

TABLE 1.—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
*	*	*
*	*	*
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(d) If after 30 days Ford presents no further information, the Regional Administrator will issue a final written determination describing the Agency actions that are necessary to protect human health or the environment. Any required action described in the Regional Administrator's determination shall become effective immediately, unless the Regional Administrator provides otherwise.

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FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 2

[ET Docket No. 03-108; FCC 07-66]

Cognitive Radio Technologies and Software Defined Radios

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: This document responds to two petitions concerning the rules adopted in the *Report and Order* in this proceeding (“Cognitive Radio Report and Order”). The Commission granted a petition for clarification filed by Cisco Systems, Inc. (“Cisco”) requesting that the Commission clarify the requirement to approve certain devices as software defined radios, and its policy on the confidentiality of software that controls security measures in software defined radios. The Commission also granted in part and denied in part a petition for reconsideration filed by Marcus Spectrum Solutions (“MSS”) requesting that the Commission clarify the rules concerning the submission of radio software source code, clarify the rules concerning the certification of software defined amateur radio equipment, and initiate a further proceeding to adopt regulatory requirements for high-power, high-speed digital-to-analog (D/A) converters.

DATES: Effective July 6, 2007.

FOR FURTHER INFORMATION CONTACT: Hugh Van Tuyl, Policy and Rules Division, Office of Engineering and Technology, (202) 418-7506, e-mail: Hugh.VanTuyl@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission’s *Memorandum Opinion and Order*, ET Docket No. 03-108, FCC 07-66, adopted April 20, 2007 and released April 25, 2007. The full text of this document is

available on the Commission’s Internet site at <http://www.fcc.gov>. It is also available for inspection and copying during regular business hours in the FCC Reference Center (Room CY-A257), 445 12th Street, SW., Washington, DC 20554. The full text of this document also may be purchased from the Commission’s duplication contractor, Best Copy and Printing Inc., Portals II, 445 12th St., SW., Room CY-B402, Washington, DC 20554; telephone (202) 488-5300; fax (202) 488-5563; e-mail FCC@BCPIWEB.COM.

Summary of the Memorandum Opinion and Order

1. On March 17, 2005, the Commission adopted the *Cognitive Radio Report and Order* 70 FR 23032, May 4, 2005, in which it modified the rules to reflect ongoing technical developments in cognitive and software defined radio technologies. In response to the *Cognitive Radio Report and Order*, Cisco and MSS each filed a petition seeking reconsideration or clarification of various aspects of the Commission’s decisions in the *Cognitive Radio Report and Order*. The Information Industry Technology Council (“ITT”) filed comments in opposition of MSS’ petition. No comments were filed in response to Cisco’s petition. In response to the two petitions concerning the rules adopted in the *Cognitive Radio Report and Order* in this proceeding, the Commission granted the petition for clarification filed by Cisco Systems, Inc. (“Cisco”) requesting that the Commission clarify: (1) The requirement to approve certain devices as software defined radios, and (2) its policy on the confidentiality of software that controls security measures in software defined radios. The Commission also granted in part and denied in part a petition for reconsideration filed by Marcus Spectrum Solutions (“MSS”) requesting that the Commission (1) Clarify the rules concerning the submission of radio software source code, (2) clarify the rules concerning the certification of software defined amateur radio

equipment, and (3) initiate a further proceeding to adopt regulatory requirements for high-power, high-speed digital-to-analog (D/A) converters.

2. In the *Cognitive Radio Report and Order*, the Commission modified the rules to require that radios in which the software is designed or expected to be modified by a party other than the manufacturer be certified as software defined radios. To minimize the filing burden on manufacturers, this requirement was narrowly tailored to affect only those radios where the software can be modified by a party other than the manufacturer because such radios pose a higher risk of interference to authorized radio services. The definition of software defined radio (SDR) is intentionally broad, while the category of equipment that is required to be certified as SDRs is intentionally narrow. The Commission agrees with Cisco that a reading of the definition of SDR in the rules by itself may give the incorrect impression that more devices must be certified as SDRs than the rules intended to require. The Commission finds that the appropriate solution to Cisco’s concern is to add an additional sentence following the definition of SDR to indicate the class of radios that must be certified as SDRs. It therefore clarifies the rules by adding the following statement to the definition of SDR: “In accordance with § 2.944 of this part, only radios in which the software is designed or expected to be modified by a party other than the manufacturer and would affect the listed operating parameters or circumstances under which the radio transmits must be certified as software defined radios.” This action clarifies the intent of the rules adopted in the *Cognitive Radio Report and Order*.

3. With regard to Cisco’s second request, the Commission recognizes that some manufacturers may wish to use open source software (e.g., GNU/Linux) in developing SDRs. The use of such software may have advantages for manufacturers such as lower cost and decreased product development time.

