

(10 U.S.C. Chapter 4)

June 15, 1979.

H. E. Lofdahl,

Director, Correspondence and Directives,  
Washington Headquarters Services,  
Department of Defense.

[FR Doc. 79-19260 Filed 6-19-79; 8:45 am]

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**32 CFR Part 360**[DoD Directive 5105.40]<sup>1</sup>**Defense Mapping Agency (DMA); Revision**

**AGENCY:** Office of the Secretary of Defense.

**ACTION:** Revision of final rule.

**SUMMARY:** This revision expands the language regarding the appointment of the Director, Defense Mapping Agency, in that it specifies that the Director, DMA, will be a commissioned officer of suitable general or flag rank appointed by the Secretary of Defense from officers of the Armed Forces on active duty.

**EFFECTIVE DATE:** May 16, 1979.

**FOR FURTHER INFORMATION CONTACT:** Mr. Arthur H. Ehlers, Director for Organizational and Management Planning, Office of the Deputy Assistant Secretary of Defense (Administration), Washington, D.C. 20301, Telephone 202-695-4278.

**SUPPLEMENTARY INFORMATION:** In FR Doc. 78-33889 appearing in the *Federal Register* on December 5, 1978 (43 FR 56894) the Office of the Secretary of Defense published the charter of the Director, Defense Mapping Agency, effective August 10, 1978. This revises § 360.7(a) as follows:

**§ 360.7 Administration**

(a) The Director, DMA, will be a commissioned officer of suitable general or flag rank appointed by the Secretary of Defense from officers of the Armed Forces on active duty.

\* \* \* \* \*

(10 U.S.C. Chapter 4)

June 15, 1979.

H. E. Lofdahl,

Director, Correspondence and Directives,  
Washington Headquarters Services,  
Department of Defense.

[FR Doc. 79-19261 Filed 6-19-79; 8:45 am]

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**32 CFR Part 362**[DoD Directive 5105.19]<sup>1</sup>**Defense Communications Agency (DCA); Revision**

**AGENCY:** Office of the Secretary of Defense.

**ACTION:** Revision of final rule.

**SUMMARY:** This revision expands the language regarding the appointment of the Director and Vice Director, Defense Communications Agency, in that it specifies that the Director and Vice Director, DCA, will be commissioned officers of suitable general or flag rank appointed by the Secretary of Defense from officers of the Armed Forces on active duty.

**EFFECTIVE DATE:** May 16, 1979.

**FOR FURTHER INFORMATION CONTACT:** Mr. Arthur H. Ehlers, Director for Organizational and Management Planning, Office of the Deputy Assistant Secretary of Defense (Administration), Washington, D.C. 20301, Telephone 202-695-4278.

**SUPPLEMENTARY INFORMATION:** In FR Doc. 78-31647 appearing in the *Federal Register* on November 9, 1978 (43 FR 52231) the Office of the Secretary of Defense published the Charter of the Director, Defense Communications Agency, effective August 10, 1978. This revises § 362.7(a) as follows:

**§ 362.7 Administration.**

(a) The Director and Vice Director, DCA, will be commissioned officers of suitable general or flag rank appointed by the Secretary of Defense from officers of the Armed Forces on active duty. The Deputy Director, DCA, Military Satellite Communications System, will be appointed in accordance with DoD Directive 5105.44.<sup>1</sup>

\* \* \* \* \*

(10 U.S.C. Chapter 4).

June 15, 1979.

H. E. Lofdahl,

Director, Correspondence and Directives,  
Washington Headquarters Services,  
Department of Defense.

[FR Doc. 79-19262 Filed 6-19-79; 8:45 am]

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**ENVIRONMENTAL PROTECTION AGENCY****40 CFR Part 407**

[1221-6]

**Canned and Preserved Fruits and Vegetables Processing Point Source Category; Withdrawal of Guidelines and Performance Standards**

**AGENCY:** Environmental Protection Agency.

**ACTION:** Withdrawal.

**SUMMARY:** EPA is today withdrawing its best available control technology economically achievable effluent limitations guidelines and new source performance standards for the following subcategories of the Canned and Preserved Fruits and Vegetables Processing Point Source category: canned and preserved fruits, vegetables, and miscellaneous specialties.

**EFFECTIVE DATE:** June 20, 1979.

**FOR FURTHER INFORMATION CONTACT:** Don Anderson, Effluent Guidelines Division (WH-552), Office of Water Planning and Standards, 401 M Street SW, Washington, D.C. 20460, 202-426-2707.

**SUPPLEMENTARY INFORMATION:** On April 16, 1976 (41 FR 16272), EPA promulgated effluent limitation guidelines for "best available control technology economically achievable" (BAT) and new source performance standards for canned and preserved fruits, vegetables, and miscellaneous specialties subcategories (40 CFR 407.63, 407.65, 407.73, 407.75, 407.83, 407.85) of the Canned and Preserved Fruits and Vegetables Processing Point Source category (40 CFR Part 407). The effluent limitations guidelines and new source standards were subsequently challenged by industry in a petition for modification filed with EPA on November 17, 1976, and in a series of petitions for review filed in the U.S. Court of Appeals for the Third Circuit. *Pickle Packers International, et al. v. EPA*, No. 76-1835; *Pennsylvania Food Processors Association et al. v. EPA*, No. 76-1836, *National Cannery Association et al. v. EPA*, No. 76-1837 and No. 77-1791.

Congress amended the Clean Water Act in December 1977 establishing, *inter alia*, "best conventional pollutant control technology" (BCT) for existing industrial point sources that discharge conventional pollutants (§ 304(b)(4)). BCT is not an additional limitation but replaces BAT for control of conventional pollutants. On August 23, 1978 (43 FR 37570), EPA published a notice of proposes rulemaking with respect to its

<sup>1</sup> Copies may be obtained, if needed, from the U.S. Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120. Attention: Code 301.

