# INFORMATION BULLETIN


# FEDERAL COMMUNICATIONS COMMISSION

# LOW POWER FM STATION

# SELF - INSPECTION CHECKLIST

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# LOW POWER FM STATION
# SELF-INSPECTION CHECKLIST

## TABLE OF CONTENTS

# INTRODUCTION

Welcome to the Low Power FM Station Self-Inspection Checklist.

The Enforcement Bureau (EB) of the FCC is committed to improving licensee compliance with the regulations governing Low Power FM stations (LPFM). We do this through a combination of educational and enforcement efforts. The enforcement effort usually involves an on-scene station inspection conducted by FCC personnel. Most on-scene inspections are conducted without prior notification to the station licensee.

This checklist has been developed to assist licensees in conducting a self-inspection of their station. It provides an opportunity for the licensee to review and correct any deficiencies associated with the operation of a station without an actual on-scene visit by the Commission. While not all LPFM station regulations are covered by this checklist, you will be able to assess your compliance with the most frequently violated regulations. Each question contains a reference to the relevant rule section(s) to facilitate your review. These references pertain to Title 47 Code of Federal Regulations (C.F.R.) Parts 11, 17, and 73.

The following boxes are provided throughout the checklist to aid the licensee in determining the stations compliance:

Y = **YES**. The station is in compliance with this item.

P = The station is not in compliance with this item. Corrective action is **PENDING**.

N/A = **NOT APPLICABLE** to this station. If this response is not provided then this question is applicable to all translator and booster stations.

All of the above responses are not applicable to every question. Only appropriate responses will be provided for each question.

You will note that the above responses do not include a "NO" answer. Any question in which a "NO" answer is applicable would be a violative condition requiring corrective action. Stations encountering such situations should take immediate steps to correct the problem.

## WHERE TO GET ASSISTANCE, FORMS and OTHER INFORMATION

On June 3, 1996, the FCC established a national call center in Gettysburg, Pennsylvania. This call center is operated by the FCC Consumer and Governmental Affairs Bureau (CGB). This facility is capable of providing services for the hearing impaired and the center is staffed full-time with bi-lingual (English and Spanish) Specialists. The toll free telephone number for this call center is 1-888-CALLFCC (1-888-225-5322).

If you have any questions about this self inspection checklist or the applicability of any regulation to your operation, you may contact the FCC Call Center. **DO NOT MAIL THIS CHECKLIST TO THE FCC FOR OUR REVIEW!**

Requests for Emergency Alert System (EAS) related documents should be directed to the Commission's EAS Office at (202) 418-1228. Information on EAS may also be found through the FCC, Enforcement Bureau web page at http://www.fcc.gov/eb/eas.

Requests for any FCC form or bulletin can be directed to the Commission's forms distribution contractor at 1-800-418-FORM (1-800-418-3676). This is a voice mail answering system. You should have the number of the form available when you call.

Some forms, bulletins and other documents, including a copy of this checklist, are also available through the Internet by visiting the FCC Homepage at "http://www.fcc.gov". Please check this Homepage for the latest update to the checklist. Some forms may also be filed through the use of the Internet.

The FCC, Media Bureau, Audio Division maintains a webpage at "http://www.fcc.gov/mb/audio". This page provides information relating to radio broadcast, including a list of current telephone numbers available for inquiries. Current rules pertaining to AM, FM and LPFM stations are maintained at "http://www.fcc.gov/mb/audio/bickel/amfmrule.html" and at "http://www.fcc.gov/mb/audio/bickel/amfmrule.html#LPFM". Some recent LPFM decisions and other items of interest can be found by visiting web pages at "http://www.fcc.gov/lpfm".

