

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of
STATE OF MAINE –
MSCOMMNET PROJECT
Request For Waiver of Sections 90.35(a),
20.9(a)(6), 22.377, and 22.565(f) of the
Commission’s Rules
File Nos. Listed in Attached Appendix

ORDER

Adopted: July 31, 2012

Released: July 31, 2012

By the Chief, Policy and Licensing Division, Public Safety and Homeland Security Bureau and the Chief,
Mobility Division, Wireless Telecommunications Bureau:

I. INTRODUCTION

1. The State of Maine – MSCommNet Project (Maine) filed numerous applications seeking
authorization to build out a trunked statewide private land mobile radio (PLMR) system using several
frequencies in the VHF band.1 In connection with a subset of these applications, Maine seeks a waiver of
Section 90.35(a) of the Commission's rules in order to operate on frequencies from the Industrial/Business
Pool.2 Furthermore, Maine seeks a waiver of Sections 20.9(a)(6), 22.377 and 22.565(f) in order to
incorporate Part 22 Paging frequencies into its statewide system.3 For the reasons detailed below, we
grant Maine’s waiver requests.

II. BACKGROUND

2. Maine is in the process of upgrading its state-wide public safety radio communications
network. At the present time, Maine’s agencies and departments operate multiple independent PLMR
systems, which Maine describes as “outdated, difficult to maintain, and no longer adequate to serve
respective departments’ critical needs.”4 According to Maine, these radio systems are four to five
generations obsolete, are suffering an increased number of outages, and do not meet the narrowbanding
requirements that will go into effect for all VHF and UHF PLMR systems on January 1, 2013.5

1 Since October 2011, Maine has filed over one-hundred applications under the FCC Registration Number (FRN)
0019538925.

2 See waiver request included with the applications listed in Tables 1 and 2 of the attached appendix (I/B Waiver
Request).

3 See waiver request included with the application listed in the Table 3 of the attached appendix (Part 22 Waiver
Request).

4 I/B Waiver Request at 2.

5 Id. at 2-3.

3. Consequently, Maine plans to consolidate all of its legacy radio systems into a new statewide narrowbanded (12.5 kHz channel bandwidth) VHF trunked Project 25 radio system.⁶ Once constructed, the new statewide system will provide “improved geographic radio coverage, voice quality/clarity and channel capacity.”⁷ Furthermore, the new statewide system will “allow for seamless interoperability across all levels of government (including non-State agencies).”⁸

4. Due to a sparse population and heavily forested terrain, Maine contends that the VHF band (150-170 MHz) is the only viable frequency band for its statewide network because of the band’s “excellent propagation characteristics.”⁹ Maine states that higher frequency bands, including the 700 MHz and 800 MHz bands, offer limited coverage and are subject to increased foliage attenuation, which is “a particularly serious problem in a heavily forested state such as Maine.”¹⁰ Maine estimates that a statewide VHF system requires only 42 upgraded/updated radio sites at a total cost of \$49 million while an 800 MHz-based statewide system would require 146 sites at an overall cost of over \$177 million.¹¹ Aside from cost and engineering advantages, Maine also notes that the VHF band is the only band that provides “state-wide interoperability among federal, state and local public safety agencies.”¹²

5. Maine argues, however, that there are insufficient VHF band channels available in the Public Safety Pool to meet its requirements for the new statewide system.¹³ Maine notes that it is already incorporating all channels currently assigned to it into the new statewide system and that it has applied for all remaining Public Safety Pool channels that can be used without causing interference to other users.¹⁴ Claiming it lacks any other viable alternative, Maine seeks to obtain additional VHF frequencies from the Industrial/Business Pool for inclusion in its proposed system.¹⁵ However, because Maine, a public safety entity, is ineligible for licensing on Industrial/Business Pool frequencies, it requires a waiver of the eligibility requirements set forth in Section 90.35(a) of the Commission’s rules.¹⁶

6. In support of its waiver request, Maine submits a study from a Public Safety Frequency Coordinator confirming the lack of available Public Safety Pool frequencies in the VHF band to serve Maine’s needs.¹⁷ With each application seeking an Industrial/Business Pool frequency, Maine also

⁶ *Id.* at 3.