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review of existing BAT effluent limitations guidelines, for 13 secondary industries. The notice proposed, *inter alia*, the withdrawal of BAT guidelines for the canned and preserved fruits, vegetables (with the exception of mushrooms and tomatoes), and miscellaneous specialties subcategories (40 CFR 407.63, 407.73, 407.83), because the costs were determined to be unreasonable under the BCT cost test comparison. EPA will be reviewing the date for the canned and preserved fruits, vegetables, and miscellaneous specialties subcategories in the future for proposal of BCT limitations for these subcategories. EPA believes it would be advisable to consider all products (including mushrooms and tomatoes in one review process and subsequently propose BCT for all products at the same time. Therefore, EPA reached agreement with industry whereby EPA will withdraw all BAT effluent guidelines for the canned and preserved fruits, vegetables (including tomatoes and mushrooms), and miscellaneous specialties subcategories (40 CFR 407.63, 407.73, 407.83), and industry will dismiss its court challenges to the effluent limitations guidelines and withdraw its petition for modification.

EPA also has reviewed the technology upon which the performance standards were based for new sources (aerated lagoons and multimedia filtration) in the canned and preserved fruits, vegetables, and miscellaneous specialties subcategories (40 CFR 407.65, 407.75, 407.85), and has determined that the current new source performance standards may not be achievable through the application of the above technology. Therefore, EPA has reached agreement with industry whereby EPA will withdraw all new source performance standards for the canned and preserved fruits, vegetables, and miscellaneous specialties subcategories (40 CFR 407.65, 407.75, 407.85), and industry will dismiss its court challenges to the new source performance standards and withdraw its petition for modification.

For the foregoing reasons, BAT effluent limitations guidelines and new source performance standards for canned and preserved fruits, vegetables, and miscellaneous specialties subcategories (40 CFR 407.63, 407.65, 407.73, 407.75, 407.83, 407.85) are hereby withdrawn.

Dated: June 13, 1979.

Douglas M. Costle,  
Administrator.

§§ 407.63, 407.65, 407.73, 407.75, 407.83, 407.85 [Deleted].

Sections 407.63, 407.65, 407.73, 407.75, 407.83, and 407.85 are deleted from Title 40 CFR.

[FR Doc. 79-19720 Filed 6-19-79; 8:45 am]

BILLING CODE 6560-01-M

## FEDERAL COMMUNICATIONS COMMISSION

### 47 CFR Parts 73 and 74

[FCC 79-369]

### Reregulation of Radio and TV Broadcasting

**AGENCY:** Federal Communications Commission.

**ACTION:** Order.

**SUMMARY:** Through continuing reregulation of broadcasting and oversight of AM, FM and TV rules, certain technical definitions are revised to conform to national and international standards, technical and operating rules rewritten for clarity and ease of use, and obsolete references deleted. Apparent conflicts between rule requirements resolved and impractical and unnecessary provisions deleted.

**EFFECTIVE DATE:** July 2, 1979.

**ADDRESSES:** Federal Communications Commission, Washington, D.C. 20554.

**FOR FURTHER INFORMATION CONTACT:** John W. Reiser, Philip S. Cross, Steve Crane, Broadcast Bureau, (202) 632-9660.

#### SUPPLEMENTARY INFORMATION:

Adopted: June 7, 1979;

Released: June 15, 1979.

By the Commission: Commissioner Fogarty absent.

1. As a result its continuing study of the reregulation of broadcasting and the oversight of the AM, FM and TV rules the Commission herein makes certain changes in its regulations. The amendments, corrections, and clarifications, being made in Parts 73 and 74 of the Rules are necessary because of apparent conflicting provisions and restrictions which have made certain rules either impractical or unnecessary. Additional editorial changes covered by this *Order* include deletion of past dates and cross references to non-existent rule sections deleted by previous rulemaking proceedings, conflict between the text of previous Reports and Orders and the

rules amended thereby, and conforming certain technical definitions to established national and international standards. Additionally, explanatory notes following certain rules have been incorporated into the rule texts, where appropriate, to facilitate full understanding of the rule material. Summaries of the corrections and changes are as follows:

(a) The magnitude of a radio signal is defined in terms of "field strength." However, the term "field intensity" was previously used in many sections of the FCC rules. During recent years, new or revised rules use the term "field strength" to conform with the "American National Standards" definitions, as well as international standards. Editorial substitution of the term field strength for field intensity is being made in AM and TV rule §§ 73.14, 73.153, 73.154, 73.188, 73.189, 73.681, 73.683, and 73.684. (Appendix paragraphs 1, 6, 7, 8, 9, 10, 11, 21, 23, and 24.)

(b) To conform with the American National Standards definitions of technical terms, the definition of "frequency departure" is being added to §§ 73.14 (AM station definitions), 73.310 (FM station definitions), and 73.681 (TV station definitions). "Frequency departure" refers to the difference between a station's assigned carrier frequency and the actual carrier frequency of its transmissions. The addition of this definition will permit the editorial revision of other rules for clarification and ease of use. (Appendix paragraphs 1, 15, and 21.)

(c) The modulation monitor specifications for AM, FM, and TV stations are being corrected by deleting references to the inclusion of a "frequency monitor." The requirement that broadcast stations use a type approved frequency monitor was deleted in 1973 (42 FCC 2d 461). Reference to a frequency monitor no longer serves any purpose in modulation monitor rule §§ 73.50, 73.322, and 73.794. (Appendix paragraphs 2, 17, and 26.)

(d) AM stations normally use the "direct method" of power determination, however an "indirect method" may be used on a temporary basis when the direct method is not possible. The specific circumstances for using the indirect method are listed in § 73.51. We are including an additional situation when the indirect method of power determination may be used—when the remote reading meter, remote control meter, or extension meter indications of antenna current are unavailable due to malfunctions in the telemetry system. Other paragraphs of this same rule are



rewritten for clarification and ease of use. (Appendix paragraph 3.)

(e) The remote control operating specification for AM, FM, and TV stations include the requirement that the remote control system permit station operation under an emergency action notification procedure. This requirement originated with the "Conelrad" procedures for all AM stations to use either 640 kHz or 1240 kHz in event of a national war emergency. The remote control requirement continued when the EBS attention signal transmission required that the transmitter be turned off for two five-second periods. Under present procedures, AM stations in EBS operation continue transmissions on their assigned frequencies and no longer interrupt the carrier as part of the EBS attention signal. EBS procedures for all stations are now covered in Subpart G, and therefore the duplicated instruction requirements are being deleted from §§ 73.67, 73.275, 73.573, and 73.677. (Appendix paragraphs 4, 14, 18, and 19.)