The FCC maintains a fax on demand service at (202)418-2830. Through this service you may obtain information on the following:

| | | | |
|---|---|---|---|
| Daily Digest | News Releases | Speeches | |
| Fact Sheets | Current List of Events | Public Notices | Auctions |

The government printing office (http://www.gpo.gov) maintains current copies of the Code of Federal Regulations (C.F.R.) in both printed and electronic form. A beta online version of Title 47 C.F.R. Parts 11, 17 and 73 can be found at:

Part 11: http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=dfb774ab024c5b210621bfdd118f08f1&tpl=/ecfrbrowse/Title47/47cfr11_main_02.tpl
Part 17: http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=dfb774ab024c5b210621bfdd118f08f1&tpl=/ecfrbrowse/Title47/47cfr17_main_02.tpl
Part 73: http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=dfb774ab024c5b210621bfdd118f08f1&tpl=/ecfrbrowse/Title47/47cfr73_main_02.tpl

## *SECTION I: ADMINISTRATIVE AND NON-TECHNICAL*

**A. AUTHORIZATIONS**: The station license, construction permit and/or any other instrument of authorization shall be readily available and easily accessible at the station's principal control point. [See 73.1230, 73.3533(a)(8), 73.3536 and 73.3539]

1. Y P AUTHORIZATIONS: Are current station authorizations readily available at the principal control point for this station?

**B. STATION LOGS/RECORDS:**

STATION LOGS include entries pertaining to equipment outages due to equipment malfunction, servicing, or replacement; entries for operation not in accordance with the station license; entries relating to required tests and activations of the Emergency Alert System (EAS) and, when applicable, the recording of any extinguishment or malfunction of the antenna structure obstruction lighting, adjustments, repairs, or replacement to the lighting system or related notification to the FAA. STATION RECORDS include, but are not limited to current station authorization(s) and official correspondence with the FCC.

**Note:** No retention period is specified in the rules for Low Power FM stations. However, a two year period was specified in the Commission's Report and Order, FCC 00-19, Paragraph 119. Therefore, LPFM stations must retain all required station logs and records for two years. Required station logs and records shall be made available for inspection or duplication at the request of the FCC or its representatives. [See 73.877 and 73.878]

2. Y P LOGS/RECORDS: Are required station logs being retained for a period of 2 years?

3. Y P AVAILABILITY: Are station logs/records readily available for inspection and/or duplication at the request of the FCC or its representatives? [See 73.878]

4. Y P ACCURACY: Do the logs and records clearly and accurately document all repairs, changes and other maintenance performed on the station equipment? [See 73.877]

5. Y P COMPLETENESS: Do the logs contain the time and date of each observation and the name of the person making the entry? [See 73.877]

**NOTE:** The first and last name of the person making log entries is to be included on log entries. Initials would not be sufficient.

## *SECTION I: Continued*

**C. OPERATING SCHEDULE:** All LPFM stations are required to operate at least 36 hours per week, consisting of at least 5 hours of operation per day on at least 6 days of the week; however, stations licensed to educational institutions are not required to operate on Saturday or Sunday or to observe the minimum operating requirements during those days designated on the official school calendar as vacation or recess periods. All LPFM stations will be licensed for unlimited time operation, except those stations operating under a time share agreement. [See 73.850]

6. Y P OPERATING SCHEDULE: Does this station operate with sufficient hours to comply with the minimum operating schedule for LPFM stations? [See 73.850(b)]

**D. STATION IDENTIFICATION:** Station identification shall be made at the beginning and ending of each period of operation, and hourly, as close to the hour as feasible, at a natural break in program offerings. The identification shall consist of the station's call letters immediately followed by the community of license. Any reference to additional communities must be made after the community of license. The name of the licensee, or the station frequency, channel number, or both, may be inserted between the call letters and community of license. No other insertion is permissible. [See 73.1201]

7. Y P IDENTIFICATION: Is the station identification made in accordance with 73.1201?

**NOTE:** The call signs for LPFM stations will include the suffix "-LP". Required station identification must include the full call sign and suffix.