⁷ *Id.*

⁸ *Id.*

⁹ *Id.* at 4.

¹⁰ *Id.*

¹¹ *Id.* at 4-5.

¹² *Id.* at 5.

¹³ *Id.* at 6.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ 47 C.F.R. § 90.35(a).

¹⁷ See the frequency study attached to each application listed in Tables 1 and 2 of the attached appendix (collectively Maine Frequency Studies).

includes a statement from an Industrial/Business Frequency Coordinator confirming it concurs with the coordination of Maine's proposed facilities on the Industrial/Business frequencies.¹⁸

7. On March 13, 2012, the Public Safety and Homeland Security Bureau released a Public Notice seeking comment on Maine's request for a waiver of Section 90.35(a) to license frequencies from the Industrial/Business Pool.¹⁹ The two commenting parties who responded to the public notice both supported Maine's request for waiver.²⁰

8. In addition to Public Safety Pool and Industrial/Business Pool frequencies, Maine also seeks to incorporate a number of VHF band Part 22 paging frequencies into its statewide system.²¹ To accomplish this, the Harris Corporation (Harris), a licensee of certain Part 22 VHF paging channels in the State of Maine, has filed an application to assign its paging licenses to Maine.²² In connection with the Harris assignment application, Maine seeks a waiver of Section 20.9(a)(6), which requires licensees on Part 22 paging channels to operate as common carriers, of Section 22.377, which requires transmitters operating on Part 22 frequencies to be certificated for use under Part 22, and of Section 22.565(f), which limits the power of Part 22 mobile radios to 60 watts transmitter output power.²³

9. In its request for waiver of Section 20.9(a)(6), Maine argues that "common carriage is inconsistent with the provision of public safety communications" and that "[a]ccess to the statewide radio system must be limited to authorized state, local and federal users."²⁴ With regard to Section 22.565(f), Maine states that it intends to program the Part 22 paging frequencies into its statewide mobile units, which operate at 110 watts output power, and contends that limiting the mobile units to 60 watts would be unduly costly because it would require Maine to build additional base stations to ensure adequate "talk-back" capability from the mobile units in the field.²⁵ With regard to Section 22.377, Maine notes it will operate its "entire state-wide radio system pursuant to Part 90" and that all equipment used on the system will conform to Part 90 requirements.²⁶ Thus, Maine claims that requiring it to deploy Part 22 equipment on the Part 22 frequencies is not a viable option.²⁷

¹⁸ See the statement from an Industrial/Business Frequency Coordinator attached to each application listed in Tables 1 and 2 (collectively Industrial/Business Coordinator Statements).

¹⁹ See Public Safety and Homeland Security Bureau Seeks Comment on Applications and Waiver Request Filed by the State of Maine for 150 MHz Industrial/Business Frequencies, *Public Notice*, 27 FCC Rcd 2521 (2012).

²⁰ See statement from the State of Wisconsin Department of Transportation attached to application no. 0004825917 on Mar 26, 2012 (Wisconsin DOT Comments); and the comments of the Enterprise Wireless Alliance attached to applications application nos. 0004825917, 0004825918, 0004885388, 0004905098, 0004912404, 0004931902, 0004933177, 0004938501 on Mar. 27, 2012 (EWA Comments).

²¹ See justification for unpaired frequencies attached to the applications listed in Tables 2 and 4 in the attached appendix.

²² See application listed in Table 3 of the attached appendix.

²³ Part 22 Wavier Request at 1.

²⁴ *Id.*

²⁵ *Id.* at 2.

²⁶ *Id.*

²⁷ *Id.*

III. DISCUSSION

10. Section 1.925 states that to obtain a waiver of the Commission's rules, a petitioner must demonstrate either that: (i) the underlying purpose of the rule(s) would not be served or would be frustrated by application to the present case, and that a grant of the waiver would be in the public interest;²⁸ or (ii) in view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative.²⁹ We find that Maine satisfies the second prong of the waiver standard for each of its waiver requests as detailed below.