(f) The rule containing specifications for AM directional antenna monitor sampling systems includes procedures for designing systems with transmission lines of unequal length. Calculations are required which use the range of local temperature variations, however the rule fails to give sufficient information to make the correct computations. Required information on local climatic conditions for the computations is available from the National Climatic Center, National Oceanic and Atmospheric Administration. The address of that agency and the title of the weather records to be used for the calculations are being added to the § 73.68(a) to assist those in designing sampling systems. (Appendix paragraph 5.)

(g) Section 73.188(m) contains references to the selection of transmitter sites for new 100 Watt AM stations. Since the Commission no longer licenses new AM stations for 100 watt operation, references to such stations are being deleted from the rule. (Appendix paragraph 10.)

(h) Section 73.213 is revised to include the date provisions contained in Report and Order, Docket 14185, effective November 16, 1964, by which the rule Section was adopted (40 FCC 868). The rule as explained in paragraph 12 of the Report and Order was applicable only to stations authorized prior to November 16, 1964, because such stations would have been otherwise disadvantaged from making future improvements in facilities. Although the Report and Order clearly discussed the need for the rule § 73.213, the date provisions were

not included in the rule. An editorial correction is being made to conform the rule to the Report and Order. (Appendix paragraph 12.)

(i) Paragraph (a) of § 73.242 "Duplication of AM and FM programming" is being deleted since it applied to licenses only prior to May 1, 1977. (Appendix paragraph 13.)

(j) The definitions for frequency modulation terms in the broadcast service rules are being editorially corrected to conform with those in other Parts of the FCC's rules, and with the American National Standards definitions. The term "frequency swing" is incorrectly used for the term "frequency deviation" in certain FM and TV rules. Sections in which this editorial conformation is made are 73.310, 73.317, 73.332, 73.681, 73.687, and 73.694. (Appendix paragraphs 15, 16, 17, 21, 22, and 26.)

(k) A new definition of "equivalent isotropically radiated power (EIRP)" is being added to the FM rules in § 73.310, and the TV rules in § 73.681. This term is used in connection with environmental impact studies made under the provision of FCC Rules in Part 1, subpart I. The definition conforms to the definition contained in the International Radio Regulations. (Appendix 15 and 21.)

(l) The present wording of § 73.676 is not clear as to the technical requirements for the design of TV transmitter remote control metering equipment. The rule requires that if the transmitter remote control metering system is not restored to service within one hour after failure, the emissions of the station must terminate by automatic means. Until such time as the metering is restored, an operator must remain on duty at the transmitter site to resume operation during the remote control failure. The rule appears to indicate that if the metering system is repaired within the hour remote control operation may only be resumed by sending an operator to the transmitter site. Obviously, sending an operator to the transmitter serves no purpose if the fault was located and repaired at the control location. Section 73.676(c) is being rewritten to clearly state the original intent of the rule—operation by remote control may be resumed immediately upon repair of the remote control metering. (Appendix paragraph 19.)

(m) The frequency of the chrominance subcarrier as used in TV broadcast signals is not a rational value, and therefore can not be expressed as a precise number and decimal fraction. The actual value is defined as 63/88 times precisely 5 MHz. Section 73.682(a)(5) is being revised to correctly

define the subcarrier frequency. The rate of change of the subcarrier is not to exceed "0.1 hertz per second." However, this form of tolerance expression may not be clear. However, this form of expressing the tolerance is not clear. Therefore, the tolerance is being redefined to read "the rate of frequency drift must not exceed 0.1 hertz per second (cycles per second squared)."

(n) The temporary provisions of the note following paragraph (c)(2) of § 73.682 (applicable prior to May 8, 1970) are being editorially deleted. The remaining portions of the note that are currently applicable to TV stations are being incorporated into the paragraph text as new subparagraphs (3) and (4). (Appendix paragraph 24.)

(o) Two notes to the engineering charts for TV broadcast services in § 73.699 are being editorially revised to correct apparent conflicts in the FCC TV transmission standards. Detail 4 of Figures 6 and 7 show the standard for the duration of the equalizing pulse transmitted as part of the TV picture signal as being "0.04H." Note 6 of this same figure expresses the tolerances for the equalizing pulse in terms of area. Since video pulses are observed by measuring their duration on a waveform monitor as shown in detail 4, the text of Note 6 is revised to state the tolerances in terms of duration. Additionally, the information previously contained in § 73.682(a)(9) on the nature of the TV color signal is being added as a note 18 to Figure 6, to which it is correctly applied. These changes should facilitate use of the video waveform drawings. (Appendix paragraph 27.)

(p) At the request of the Time and Frequency Division of the National Bureau of Standards, we are making editorial revisions to the rules describing the time signals originated by that agency in the rule on rebroadcasting. In connection with these corrections the entire rule is restructured for the convenience of the user in locating the information on rebroadcasting signals of other broadcast and non-broadcast stations. (Appendix paragraph 28.)

(q) The requirement that an identification card or plate be displayed at the operating position of mobile or hand held transmitters in the remote pickup broadcast services is being deleted from § 73.467. A similar requirement for identification tags for mobile transmitters in the land mobile radio services was previously deleted by the FCC as no longer having a regulatory purpose (65 FCC 2d 982). The requirement that full licensing



information be available for each operating position was impractical, particularly for hand held portable transmitters. (Appendix paragraph 29.)

(r) The station identification requirements for broadcasts of remote pickup stations in Rule § 74.482 is being revised to permit the use of International Morse Code for station identification if the licensee wishes to use the code for automatic identification purposes. Voice stations in the land mobile and common carrier services were previously permitted to use Morse Code for station identification [43 FR 7432]. The working of the rule is also being revised to conform with the identification requirements for the associated radio broadcast stations. (Appendix paragraph 30.)

(s) The operator requirement rule for TV auxiliary broadcast stations is rewritten and clarified to indicate that fixed microwave transmitters in this service do not require attendance by an operator on a continuous basis. The rules were previously amended so that fixed microwave stations need not be turned off when programming was not being carried (Docket 20539, 43 FR 1943). However, clarification of § 73.665 is required to distinguish between "unattended" transmitter operation with an operator at the receiving point, and fully unattended operation with no duty operator at either the transmitter or receiver locations. (Appendix paragraph 31.)