**E. NON-COMMERCIAL STATUS:** LPFM is a noncommercial educational service. An LPFM station may be licensed only to nonprofit or noncommercial entities. [See 73.503 and 73.853]

8. Y P COMMERCIAL FREE OPERATION: Is the station maintaining its non-commercial status? [See 73.503 and 73.853]

**F. RETRANSMISSION:** An LPFM licensee may not retransmit, either terrestrially or via satellite, the signal of a full-power radio broadcast station. [See 73.879]

9. Y P AUDIO SOURCE: Is 100% of the programming on this station from sources other than a full-power radio broadcast station? [See 73.879]

## *SECTION I: Continued*

**G. STATION INSPECTIONS:** The licensee of a LPFM broadcast station shall make the station available for inspection by representatives of the FCC during the station's business hours, and at any time it is in operation. Station records and logs shall be made available for inspection or duplication at the request of the FCC or its representatives. [See 73.878]

10. Y P STATION AVAILABILITY: Is this station available for inspection during normal business hours and any time it is in operation? [See 73.878(a)]

**H. POLITICAL FILE:** LPFM licensees are to have a complete record of all requests for broadcast time made by or on behalf of candidates for public office, together with an appropriate notation showing the disposition made by the licensee of such requests, and the charges made, if any, if the request was granted.
[See 73.1212 and 73.1943]

11. Y P N/A POLITICAL: Is this station maintaining a political file in accordance with Section 73.1943(a-c)?

12. Y P N/A RETENTION: Are these records retained for a period of two years? [See 73.1943(c)]

**I. TELEPHONE CONVERSATIONS:** Before recording a telephone conversation for broadcast, or broadcasting such a conversation simultaneously with its occurrence, a licensee shall inform any party to the call of the licensee's intention to broadcast the conversation, except where such party is aware, or may be presumed to be aware from the circumstances of the conversation, that it is being or likely will be broadcast. [See 73.1206]

13. Y P N/A PHONE CALLS: Does this station notify callers of their intent to broadcast the conversation BEFORE recording or airing the call? [See 73.1206]

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## *SECTION II: ANTENNA STRUCTURES*

**A. ANTENNA REGISTRATION:** Most antenna structures that are higher than 60.96 meters (200 feet) above ground level or that may interfere with the flight path of a nearby airport must be studied by the Federal Aviation Administration (FAA) and registered with the FCC. **Owners** are required to register their non-exempt tower structures with the FCC. All proposed and altered antenna structures must be registered prior to construction or alteration. For tower owners, this means that the structure must be registered before a new construction permit or license modification involving the tower or antenna is granted.

Licensees should be familiar with the painting and lighting specifications shown on their station authorization. In the event that the structure owner is unable to maintain the prescribed painting and lighting, e.g. in cases including but not limited to abandonment, negligence, or bankruptcy, the FCC requires each tenant licensee on the structure undertake efforts to maintain painting and/or lighting. Additionally, if the licensee has reason to believe that the structure is not in compliance or that the owner is not carrying out its responsibility to maintain the structure, the licensee must immediately notify the owner, notify the site management company (if applicable), notify the FCC, and make a diligent effort to ensure that the antenna structure is brought into compliance.

Once a tower is registered, the registration number is to be displayed in a conspicuous place that is readily visible near the base of the antenna structure. When the tower is located where the number cannot be seen without access to the property on which it is located, then the number should also be placed on the gate or fence leading to the tower where an outside observer can see it. Materials used to display the registration number must be weather-resistant and of sufficient size to be easily seen.

An informational FACT SHEET, PR5000-15, "ANTENNA STRUCTURE REGISTRATION", and the Antenna Structure Registration Form (FCC Form 854), may be obtained by contacting the FCC's Forms Distribution Center at (800)418-3676. This document will provide information on how to register a tower. Users may also visit the FCC's Internet Homepage at http://wireless.fcc.gov/antenna/ for up to date information on filing procedures, electronic filing and database access.

