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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FILE

In re Petition of)
Radian Corporation)
For Allocation of Two Megahertz)
in the 914-916 MHz Band for)
Secondary Use of Wind Profiler)
Systems)

RM-8092

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

To: The Commission

COMMENTS OF THE AMERICAN RADIO RELAY LEAGUE, INCORPORATED

The American Radio Relay League, Incorporated (the League), the national association of amateur radio operators in the United States, by counsel and pursuant to Section 1.405(a) of the Commission's rules (47 C.F.R. §1.405(a)), hereby respectfully submits its comments in response to the Petition for Rule Making (the Petition) filed August 13, 1992 by Radian Corporation. Public Notice of the Petition was given by the Commission October 1, 1992, per Report No. 1909, and these comments are thus timely filed. The Petition seeks "co-secondary" use of the 914-916 MHz segment by wind profiler radar systems. In response to the proposal contained in the Petition, the League states as follows:

I. Introduction

1. The instant petition, seeking a permanent allocation for wind profiler radars at centered at 915 MHz, is premature and should be dismissed as such. See 47 C.F.R. §1.407. Furthermore,

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the petition is internally inconsistent, to the extent that it is impossible to determine what is being proposed. Finally, while amendment of Part 2 of the Commission's Rules is sought, the petition proposes no radio service rules governing wind profiler radars, and is thus incomplete. It is impossible to determine, for example, how interference to other users of the 902-928 MHz band, including the Amateur Radio Service, is to be avoided.

II. The Petition is Premature

2. The petition is premature from two viewpoints. One is that the work of CCIR Task Group 8/2, mandated by Resolution 621 (WARC-92), study of suitable frequency bands for wind profiler radars, has just begun.¹ The report of the Task Group is to provide a technical basis for consideration of allocations for wind profiler radars at a future competent World Radiocommunication Conference,

¹ Attached hereto as Exhibit A is Resolution 621 of WARC-92, (formerly Recommendation GT-PLN/A) concerning Implementation of Wind Profiler Radars at Frequencies near 50 MHz, 400 MHz and 1,000 MHz. That Resolution specifically notes that the CCIR is studying various proposals for wind profiler radars at frequencies in the vicinity of 50, 400 and 1,000 MHz, and that it is "highly desirable to use wind profiler radars in frequency bands which have been agreed, preferably on a worldwide basis." The resolution further states that in the interest of effective spectrum utilization, it is necessary to include technical characteristics and sharing criteria in future studies. Thus, the CCIR was invited to continue "as a matter of urgency" its studies of the characteristics and requirements of wind profiler radars, and to make recommendations "at the next competent WARC" as to the technically suitable frequency bands, associated standards and frequency sharing criteria necessary for compatibility with the services that may be affected.

Finally, Resolution 621 urges administrations concerned with wind profiler radars to contribute to the CCIR studies.

most likely WRC II in 1995. The result of the Task Group's work should be available at the end of 1993. For the Commission to propose a specific frequency allocation for wind profilers now would be inconsistent with the active participation of the United States in the ongoing CCIR studies.

3. Additional evidence of the prematurity of the petition is that technical and operational characteristics have not been developed as the basis of rules for wind profiler radars. A standards definition group has been established under the Interdepartment Radio Advisory Committee (IRAC) for Government wind profiler radars, but its work is limited to a new generation to operate at 449 MHz. There is not, to the best of the League's knowledge and belief, any comparable work completed or underway with respect to any technical or operating parameters for wind profilers in the vicinity of 1,000 MHz. Experimental licenses are currently outstanding for such devices at 902-928 MHz, but the results of those have not resulted in generally accepted technical or operational rules. Since no such rules are proposed in the Petition, and none are known to exist elsewhere, the Petition is premature and should be dismissed as such.

III. The Petition is Internally Inconsistent and Incomplete

4. The petition is inconsistent with respect to the bandwidth necessary for wind profiler devices at 914-916 MHz. While the petition itself requests a band 2 MHz wide, the supporting documentation in Appendix I, at Page 10-13 shows an emission

designator of 6M00P0N, which designates a bandwidth of 6 MHz, not two. Further, the Transmitter Equipment Characteristics form itself reveals an emission mask that is totally inconsistent with the emission designator, as the "Emission Bandwidth" is given as 1.4 MHz at -3 dB, 40 MHz at -20 dB, and 200 MHz at -40 dB.

5. IRAC has determined that the bandwidth of a wind profiler radar can be restricted to 2 MHz in the 449 MHz band. However, bandwidth increases with increasing operating frequency, owing to the altitudes of winds sensed and the resolution required. Thus, it would appear that a bandwidth of 2 MHz at 915 MHz would be difficult to achieve. Until supporting engineering studies to the contrary are provided, one would expect, from the information on hand in the petition, that the bandwidth at 915 MHz would be on the order of several times that requested; perhaps the 6 MHz that is proposed as an emission designator is more realistic. If so, the premises for the Petition are flawed. There is no indication therefore that adequate interference protection could be achieved for adjacent frequency users from wind profiler operation at the specified frequency.

6. Neither does the petition on its face indicate how interference will be avoided to other users, notably including the Amateur Radio Service. There is no proposal for coordination of fixed wind profiler use and amateur fixed and mobile operation on a co-channel basis, though the Petition seeks an allocation status equivalent to that of the Amateur Radio Service in the band. There is no indication whether, or how, co-located amateur and wind

profiler operation could be conducted, or how the geographical separation distances could be calculated to minimize interaction between the two services. The Petition merely indicates that the vertical radiation characteristics of wind profiler operation and the presumed "generally remote" locations of those operations will cause little interference to amateur operations. The assurance that "Radian is willing to work closely with amateur groups to ensure that any instances of interference are minimized"² rings hollow absent a reasonable interference study. The petition is incomplete in this respect, and should be dismissed on that basis alone.