(t) The station identification requirements are being deleted for TV auxiliary station transmissions used on fixed microwave links when program material is not being carried. Although fixed microwave transmitters may be left in a continuous transmitting mode under previous rule amendments, the hourly station identification requirements were not deleted. This editorial change in Section 74.682 will permit full implementation of the relaxed operator requirements. The wording of the identification requirement rule is also being revised to conform with the requirements of the associated TV station, as the present requirements for the auxiliary stations are more restrictive as to time of identification than those for TV broadcast stations. (Appendix paragraph 31.)

2. Many of the changes described above relax present operating requirements, however no substantive changes are made which would impose additional burdens or remove provisions relied upon by licensees or the public. We therefore conclude that, for the reason set forth above, adoption of

these revisions will serve the public interest, and inasmuch that these amendments impose no additional burdens and raise no issues upon which comments would serve any useful purpose, prior notice of rule making, effective date provisions and public procedure thereon are unnecessary pursuant to the Administrative Procedure and Judicial Review Act provisions of 5 U.S.C. (b) (3) (B).

3. Therefore, It IS ORDERED, That pursuant to Sections 4(i) and 303(r) of the Communications Act of 1934, as amended, the Commission's Rules and Regulations ARE AMENDED as set forth in the attached Appendix, effective July 2, 1979.

4. For further information concerning this Order, contact John W. Reiser, Philip Cross, Steve Crane Broadcast Bureau, (202) 632-9660.

(Secs. 4, 303, 48 stat., as amended, 1066, 1082; 47 U.S.C. 154, 303.)

Federal Communications Commission.  
William J. Tricarico,  
Secretary.

## Appendix

### PART 73—RADIO BROADCAST SERVICES

1. In § 73.14, paragraphs (b) and (c) are revised and new paragraph (u) is added to read as follows:

#### § 73.14 Technical definitions.

(b) *Effective field*. The term "effective field" or "effective field strength" is the root-mean-square (RMS) value of the inverse distance fields at a distance of 1 mile from the antenna in all directions in the horizontal plane. The term "field strength" is synonymous with the term "field intensity" as contained elsewhere in this Part.

(c) *Nominal power*. "Nominal power" is the power of an AM broadcast station, as specified in a system of classification which includes the following values: 50 kW, 25 kW, 10 kW, 5 kW, 2.5 kW, 1 kW, 0.5 kW, and 0.25 kW.

(u) *Frequency departure*. The amount of variation of a carrier frequency or center frequency from its assigned value.

2. In § 73.50 the headnote is revised and paragraph (c) is deleted in its entirety as follows:

#### § 73.50 Requirements for type approval of modulation monitors.

(c) [Deleted]

3. In § 73.51, the headnote and paragraphs (d), (e), and (f) are revised to read as follows:

#### § 73.51 Determining operating power.

(d) The indirect method of determining antenna input power, as described in paragraphs (e) and (f) of this section, may be used on a temporary basis only. Prior authority from the FCC is not required. However, a notation when the indirect method is used must be made in the operating log. The indirect method may be used in the following situations:

(1) In an emergency, where the authorized antenna system has been damaged for causes beyond the control of the licensee. See § 73.45.

(2) Pending completion of authorized changes in the antenna system. See § 73.45(b).

(3) When changes occur in the antenna system or its environment which affect or appear likely to affect the value of antenna resistance. See § 73.45(c).

(4) When the antenna current ammeter or common point ammeter becomes defective, and the station does not have a remote reading meter, extension meter or remote control indication for these instruments. See § 73.58.

(5) When the remote reading meter, extension meter, or remote control meter indicating antenna or common point current becomes defective. See §§ 73.57, 73.67 or 73.1550.

(e) The antenna input power is determined indirectly by applying an appropriate factor to the input power to the last radio-frequency power amplifier stage of the transmitter, using the following formula:

$$\text{Antenna input power} = E_p \times I_p \times F$$

Where:

$E_p$  = DC input voltage of final radio stage.

$I_p$  = Total DC input current of final radio stage.

$F$  = Efficiency factor.

(1) If the above formula is not appropriate for the design of the transmitter final amplifier, use a formula specified by the transmitter manufacturer with other appropriate operating parameters.

(2) The value of  $F$  applicable to each mode of operation must be entered in the operating log for each day of operation, with a notation as to its derivation. This factor is to be established by one of the methods described in paragraph (f) of this section. The product of the DC input current and voltage to the final RF power amplifier stage, or, alternatively,



the antenna input power as determined by the formula above must be entered in the operating log under an appropriate heading for each log entry of final RF power amplifier input current and voltage.

(f) The value of  $F$  is to be determined by one of the following procedures listed in order of preference:

(1) If the station had previously been authorized and operating by determining the antenna input power by the direct method, the factor  $F$  is the ratio of the antenna input power (determined by the direct method) to the corresponding final radio-frequency power amplifier input power. The computations are to be based on the values of antenna current and final amplifier input voltage and current obtained from the station's operating logs for the last week of regular operation with direct method of power determination.

(2) If a station has not been previously in regular operation with the power authorized for the period of indirect power determination, if a new transmitter has been installed, or if, for any other reason, the determination of the factor  $F$  by the method described in (1) of this paragraph is impracticable:

(i) The factor  $F$  as shown in the transmitter manufacturer's test report retained in the station's files, if such a test report specifies a unique value of  $F$  for the power level and frequency utilized; or

(ii) If a station has been authorized to operate with antenna input power which is lower than nominal power, the factor  $F$  has the value established when such operation was authorized; or

(iii) The value determined by reference to the following table:

Factor (F)	Method of modulation	Maximum rated carrier power	Class of amplifier
0.70	Plate	0.25 to 1.0 kW	
80	Plate	2.5 kW and over	
35	Low level	0.25 kW and over	B
65	Low level	0.25 kW and over	BC <sup>1</sup>
35	Gnd.	0.25 kW and over	

<sup>1</sup> All linear amplifier operation where efficiency approaches that of class C operation.

4. In § 73.67, paragraph (b) is deleted and marked reserved and paragraph (d) is revised to read as follows:

**§ 73.67 Remote control operation.**

(b) [Reserved.]

(d) Stations using directional antennas when operated by remote control, and not having an approved sampling system, must make a skeleton proof of performance as defined in § 73.154, at

least once each calendar year. The results of each proof, signed and dated by the qualified person who made it, must be kept on file at the transmitter or remote control point for a period of 3 years, and on request must be made available during that time to authorized representatives of the FCC.