However, as Cisco notes, open source software may be subject to licensing agreements that require the party modifying the code to make the source code publicly available. The Commission did not address the possibility of manufacturers using open source software to implement security measures. However, it recognizes that hardware and software security measures that interact with the open source software need not be subject to an open source agreement. The Commission hereby states that it is its policy, consistent with the intent of *Cognitive Radio Report and Order* and Cisco's request, that manufacturers should not intentionally make the distinctive elements that implement that manufacturer's particular security measures in a software defined radio public, if doing so would increase the risk that these security measures could be defeated or otherwise circumvented to allow operation of the radio in a manner that violates the Commission's rules. A system that is wholly dependent on open source elements will have a high burden to demonstrate that it is sufficiently secure to warrant authorization as a software defined radio.

4. In response to the MSS petition for reconsideration, the Commission clarifies that in the event that questions arise about the compliance of a particular device, its staff has the authority to request and examine any component, whether software or hardware, of a radio system when needed for certification under Commission rules. The manufacturer could request that the Commission hold the information confidential, and the Commission would generally grant such a request absent a compelling reason otherwise. The Commission expects that requests for software source code would be extremely rare. It would not be burdensome for a manufacturer to request confidentiality for software source code, and the Commission finds there is no need to modify the confidentiality rules to address a specific class of information that would be requested only infrequently.

5. The Commission declines to take any actions with respect to regulating the marketing of certain types of D/A converters. MSS does not demonstrate any current need for regulation of D/A converters. It admits that the types of D/A converters that it is concerned about are not presently on the market, and that it is not aware of any discussions about the possible marketing of these types of D/A converters. The Commission therefore finds that MSS' concerns about possible

misuse of equipment not available now or in the foreseeable future are premature, speculative, and not a basis for initiating a further rule making proceeding at this time.

6. In regard to MSS' request for clarification about the regulatory treatment of amateur radio equipment, the Commission did not intend to impose any new certification requirements for amateur radio equipment in the *Cognitive Report and Order*. External RF amplifiers that operate below 144 MHz that are marketed for use with amateur stations will continue to require certification before they can be marketed. Other amateur radio equipment, including equipment that meets the definition of a software defined radio and that has software that is designed or expected to be modified by a party other than the manufacturer, will continue to be exempt from a certification requirement. However, as the Commission noted in the *Cognitive Report and Order*, certain unauthorized modifications of amateur transmitters are unlawful. It may revisit the issue of the certification of amateur equipment with software modifiable features as identified above in the future if misuse of such devices results in significant interference to authorized spectrum users.

Procedural Matters

7. *Final Regulatory Flexibility Certification*. The Regulatory Flexibility Act of 1980, as amended (RFA),¹ requires that a regulatory flexibility analysis be prepared for rulemaking proceedings, unless the agency certifies that "the rule will not have a significant economic impact on a substantial number of small entities."² The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."³ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.⁴ A small business concern is one which: (1) Is

¹ The RFA, see 5 U.S.C. 601–612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Public Law 104–121, Title II, 110 Stat. 857 (1996).

² 5 U.S.C. 605(b).

³ 5 U.S.C. 601(6).

⁴ 5 U.S.C. 601(3) (incorporating by reference the definition of "small business concern" in the Small Business Act, 15 U.S.C. 632). Pursuant to 5 U.S.C. 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the **Federal Register**."

independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration.

8. In the *Cognitive Radio Report and Order*, the Commission expanded the definition of software defined radio (SDR) to include radios in which software can control the circumstances under which the radio operates in accordance with the Commission's rules. This broad definition covers both radios that have software embedded on chips or implemented in other ways so that the software cannot be readily changed by the user, as well as radios that are designed so the software can be easily changed after manufacture. In the *Cognitive Radio Report and Order*, the Commission also modified the rules to require that a radio be approved as an SDR if the software that controls the operating parameters or the circumstances under which it transmits is designed or expected to be modified by a party other than the manufacturer. This requirement applies to only a narrow subset of radios that meet the definition of SDR. A Final Regulatory Flexibility Analysis was incorporated in the *Cognitive Radio Report and Order*. Following publication of the *Cognitive Radio Report and Order*, Cisco filed its petition seeking clarification of which radios require certification as SDRs. In the *Memorandum Opinion and Order*, the Commission amended the definition of SDR to reference the requirements concerning which radios must be certified as SDRs. This change clarifies the rules adopted in the *Cognitive Radio Report and Order* and does not modify any compliance requirements. For this reason, this change will not result in a "significant economic burden" on manufacturers. Therefore, we certify that the amendments included in the *Memorandum Opinion and Order* will not have a significant economic impact on a substantial number of small entities.

9. The Commission will send a copy of the *Memorandum Opinion and Order*, including a copy of this final certification, in a report to Congress pursuant to the Congressional Review Act.⁵ In addition, the *Memorandum Opinion and Order* and this certification will be sent to the Chief Counsel for Advocacy of the Small Business Administration, and will be published in the **Federal Register**.⁶

10. This document does not contain any information collection requirements

⁵ See 5 U.S.C. 801(a)(1)(A).

⁶ See 5 U.S.C. 605(b).

subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13.