14. Y P N/A Registration: Has the owner of the tower on which the station antenna is mounted obtained registration for the structure? [See FACT SHEET - PR5000-15]

15. Y P N/A Posting of Number: Has the registration number been posted in an easily viewed location at the tower site? [See FACT SHEET - PR5000-15]

## *SECTION II: Continued*

**B. ANTENNA SPECIFICS**: The construction permit, station license, or other instrument of authorization provides authority for the station to operate under a specific set of operating parameters. The licensee must thoroughly review the current station authorization, and, where applicable, the structure registration, to compare the listed specifications to the location, height, etc. that is actually used by this station. All LPFM stations may utilize nondirectional antennas with horizontal, vertical, circular or elliptical polarization. Directional antennas will only be authorized to eligible Public Safety and transportation licensees in connection with the operation of a Travelers Information Service. [See 73.816 and the Terms of the Station Authorization (TSA)]

16. Y P — OVERALL HEIGHT: Does the overall height of the structure match that specified in the station authorization and, where applicable, the structure registration? [See TSA]

17. Y P N/A — ANTENNA: Is a nondirectional antenna in use at this station? [See 73.816 and TSA]

18. Y P — LOCATION: Does the street address and geographical coordinates of the station transmitter/tower location match exactly with the information shown on the station authorization and, where applicable, the structure registration? [See TSA]

**C. TOWER LIGHT OBSERVATIONS:** The lighting on tower structures is to be observed at least once every 24 hours either visually or by observing an automatic indicating device; or alternatively the licensee/tower owner may provide and maintain an automatic alarm system to constantly monitor the lighting on a structure. All automatic or mechanical control devices, indicators, and alarm systems are required to be inspected at intervals NOT TO EXCEED 3 months. [See 17.47]

19. Y P N/A — OBSERVATIONS: Is the lighting on the tower(s) observed at least once every 24 hours either visually or by observing an automatic indicating device; or alternatively has the licensee/tower owner provided and maintained an automatic alarm system? [See 17.47]

20. Y P N/A — MAINTENANCE CHECKS: Have all automatic and/or mechanical control devices, indicators, and alarm systems associated with the antenna structure lighting been inspected within the last 3 months? [See 17.47]

## *SECTION II: Continued*

**D. PAINTING/LIGHTING:** The station authorization and/or tower registration specifies the painting and lighting requirements for the antenna structure. This is shown as a set of numbers or letters which correspond to paragraphs found on FCC Form 715 (Numbers - For towers with red beacons and side lights) or 715A (Letters - For towers with strobed lighting), or the most current FAA Advisory Circular (currently AC 70/7460-1K) on Obstruction Marking and Lighting. If no painting or lighting is required, then the authorization will specify "NONE" or "NONE REQUIRED". Tower registration is only necessary when painting and/or lighting is required.

The licensee must make certain that the number and placement of paint bands and lighting match exactly with that shown on the station authorization and/or tower registration. The licensee/tower owner should also be aware of the requirement to clean or repaint tower structures as often as necessary to maintain good visibility to aircraft. [See Part 17 and TSA]

**NOTE:** One of the most common problems associated with tower painting is the feedlines that are on the outside of a tower. In many cases, the tower is painted correctly, but the solid black feedlines defeat the purpose of the painting by covering the outside faces of the tower. The licensee/tower owner should make certain that the feedlines are also painted in such instances. This does not apply in cases where the tower is authorized for strobe lighting.

21. Y P N/A PAINT SPECIFICATIONS: Does the painting on the tower structure(s) match the specifications in the station authorization? [See TSA]

22. Y P N/A PAINT BANDS: Does the structure have the correct number of bands with the top and bottom bands painted orange? [See Part 17]

23. Y P N/A LIGHTING SPECIFICATIONS: Does the lighting on the tower structure match exactly with the specifications in the station authorization? [See TSA]