5. In § 73.68, the paragraph (a) introduction is revised, two sentences are added to paragraph (a)(1), paragraph (b)(3) is revised, and two new paragraphs (b)(4) and (b)(5) are added to read as follows:

**§ 73.68 Sampling systems for antenna monitors.**

(a) The following requirements govern the installation of antenna sampling systems used to extract samples of the current flowing in the elements of a directional antenna, and to deliver these samples to the antenna monitor. Each new station issued a construction permit, and each existing station issued a construction permit authorizing antenna modification, and any existing station undertaking modification or reconstruction of its sampling system must install a system meeting these requirements. The application for a license or modification of license must fully describe the sampling system in sufficient detail with the information in paragraph (c) of this Section to demonstrate its compliance with this paragraph. In an instance where the sampling system of an existing station authorization before March 18, 1976, is patently of marginal construction, or where the performance of a directional antenna is found to be unsatisfactory, and this deficiency reasonably may be attributed, in whole or in part, to inadequacies in the antenna monitoring system, the FCC may require the reconstruction of the sampling system in accordance with these requirements.

(1) \* \* \* For determining the permissible difference in line lengths that may be installed, the total difference between the highest listed normal daily maximum and lowest listed normal daily minimum temperatures as shown for the nearest location shown in the most recent issue of "Local Climatological Data Annual Summaries" shall be used in the calculations. This publication is available from:

National Climatic Center  
National Oceanic and Atmospheric  
Administration  
Asheville, North Carolina 28801

(b) \* \* \*

(3) The readings and maintenance log entries specified in § 73.1830(a)(2)(iv).

(4) The annual skeleton proof of performance measurements made as required by § 73.67(d) for remote control operation.

(5) The skeleton proof of performance measurements as required by § 73.93(e)(3) for stations using persons holding other than first-class radiotelephone operator licenses during transmissions with directional antenna.

6. Section 73.153 and the headnote are revised to read as follows:

**§ 73.153 Field strength measurements in support of applications or evidence at hearings.**

In the determination of interference, groundwave field strength measurements will take precedence over theoretical values, provided such measurements are properly taken and presented. When measurements of groundwave signal strength are presented, they shall be sufficiently complete in accordance with § 73.186 to determine the field strength at 1 mile in the pertinent directions for that station. The antenna resistance measurements required by § 73.186 need not be taken or submitted.

7. In § 73.154, the headnote is revised to read as follows:

**§ 73.154 Directional antenna partial and skeleton proof of performance field strength measurements.**

9. In § 73.183, paragraph (a) is revised to read as follows:

**§ 73.183 Groundwave signals.**

(a) Interference that may be caused by a proposed assignment or an existing assignment during daytime hours should be determined, when possible, by measurements on the frequency involved or on another frequency over the same terrain and by means for the curves in § 73.184 entitled "Ground Wave Field Strength versus Distance."

9. In § 73.184, the headnote is revised to read as follows:

**§ 73.184 Groundwave field strength charts.**

10. In § 73.188, paragraph (m) is revised to read as follows:

**§ 73.188 Location of transmitters.**

(m) It is sometimes necessary to make a field strength survey to determine that the site selected will be entirely satisfactory. There are several facts that cannot be determined by inspection that make a survey very desirable for all



locations removed from the city. Often two or more sites may be selected that appear to be of equal promise. It is only by means of field strength surveys taken with a transmitter at the different sites or from measurements on the signal of nearby stations traversing the terrain involved that the most desirable site can be determined. There are many factors regarding site efficiency that cannot be determined by any other method. When making the final selection of a site, the need for a field strength survey to establish the exact conditions cannot be stressed too strongly. The selection of a proper site for an AM broadcast station is an important engineering problem and can only be done properly by an adequate engineering study.

11. In § 73.189, the headnote is revised to read as follows:

**§ 73.189 Minimum antenna heights or field strength requirements.**

12. In § 73.213, the text of paragraph (a) preceding the table is amended to read as follows:

**§ 73.213 Stations at spacing below the minimum separations.**

(a) Stations authorized prior to November 16, 1964, and which are separated from other co-channel or adjacent channel stations less than the minimum distances specified in § 73.207 may apply for changes in facilities provided the requested facilities conform with the following table:

13. In § 73.242, paragraph (a) is deleted in its entirety and marked Reserved.

**§ 73.242 Duplication of AM and FM programming.**

(a) [Reserved.]

14. In § 73.275, paragraph (b) is deleted and marked reserved:

**§ 73.275 Remote control operation.**

(b) [Reserved.]

15. In paragraph (a) of § 73.310, new definitions "Equivalent isotropically radiated power," "Frequency departure," and "Frequency deviation" are added in alphabetical sequence, and the definitions of "Frequency swing" and "Percentage modulation" are amended to read as follows:

**§ 73.310 Definitions.**

(a) \* \* \*

*Equivalent Isotropically radiated power (EIRP).* The term "equivalent isotropically radiated power" (also known as "effective radiated power

above isotropic) means the product of the antenna input power and the antenna gain in a given direction relative to an isotropic antenna.

*Frequency departure.* The amount of variation of a carrier frequency or center frequency from its assigned value.

*Frequency deviation.* The peak difference between the instantaneous frequency of the modulated wave and the carrier frequency.

*Frequency swing.* The peak difference between the maximum and the minimum values of the instantaneous frequency of the carrier wave during modulation.

*Percentage modulation.* The ratio of the actual frequency deviation to the frequency deviation defined as 100% modulation, expressed in percentage. For FM broadcast stations, a frequency deviation of  $\pm 75$  kHz is defined as 100% modulation.

16. In § 73.317, paragraphs (a)(1) and (a)(4) are revised to read as follows:

**§ 73.317 Transmitter and associated equipment.**

(a) \* \* \*

(1) The transmitter must operate satisfactorily in the operating power range with a frequency deviation of  $\pm 75$  kHz, which is defined as 100% modulation.

(4) The transmitting system output noise level (frequency modulation) in the band of 50 to 15,000 hertz must be at least 60 dB below 100% modulation (frequency deviation of  $\pm 75$  kHz). The measurement must be made using 400 hertz modulation as a reference. The noise-measuring equipment must include a 75 microsecond deemphasis; the ballistic characteristics of the instrument must be similar to those of the standard VU meter.

