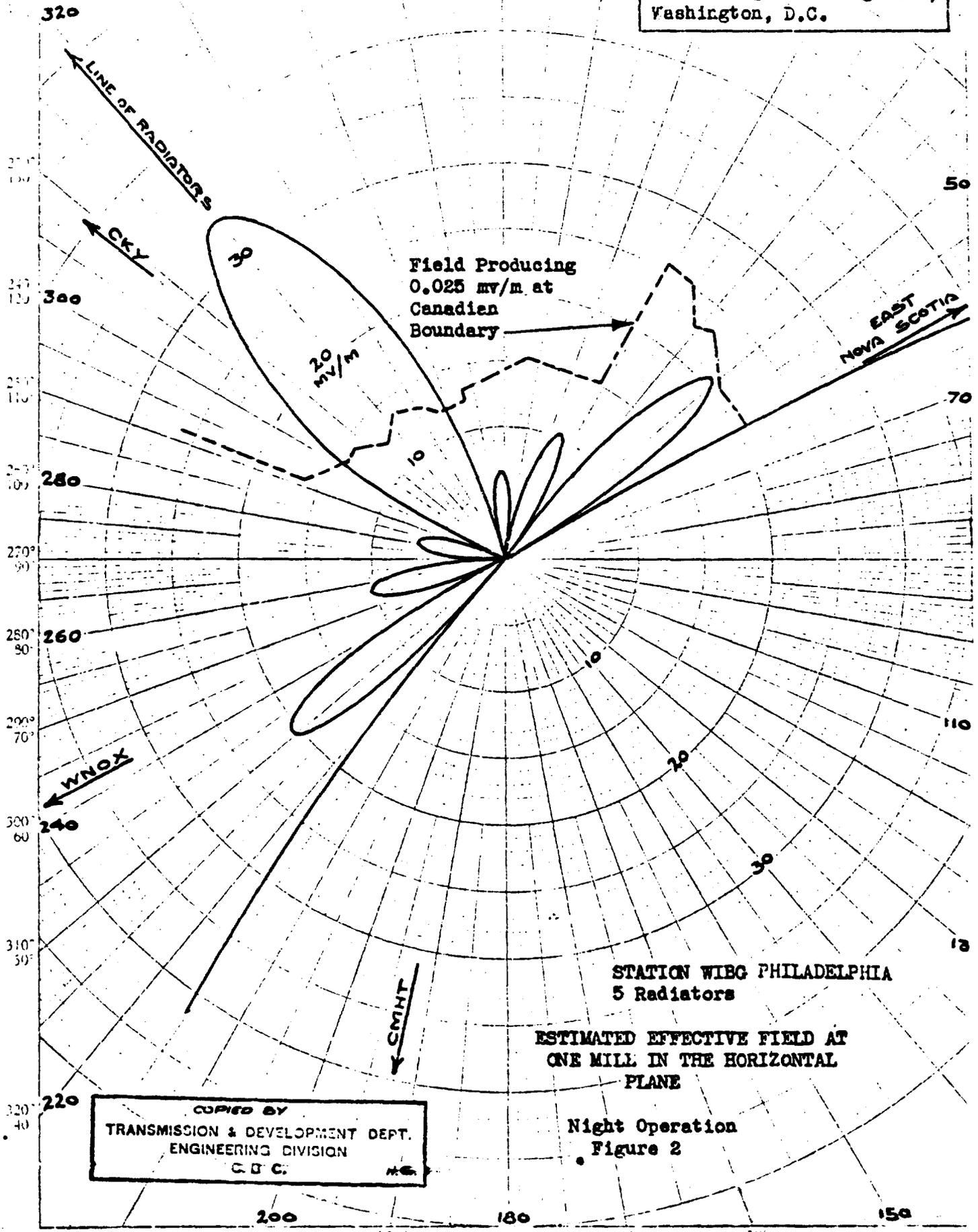
ESTIMATED EFFECTIVE
 FIELD AT ONE MILE IN THE HORIZONTAL
 PLANE

Night Operation.
 Figure 1a

NEUPHEL & ESSER CO. N.Y. NO. 388-31
 Polar Coordinates
 MADE IN U.S.A.

PATTERN NO: 420112
SUPERSEDES: 410523
REINSTATES:

RAYMOND M. WILMOTTE,
Consulting Radio Engineer,
Washington, D.C.



Field Producing
0.025 mv/m at
Canadian
Boundary

20
MV/M

30

320

LINE OF RADIATORS
CKY

300

280

260

240

220

WNOX

CMHT

EAST
NOVA SCOTIA

STATION WIBG PHILADELPHIA
5 Radiators

ESTIMATED EFFECTIVE FIELD AT
ONE MILL IN THE HORIZONTAL
PLANE

Night Operation
Figure 2

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REIFFEL & ESSLER CO., N. Y. NO. 304-31
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