11. *Section 90.35(a) Eligibility Requirements.* We concur with Maine that there are insufficient available Public Safety Pool frequencies in the VHF band to serve Maine's needs for its statewide radio system.³⁰ We also acknowledge Maine's unique terrain, with its heavily forested areas, which are difficult to penetrate for adequate radio coverage in frequency bands above the VHF band.³¹ Consequently, we find it unduly burdensome to require Maine to build a statewide radio system on frequency bands higher than the VHF band—where adequate radio coverage is difficult to achieve—solely to use frequencies from the Public Safety Pool (i.e. frequencies for which it is typically eligible to license). Furthermore, we find it contrary to the public interest for Maine to build a statewide PLMR system incapable of interoperating with federal, state and local public safety officials throughout the state because it operates in a different frequency band.³²

12. We also find it unlikely that Maine will cause interference to other Industrial/Business Pool users because Maine's applications were approved by coordinators certified to coordinate Industrial/Business Pool frequencies.³³ Consequently, we find that Maine has satisfied the waiver standard with respect to its request for relief from the eligibility requirements specified in Section 90.35(a) of the Commission's rules.

13. *Section 20.9(a)(6) Common Carrier Requirement.* We agree with Maine that the requirement to operate as a common carrier on Part 22 paging channels and offer telecommunications service to the public is "inconsistent with the provision of public safety communications," which is premised on limiting network access to authorized state, local, and federal users.³⁴ Consequently, having found that Maine has a legitimate need to incorporate Part 22 paging channels into its statewide system, it would be contrary to the public interest to require Maine to comply with the common carrier requirement. Therefore, we find Maine has satisfied the standard for waiver of this requirement.

²⁸ 47 C.F.R. § 1.925(b)(3)(i).

²⁹ 47 C.F.R. § 1.925(b)(3)(ii).

³⁰ See Maine Frequency Studies.

³¹ Foliage loss can be calculated using the following formula: $L = 1.33^{(f \cdot 0.284d^{0.588})}$, where L is the foliage loss in decibels along a path blocked by dense, dry, in-leaf temperate-climate trees, f is the frequency in GHz, and d is the path length in meters. See Weissberger, M. A., "An Initial Critical Summary of Models for Predicting the Attenuation of Radio Waves by Trees," ESD-TR-81-101, Electromagnetic Compatibility Analysis Center, Annapolis, MD, August 1981.

³² I/B Waiver Request at 5 (noting that all federal, state and local agencies operate in the VHF band except for the City of Portland).

³³ See Industrial/Business Coordinator Statements. See also EWA Comments at 2-3.

³⁴ Part 22 Waiver Request at 1-2.

14. *Section 22.565(f) Mobile Radio Power Limit.* Maine has designed its system for 110 watt mobile units to ensure adequate “talk-back” ability. We agree with Maine that it would be unduly burdensome to limit mobile units operating on Part 22 paging frequencies to 60 watts while the rest of its mobile fleet operates at 110 watts as permitted under the higher Part 90 power limits. Applying the rule in this manner would be spectrally inefficient, would force Maine to redesign its network, and would likely require construction of additional base stations at substantial cost.³⁵

15. However, to reduce the potential for interference to Part 22 licensees in adjacent regions, we limit the area in which Maine may operate mobile units at 110 watts on Part 22 frequencies. Specifically, we require Maine to operate its mobile units at least 8 kilometers from the edge of its Part 22 service area when transmitting at power levels above 60 watts on Part 22 paging frequencies.³⁶ This restriction remains in effect unless Maine obtains the consent of the Part 22 licensee in the adjacent regions. By restricting the distance at which Maine’s overpowered mobile units can operate from the border of its service area, we limit the interference potential of these units to that of a 60-watt mobile unit operating at the edge of the Part 22 service area.³⁷

16. With this condition, we find Maine has satisfied the standard for waiver of the 60-watt limit for mobile units specified in Section 22.565(f) of our rules.