7. Finally, no rules are proposed for operation of wind profiler radars. The Petition generally suggests certain eligibility criteria, but no proposed technical or operational rules. If Radian believes that the development of such rules is not yet complete, then it is premature to propose the frequency allocation. If a proposal for service rules is available, then it should be contained in the four corners of the Petition in order to evaluate the interference potential of such operation to other sharing partners in the 914-916 MHz band.

IV. Conclusions

8. A case may have been made in the Petition for the issuance or continuation of experimental licenses to operate wind profiler radar systems at 915 MHz on a developmental basis. The experiments

² Petition, at footnote 25.

conducted in that segment can be used in the context of the United States' participation in the work of CCIR Task Group 8/2. After the results of those experimental licenses are evaluated, perhaps a Notice of Inquiry could be initiated sometime in 1993 with benefit of at least the preliminary conclusions of CCIR Task Group 8/2. It is readily apparent, however, that the instant petition is both premature and incomplete, and cannot be made the basis for a Notice of Proposed Rule Making at this time. To initiate a rule making proceeding at this point would be antithetical to the work of CCIR, contrary to the recommendations of ITU Resolution 621, and very much against the interests of other users of the 902-928 MHz band, including the Amateur Radio Service. Accordingly, the petition should be denied or dismissed, subject, perhaps, to being reintroduced at the proper time, in proper form.

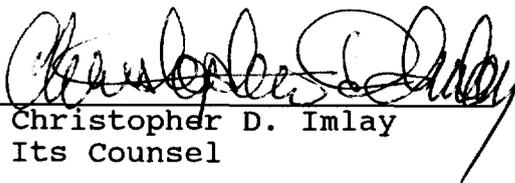
Therefore, the foregoing considered, the American Radio Relay League, Incorporated respectfully requests that the instant Petition for Rule Making be dismissed or denied, without prejudice.

Respectfully submitted,

**THE AMERICAN RADIO RELAY
LEAGUE, INCORPORATED**

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By


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November 2, 1992

**Final Acts
of the World
Administrative
Radio Conference
(WARC-92)**



Málaga-Torremolinos, 1992

RECOMMENDATION GT-PLN/A

**Implementation of Wind Profiler Radars at
Frequencies near 50 MHz, 400 MHz and 1 000 MHz**

The World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum (Malaga-Torremolinos, 1992),

having noted

a request to the ITU from the Secretary-General of the World Meteorological Organization (WMO), in May 1989, for advice and assistance in the identification of appropriate frequencies near 50 MHz, 400 MHz and 1 000 MHz in order to accommodate allocations and assignments for wind profiler radars,

considering

- a) that wind profiler radars are important meteorological systems used to measure wind direction and speed as a function of altitude;
- b) that in order to conduct such measurements up to a height of 30 kilometres it is necessary to allocate frequency bands for these radars in the general vicinity of 50 MHz (3 to 30 km), 400 MHz (500 m to about 10 km) and 1 000 MHz (100 m to 3 km), respectively;
- c) that many administrations plan to deploy wind profiler radars in operational networks in order to improve meteorological predictions, support studies of the climate and enhance the safety of navigation;
- d) that it is highly desirable to use wind profiler radars in frequency bands which have been generally agreed, preferably on a worldwide basis;
- e) that the CCIR is studying various proposals for these wind profiler radars at frequencies around 50 MHz, 400 MHz and 1 000 MHz and that frequencies in the 400 MHz region may be preferred for measurements of winds at altitudes that are of the greatest general interest;
- f) that it is essential in the interest of safety to protect the COSPAS-SARSAT system and other safety services from harmful interference which may be caused by wind profiler radars;
- g) that studies have already shown that wind profiler radars operating in the vicinity of 400 MHz must be sufficiently separated in frequency from the COSPAS-SARSAT system centred on 406.025 MHz;
- h) that in the interest of efficient spectrum utilization it is necessary to include technical characteristics and sharing criteria in future studies,

invites the CCIR

to continue as a matter of urgency its studies of the characteristics and requirements of wind profiler radars, to make Recommendations as to the technically suitable frequency bands, associated standards and frequency sharing criteria necessary for compatibility with the services that may be affected, and to submit a report to the Conference referred to in **invites the Administrative Council**,

recommends

1. that administrations authorizing experiments with or the operational use of such radars should take all necessary actions to ensure protection from harmful interference to the COSPAS-SARSAT system, particularly by avoiding assignments in the band 402 - 406 MHz, and to other services;
2. that administrations and international organizations concerned with wind profiler radars, particularly the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO), the World Meteorological Organization (WMO) and COSPAS-SARSAT, should contribute to the CCIR studies,

invites the Administrative Council

to consider including on the agenda of the next competent WARC the question of appropriate frequency allocations for the operational use of wind profiler radars,

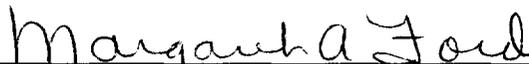
instructs the Secretary-General

to bring this Recommendation to the attention of the ICAO, IMO and WMO.

CERTIFICATE OF SERVICE

I, Margaret A. Ford, Office Manager of the law firm of Booth, Freret & Imlay, do certify that copies of the foregoing COMMENTS OF THE AMERICAN RADIO RELAY LEAGUE, INCORPORATED were mailed this 2nd day of November, 1992 via U. S. Mail, first class, postage prepaid, to the offices of the following:

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Margaret A. Ford