17. In § 73.332, paragraphs (b)(2) and (f)(4) are revised and paragraph (c) is deleted in its entirety and marked "reserved" as follows:

**§ 73.332 Requirements for type approval of modulation monitors.**

(b) \* \* \*

(2) A modulation peak indicating device that can be set at any predetermined value from 50% to 120% modulation ( $\pm 75$  kHz deviation is defined as 100% modulation) for either positive or negative deviation.

(c) [Reserved]

(f) \* \* \*

(4) A means for measuring the frequency deviation of each subcarrier in the presence of modulation in all channels (main, SCA, and stereophonic (if applicable)) to an accuracy of 1 kHz under the modulation conditions specified in the application for type approval.

18. In § 73.573, paragraph (b) is deleted and marked reserved.

**§ 73.573 Remote control operation.**

(b) [Reserved.]

19. In § 73.676, paragraph (a)(10) is deleted and paragraph (c) is reserved to read as follows:

**§ 73.676 Remote control operation.**

(a) \* \* \*

(10) [Deleted]

(c) The control circuits from the control point to the transmitter and the return telemetry circuit must be so designed and installed that open circuits, short circuits, accidental grounding or other line faults, where lines are used, or equipment failures, casual signals or random noise impulses, if other means are used, will not activate the transmitter. Any fault or failure which results in loss of control must cause the transmitter to cease operation. The loss of any telemetry function which provides information necessary to comply with the logging requirements of § 73.671 must result in the actuation of automatic circuitry which, not more than 1 hour from the time of telemetry failure, will terminate operation of the transmitter, and operation by remote control may not resume until all telemetry functions are fully restored.

20. In § 73.677, the Section headnote is revised to read as follows:

**§ 73.677 Remote control authorizations.**

21. In § 73.681, the definition "Free space field intensity" is amended as "Free space field strength," and the definitions "Equivalent isotropically radiated power," "Frequency departure" and "Frequency deviation" are added, and the definitions "Frequency swing" and "Percentage modulation" are amended as follows:



**§ 73.681 Definitions.**

*Equivalent isotropically radiated power (EIRP).* The term "equivalent isotropically radiated power" (also known as "effective radiated power above isotropic") means the product of the antenna input power and the antenna gain in a given direction relative to an isotropic antenna.

*Free space field strength.* The field strength that would exist at a point in the absence of waves reflected from the earth or other reflecting objects.

*Frequency departure.* The amount of variation of a carrier frequency or center frequency from its assigned value.

*Frequency deviation.* The peak difference between the instantaneous frequency of the modulated wave and the carrier frequency.

*Frequency swing.* The peak difference between the maximum and the minimum values of the instantaneous frequency of the carrier wave during modulation.

*Percentage modulation.* As applied to frequency modulation, the ratio of the actual frequency deviation to the frequency deviation defined as 100% modulation expressed in percentage. For the aural transmitter of TV broadcast stations, a frequency deviation of  $\pm 25$  kHz is defined as 100% modulation.

22. Subparagraph (a)(5) in § 73.682 is revised to read as follows:

**§ 73.682 Transmission standards.**

(5) The chrominance subcarrier frequency is 63/88 times precisely 5 MHz (3.5954545... MHz). The tolerance is to be  $\pm 10$  hertz and the rate of frequency drift must not exceed 0.1 hertz per second (cycles per second squared).

23. Section 73.683, including headnote, is revised to read as follows:

**§ 73.683 Field strength contours.**

(a) In the authorization of TV stations, two field strength contours are considered. These are specified as Grade A and Grade B and indicate the approximate extent of coverage over average terrain in the absence of interference from other television stations. Under actual conditions, the true coverage may vary greatly from these estimates because the terrain over any specific path is expected to be different from the average terrain on

which the field strength charts were based. The required field strength,  $F$  (50,50), in decibels above one micro-volt per meter (dBu) for the Grade A and Grade B contours are as follows:

	Grade A (dBu)	Grade B (dBu)
Channels 2-6	68	47
Channels 7-13	71	56
Channels 14-83	74	64

(b) It should be realized that the  $F$  (50,50) curves when used for Channels 14-83 are not based on measured data at distances beyond about 30 miles. Theory would indicate that the field strengths for Channels 14-83 should decrease more rapidly with distance beyond the horizon than for Channels 2-6, and modification of the curves for Channels 14-83 may be expected as a result of measurements to be made at a later date. For these reasons, the curves should be used with appreciation of their limitations in estimating levels of field strength. Further, the actual extent of service will usually be less than indicated by these estimates due to interference from other stations. Because of these factors, the predicted field strength contours give no assurance of service to any specific percentage of receiver locations within the distances indicated. In licensing proceedings these variations will not be considered.

(c) The field strength contours will be considered for the following purposes only:

(1) In the estimation of coverage resulting from the selection of a particular transmitter site by an applicant for a TV station.

(2) In connection with problems of coverage arising out of application of § 73.636.

(3) In determining compliance with § 73.685(a) concerning the minimum field strength to be provided over the principal community to be served.

24. In § 73.684, paragraphs (b) and (c) are revised to read as follows:

**§ 73.684 Prediction of coverage.**

(b) Predictions of coverage shall be made only for the same purposes as relate to the use of field strength contours as specified in § 73.683(c).

(c) In predicting the distance to the field strength contours, the  $F$  (50,50) field strength charts (Figures 9 and 10 of § 73.699) shall be used. If the 50% field strength is defined as that value exceeded for 50% of the time, these  $F$  (50,50) charts give the estimated 50% field strengths exceeded at 50% of the

locations in dB above 1 mV/m. The charts are based on an effective power of 1 kW radiated from a half-wave dipole in free space, which produces an unattenuated field strength at 1 mile of about 103 dB above 1 mV/m (137.6 millivolts per meter). To use the charts for other powers, the sliding scale associated with the charts should be trimmed and used as the ordinate scale. This sliding scale is placed on the charts with the appropriate gradation for power in line with the horizontal 40 dB line on the charts. The right edge of the scale is placed in line with the appropriate antenna height gradations, and the charts then become direct reading (in uV/m and in dB above 1 uV/m) for this power and antenna height. Where the antenna height is not one of those for which a scale is provided, the signal strength or distance is determined by interpolation between the curves connecting the equidistant points. Dividers may be used in lieu of the sliding scale.