17. *Section 22.377 Certifications of Transmitters.* Having waived Maine’s requirement to operate as a common carrier and having waived the 60 watt power limit for mobile units, we agree with Maine that it would be unduly burdensome to require it to operate its Part 22 frequencies only on equipment certified under Part 22. Maine intends to operate its entire statewide system on equipment approved under Part 90.³⁸ Therefore, in this instance, we find it unnecessarily burdensome to require Maine to also get its equipment certified for operation under Part 22. Consequently, we find Maine has satisfied its request for waiver of the equipment certification requirement of Section 22.377.

IV. ORDERING CLAUSES

18. Accordingly, we GRANT the waiver requests associated with the applications listed in Tables 1, 2, and 4 of the attached appendix filed by State of Maine – MSCCommNet Project, pursuant to Section 1.925 of the Commission’s rules, 47 C.F.R. § 1.925, and we will PROCESS the associated application accordingly.

19. Furthermore, we GRANT the waiver requests associated with the application listed in Table 3 of the attached appendix filed by Harris Corporation, pursuant to Section 1.925 of the Commission’s rules, 47 C.F.R. § 1.925, with the condition that mobile units must maintain at least an eight kilometer separation from the edge of the service area when operating at power levels above 60 watts transmitter output power unless concurrence is obtained from the adjacent Part 22 licensee, and we will PROCESS this application accordingly.

³⁵ *Id.* at 2.

³⁶ We calculate that a mobile unit operating at 110 watts extends the Part 22 interference contour approximately eight kilometers beyond the interference contour produced by a mobile unit operating at 60 watts. We assumed the minimum radial antenna height above average terrain of 30 meters for this calculation. *See* 47 C.F.R. § 22.567.

³⁷ The Part 22 service area is specified on each Part 22 license associated with assignment application no. 0005129300.

³⁸ Part 22 Waiver Request at 2.

20. We take this action under delegated authority pursuant to Sections 0.131, 0.191, 0.331 and 0.392 of the Commission's rules, 47 C.F.R. §§ 0.131, 0.191, 0.331, 0.392.

FEDERAL COMMUNICATIONS COMMISSION

Thomas J. Beers
Chief, Policy and Licensing Division
Public Safety and Homeland Security Bureau

Roger Noel
Chief, Mobility Division
Wireless Telecommunications Bureau

Appendix

Table 1 – Maine Applications Seeking Industrial/Business Frequencies but No Paring with Part 22 Frequencies

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|------------|------------|
| 0004825918 | 0004905098 |
| 0004885388 | 0004933177 |

Table 2 – Maine Applications Seeking Industrial/Business Frequencies and Paring with Part 22 Frequencies

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|------------|------------|
| 0004825917 | 0005023482 |
| 0004912404 | 0005023483 |
| 0004931902 | 0005023484 |
| 0004938501 | 0005025387 |
| 0005021444 | 0005025393 |
| 0005021983 | 0005025399 |
| 0005023471 | 0005025402 |
| 0005023476 | 0005028257 |
| 0005023478 | 0005028258 |

Table 3 – Harris Application for Assignment of Part 22 Paging Channels to Maine

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| 0005129300 | |
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Table 4 – Maine Applications Seeking Public Safety Pool Frequencies and Pairing with Part 22 Frequencies

| | |
|------------|------------|
| 0004916345 | 0004969944 |
| 0004916346 | 0004984161 |
| 0004924517 | 0004984164 |
| 0004925729 | 0004984165 |
| 0004925876 | 0005016781 |
| 0004932247 | 0005018789 |
| 0004935091 | 0005018793 |
| 0004935092 | 0005018796 |
| 0004935093 | 0005018798 |
| 0004935095 | 0005018799 |
| 0004935097 | 0005021447 |
| 0004935098 | 0005021982 |
| 0004935099 | 0005021989 |
| 0004935100 | 0005021992 |
| 0004935101 | 0005023026 |
| 0004935102 | 0005023480 |
| 0004935532 | 0005023488 |
| 0004944714 | 0005028838 |
| 0004969940 | 0005119124 |