Ordering Clauses

11. Pursuant to the Section 1, 4, 301, 302(a), and 303, of the Communications Act of 1934, as amended, 47 U.S.C. 151, 154, 301, 302(a), and 303, the *Memorandum Opinion and Order is adopted*, and part 2 of the Commission's Rules is amended as specified in the attached appendix, and will become effective 30 days after publication in the **Federal Register**.

12. The petition for clarification filed by Cisco Systems, Inc. is hereby granted. This action is taken pursuant to the authority contained in Sections 4(i), 301, 302, 303(e), 303(f), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 301, 302, 303(e), 303(f), and 303(r).

13. The petition for reconsideration filed by Marcus Spectrum Solutions is hereby granted in part and denied in part. This action is taken pursuant to the authority contained in Sections 4(i), 301, 302, 303(e), 303(f), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 301, 302, 303(e), 303(f), and 303(r).

14. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, shall send a copy of the *Memorandum Opinion and Order*, including the Final Regulatory Flexibility Certification, to the Chief Counsel for Advocacy of the Small Business Administration.

List of Subjects in 47 CFR Part 2

Communications equipment, Radio, Reporting, and recordkeeping requirements.

Federal Communications Commission.

William F. Caton,

Deputy Secretary.

Final Rule

■ For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 2 to read as follows:

PART 2—FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

■ 1. The authority citation for part 2 continues to read as follows:

Authority: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

Section 2.1(c) is amended by revising the definition of “software defined radio” to read as follows:

§ 2.1 Terms and definitions.

* * * * *

(c) * * *

Software defined radio. A radio that includes a transmitter in which the operating parameters of frequency range, modulation type or maximum output power (either radiated or conducted), or the circumstances under which the transmitter operates in accordance with Commission rules, can be altered by making a change in software without making any changes to hardware components that affect the radio frequency emissions. In accordance with § 2.944 of this part, only radios in which the software is designed or expected to be modified by a party other than the manufacturer and would affect the above-listed operating parameters or circumstances under which the radio transmits must be certified as software defined radios.

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FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 20 and 80

[WT Docket No. 04-257; FCC 07-87]

Maritime Communications

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this document, the Federal Communications Commission (Commission or FCC) amends its rules to afford licensees of VHF Public Coast (VPC) stations and Automated Maritime Telecommunications System (AMTS) stations additional operational flexibility to provide service to units on land. Specifically, the Commission adopts rule changes to permit VPC and AMTS licensees to offer private correspondence service to units on land, *i.e.*, private land mobile radio (PLMR) service, in addition to the public correspondence service they already are authorized to provide to units on land. These rule amendments will enable VPC and AMTS licensees to compete more effectively against other commercial mobile radio service providers; facilitate more efficient use of VPC and AMTS spectrum; and provide an additional means to meet growing demand for spectrum by PLMR licensees and end users, including public safety and critical infrastructure industry entities. The Commission also believes that the core purpose for which these frequencies have been allocated is to serve the communications needs of marine vessels, especially with respect

to communications in support of the safety of life and property at sea and on inland waterways.

DATES: Effective July 6, 2007.

FOR FURTHER INFORMATION CONTACT: Jeffrey Tobias, *Jeff.Tobias@FCC.gov*, Mobility Division, Wireless Telecommunications Bureau, (202) 418-1617, or TTY (202) 418-7233.

SUPPLEMENTARY INFORMATION: This is a summary of the Federal Communications Commission's *Report and Order* in WT Docket No. 04-257 (*Report and Order*), FCC 07-87, adopted on May 9, 2007, and released on May 10, 2007. The full text of this document is available for inspection and copying during normal business hours in the FCC Reference Center, 445 12th Street, SW., Washington, DC 20554. The complete text may be purchased from the Commission's copy contractor, Best Copy and Printing, Inc., 445 12th Street, SW., Room CY-B402, Washington, DC 20554. The full text may also be downloaded at: <http://www.fcc.gov>. Alternative formats are available to persons with disabilities by sending an e-mail to fcc504@fcc.gov or by calling the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

1. The *Report and Order* addresses issues raised in the *Notice of Proposed Rule Making (NPRM)* in this WT Docket No. 04-257 proceeding. The Commission takes the following significant actions in the *Report and Order*: (i) Authorizes VPC and AMTS licensees to provide private correspondence service to units on land; (ii) specifies that AMTS stations providing private land mobile radio service do not have to be interconnected to the public switched telephone network, but retains that interconnection requirement for AMTS stations providing commercial mobile radio service; (iii) clarifies that VPC and AMTS licensees providing service to units on land must continue to ensure that maritime communications have priority, while also clarifying that a licensee's practice of dedicating separate channels for land mobile communications, on the one hand, and maritime communications, on the other, does not necessarily satisfy the maritime priority requirement although it may satisfy the requirement in certain circumstances; (iv) declines to permit VPC and AMTS licensees to provide service to units on land pursuant to regulations other than those in part 80, except pursuant to a waiver, and (v) declines to amend the part 80 rules to specify that VPC channels may be used for port operations and ship movement