(1) In predicting the distance to the Grade A and Grade B field strength contours, the effective radiated power to be used is that radiated at the vertical angle corresponding to the depression angle between the transmitting antenna center of radiation and the radio horizon as determined individually for each azimuthal direction concerned. The depression angle is based on the difference in elevation of the antenna center of radiation above the average terrain and the radio horizon, assuming a smooth spherical earth with a radius of 5,280 miles, and shall be determined by the following equation:

$$A\eta = 0.0153\sqrt{H}$$

Where:

$A\eta$  is the depression angle in degrees.  
 $H$  is the height in feet of the transmitting antenna radiation center above average terrain of the 2-10 mile sector of the pertinent radial. This formula is empirically derived for the limited purpose specified here. Its use for any other purpose may be inappropriate.

(2) In cases where the relative field strength at the depression angle determined by the above formula is 90% or more of the maximum field strength developed in the vertical plane containing the pertaining radial, the maximum radiation shall be used.

(3) In predicting field strengths for other than the Grade A and Grade B contours, the effective radiated power to be used is to be based on the appropriate antenna vertical plane radiation pattern for the azimuthal direction concerned.

(4) Applicants for new TV stations or changes in the facilities of existing TV stations must submit to the FCC a



showing as to the location of their stations' or proposed stations' predicted Grade A and Grade B contours, determined in accordance with § 73.684. This showing is to include maps showing these contours, except where applicants have previously submitted material to the FCC containing such information and it is found upon careful examination that the contour locations indicated therein would not change, on any radial, when the locations are determined under this Section. In the latter cases, a statement by a qualified engineer to this effect will satisfy this requirement and no contour maps need be submitted.

25. In § 73.687, paragraphs (b)(1) and (b)(4) are revised to read as follows:

**§ 73.687 Transmitters and associated equipment.**

(b) \* \* \*

(1) The transmitter must operate satisfactorily with a frequency deviation of  $\pm 25$  kHz, which is defined as 100% modulation. It is recommended, however, that the transmitter be designed to operate satisfactorily with a frequency deviation of at least  $\pm 40$  kHz.

(4) The transmitting system output noise level (frequency modulation) in the band of 50 to 15,000 hertz must be at least 55 dB below the audio frequency level representing 100% modulation (frequency deviation of  $\pm 75$  kHz). For the purpose of these measurements, the visual transmitter should be inoperative since the exact amount of noise possible from that source is not known.

26. In § 73.694, paragraph (a) is deleted and marked "Reserved," and paragraphs (b)(2) and (b)(3) are revised to read as follows:

**§ 73.694 Requirements for type approval of aural modulation monitors.**

(a) [Reserved]

(b) \* \* \*

(2) A modulation peak indication device must be provided that can be set at any pre-determined value from 50% to 120% modulation ( $\pm 25$  kHz deviation is defined as 100% modulation) and for either positive or negative deviation.

(3) A quasi-peak indicator with a meter having the characteristics given below must be used with a circuit such that peaks of modulation duration between 40 and 90 milliseconds are indicated to 90% of full value and the discharge rate adjusted so that the pointer returns from full reading to within 10% of zero within 500 to 800

milliseconds. A switch must be provided so that this meter will read either positive or negative deviation.

27. In § 73.699, the headnote is revised, Figure 6 Note 6 is revised and new Note 18 is added, and Figure 7 Note 6 is revised as follows:

**§ 73.699 TV engineering charts.**

Figure 6 \* \* \*

Notes:

6. Equalizing pulse duration must be between 0.45 and 0.55 of the duration of the horizontal synchronizing pulse duration.

18. During color transmissions, the chrominance component of the picture signal may penetrate the synchronizing region and the color burst penetrates the picture region.

Figure 7. \* \* \*

Notes:

6. Equalizing pulse duration must be between 0.45 and 0.55 of the duration of the horizontal synchronizing pulse duration.

28. Section 73.1207, including headnote, is revised to read as follows:

**§ 73.1207 Rebroadcasts.**

(a) The term "rebroadcast" means reception by radio of the programs or other transmissions of a broadcast or any other type of radio station, and the simultaneous or subsequent retransmission of such programs or transmissions by a broadcast station.

(1) As used in this Section, "program" includes any complete programs or part thereof.

(2) The transmission of a program from its point of origin to a broadcast station entirely by common carrier facilities, whether by wire line or radio, is not considered a rebroadcast.

(b) No broadcasting station may rebroadcast the program, or any part thereof of another U.S. broadcast station without the express authority of the originating station. A copy of the written consent of the licensee originating the program must be kept by the licensee of the station rebroadcasting such program and made available to the FCC upon request. Stations originating emergency communications under a Detailed State EBS Operational Plan are deemed to have conferred rebroadcast authority on other participating stations. The broadcasting of a program relayed by a remote pickup broadcast station is not considered a rebroadcast.

(c) Programs originated by the Voice of America (VOA) and the American Forces Radio and Television Service (AFRTS) cannot, in general, be cleared

for domestic rebroadcast, and may therefore be rebroadcast only by special arrangement among the parties concerned. Except as otherwise provided by international agreement, programs originated by foreign broadcasting stations may be rebroadcast without the consent of the originating station. In the case of retransmissions of subcarrier background music and other FM multiplex subscription services, permission must first be obtained from the originating station. The retransmission of point-to-point messages originated by government and privately owned non-broadcast stations must be authorized by the FCC prior to retransmission; such authority may be requested informally by telephone, to be followed within one week with a written confirmation accompanied by the written consent of the originating station.

(d) The rebroadcasting of time signals originated by the Naval Observatory and the National Bureau of Standards and messages from the National Weather Service stations is permitted without specific authorization under the following procedures:

(1) *Naval Observatory Time Signals.*

(i) The time signals rebroadcast must be obtained by direct radio reception from a naval radio station, or by land line circuits.

(ii) Announcement of the time signal must be made without reference to any commercial activity.

(iii) Identification of the Naval Observatory as the source of the time signal must be made by an announcement, substantially as follows: "With the signal, the time will be . . . courtesy of the U.S. Naval Observatory."

(iv) Schedules of time signal broadcasts may be obtained upon request from the Superintendent, U.S. Naval Observatory, Washington, D.C. 20390.

(2) *National Bureau of Standards Time Signals.* (i) Time signals for rebroadcast must be obtained by direct radio reception from a National Bureau of Standards (NBS) station.

(ii) Use of receiving and rebroadcasting equipment must not delay the signals by more than 0.05 second.

(iii) Signals must be rebroadcast live, not from tape or other recording.

(iv) Voice or code announcements of the call signs of NBS stations are not to be rebroadcast.

(v) Identification of the origin of the service and the source of the signals must be made by an announcement



substantially as follows: "At the tone, 11 hours 25 minutes *Coordinated Universal Time*. This is a rebroadcast of a continuous service furnished by the National Bureau of Standards, Ft. Collins, Colo." No commercial sponsorship of this announcement is permitted and none may be implied.

(vi) Schedules of time signal broadcasts may be obtained from, and notice of use of NBS time signals for rebroadcast must be forwarded semiannually to:

National Bureau of Standards, Radio Stations  
WWV/WWVB, 2000 East County Road 58,  
Ft. Collins, Colorado 80524.

(vii) In the rebroadcasting of NBS time signals, announcements will not state that they are standard frequency transmissions. Voice announcements of *Coordinated Universal Time* are given in voice every minute. Each minute, except the first of the hour, begins with an 0.8 second long tone of 1000 hertz at WWV and 1200 hertz tone at WWVH. The first minute of every hour begins with an 0.8 second long tone of 1500 hertz at both stations. This tone is followed by a 3-second pause, then the announcement, "National Bureau of Standards Time." This is followed by another 3-second pause before station identification. This arrangement allows broadcast stations sufficient time to retransmit the hour time tone and the words "National Bureau of Standards Time" either by manual or automatic switching.

(viii) Time signals or scales made up from integration of standard frequency signals broadcast from NBS stations may not be designated as national standard scales of time or attributed to the NBS as originator. For example, if a broadcasting station transmits time signals obtained from a studio clock which is periodically calibrated against the NBS time signals from WWV or WWVH, such signals may not be announced as NBS standard time or as having been originated by the NBS.

(3) *National Weather Service Messages*. (i) Messages of the National Weather Service must be rebroadcast within 1 hour of receipt.

(ii) If advertisements are given in connection with weather rebroadcast, these advertisements must not directly or indirectly convey an endorsement by the U.S. Government of the products or services so advertised.

(iii) Credit must be given to indicate that the rebroadcast message originates with the National Weather Service.

(e) A broadcast station may not rebroadcast, live or delayed, the

transmissions of a Personal Radio Service station.

#### PART 74—EXPERIMENTAL, AUXILIARY, AND SPECIAL BROADCAST, AND OTHER PROGRAM DISTRIBUTIONAL SERVICES

29. In § 74.467, paragraph (b) is revised to read as follows:

##### § 74.467 Posting of licenses.

\* \* \* \* \*

(b) At the operating position of each transmitter, other than mobile or handheld units, an identification label must be displayed showing the station call sign, the call letters of the associated broadcast station(s) or network name, the name and address of the licensee, frequencies, and the licensee's unit designator if used.

\* \* \* \* \*

30. In § 74.482, new paragraph (d) is added to read as follows:

##### § 74.482 Station identification.

\* \* \* \* \*

(d) Automatically activated equipment may be used to transmit station identification in international Morse code, provided that the modulating tone is 750 hertz  $\pm 10$  hertz and that the level of modulation of the identification signal is maintained at  $40\% \pm 10\%$ .

31. In § 74.665, paragraphs (a), (b), and (c) are revised to read as follows:

##### § 74.665 Operator requirements.

(a) Except for unattended transmitters, an operator designated by the licensee must be on duty either at the transmitter location or authorized remote control location in charge of the transmitting apparatus during the operation of a television broadcast auxiliary station.

(b) Transmitters that do not require adjustments during normal operations that could result in off-frequency or unauthorized radiations may be operated by any person designated by the licensee. Transmitters that require adjustments during normal operation which could result in off-frequency operation or unauthorized radiations may be operated only by persons holding first-class or second-class radiotelephone operator licenses.

(c) Unattended transmitters operated under the provisions of § 74.635 do not require continuous attendance by a duty operator during normal operation.

\* \* \* \* \*

32. In § 74.682, paragraph (a) introduction is amended to read:

##### § 74.682 Station identification.

(a) Each TV broadcast auxiliary station operating with a transmitter output power of 1 watt or more must, when actually transmitting programs, transmit station identification at the beginning and end of each period of operation, and hourly, as close to the hour as feasible, at a natural break in program offerings by one of the following means:

\* \* \* \* \*

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#### 47 CFR Parts 81 and 83

(Docket No. 20937; FCC 79-343)

#### Adding the Ports of San Francisco and Seattle to the Designated Radio Protection Areas for Vessel Traffic Services Purposes

AGENCY: Federal Communications Commission.

ACTION: Final rule.

**SUMMARY:** This amendment adds the Seattle (Puget Sound) port area to the Vessel Traffic Services (VTS) radio protection areas designated in the rules. The frequency 156.7 MHz (VHF Channel 14) is available only for VTS communications in this VTS area. This action was requested by the U.S. Coast Guard. The establishment of this VTS area is intended to assist the Coast Guard in implementing legislation designed to prevent ship collision and groundings as well as protect the marine environment.

**EFFECTIVE DATE:** July 23, 1979.

**ADDRESSES:** Federal Communications Commission, Washington, D.C. 20554.

**FOR FURTHER INFORMATION CONTACT:** Robert H. McNamara, Private Radio Bureau, (202) 632-7175.

#### SUPPLEMENTARY INFORMATION:

Adopted: June 7, 1979.

Released: June 14, 1979.

By the Commission: Commissioners Washburn, Fogarty and Jones absent.

In the matter of amendment of Parts 81 and 83 of the rules to add the ports of San Francisco and Seattle to the designated radio protection areas for Vessel Traffic Services purposes.

1. This action will amend the Commission's rules by adding the Seattle (Puget Sound) port area to the designated radio protection areas for Vessel Traffic Services (VTS) purposes and assign 156.7 MHz (VHF Channel 14) as the VTS frequency therein. In light of the U.S. Coast Guard's ongoing