**E. FAA NOTIFICATIONS:** The tower owner/licensee is to notify the nearest Federal Aviation Administration (FAA) Flight Service Station within 30 minutes of the observation of an improper functioning or extinguished **top** steady burning light or **ANY** flashing obstruction light regardless of its position on the structure. Such improper functioning beacons include non-lighted beacons as well as those that are lighted, but non-flashing. Notification is to also be made immediately to the FAA once the beacon or steady burning top light is returned to service. Notification is **not** required when side light outages are observed. Tower owners/licensees should insure that the telephone number to the nearest FAA Flight Service Center is readily available and known to all personnel who would be responsible for notifying the FAA of such outages. [See 17.48]

24. Y P N/A FAA NOTIFICATION: Are the tower owner/licensee and all station operators aware of the requirement to notify the nearest FAA Flight Service Station within 30 minutes of the observation of an outage AND to notify the FAA again once the outage is corrected? [See 17.48]

## *SECTION II: Continued*

**F. STATION LOGS:** For all stations operating from a tower owned by the licensee and which have authorizations that specify tower lighting, the licensee/tower owner is to make entries in the station log concerning ANY observed or otherwise known extinguishment or improper functioning of ANY tower light regardless of its position on the tower. [See 17.49, 73.877 and 73.1213] This log must contain the following:

a. The nature of such extinguishment or improper functioning.

b. The date and time the extinguishment or improper operation was observed or otherwise noted.

c. Date and time of FAA notification, required for outages of any flashing light.

d. The date, time and nature of adjustments, repairs or replacements made. This would include any work conducted as part of a system inspection or preventive maintenance program.

25. Y P N/A STATION LOGS: Does the licensee/tower owner maintain a station log containing entries concerning ANY observed or otherwise known extinguishment or improper functioning of ANY tower light? [See 17.49, 73.877(a) and 73.1213]

**NOTE 1:** Licensees should also log the date and time of quarterly inspections of lighting systems as described in §17.47(b).

**NOTE 2:** Any extinguishment or improper functioning of a required tower light, regardless of its position on the tower, is to be corrected as soon as possible. See §17.49(b) and the terms of the structure registration. An antenna structure is not considered to be in compliance with the antenna structure registration if any required light is not functioning properly. However, violations are avoided by prompt and complete logging of the outage and by documenting that the efforts made to correct the condition are being done in a timely manner.

## *SECTION III: EMERGENCY ALERT SYSTEM (EAS)*

By October 24, 2003, all LPFM broadcast stations must have installed and operational EAS equipment capable of receiving the digital EAS protocol. If there are any questions pertaining to the new EAS rules then please contact the Commission's EAS office at (202) 418-1228, by email at eas@fcc.gov, or by visiting the EAS web site at http://www.fcc.gov/eb/eas.

**A.** **HANDBOOK:** All stations are to maintain an EAS Operating Handbook. The handbook is to be available at ALL EAS control points. Please contact 1-800-418-3676, or visit http://www.fcc.gov/eb/eas for copies of the handbook. [See 11.15]

26. Y P HANDBOOK: Does the station have an EAS Operating Handbook available at EACH EAS control point utilized during any portion of the broadcast day? [See 11.15] http://www.fcc.gov/eb/eas

**B.** **EAS DECODER/MONITOR:** By October 24, 2003, all LPFM stations must have equipment installed and capable of decoding, either manually or automatically, the digitally encoded EAS protocol while monitoring at least two assigned EAS stations. This equipment must be operational during all hours of broadcast operation. Manually operated equipment must be located so that operators, at their normal duty stations, can be alerted immediately when EAS messages are received. Only one EAS decoder is required for combined facilities operating from one common location, such as a co-owned and co-located AM and FM studio. All decoder devices are to be certified by the Commission in accordance with Part 2 Subpart J of the Commission's rules. [See 11.31, 11.33, 11.34, 11.35 and 11.52]

27. Y P CERTIFIED EQUIPMENT: Does the station use only certified EAS equipment at each location utilized for EAS monitoring? [See 11.34]

28. Y P EQUIPMENT STATUS: Is the required EAS decoding/receiving equipment currently installed and in operational condition? [See 11.35]

29. Y P N/A INSTANTANEOUS ALERT RECEPTION: For manually operated EAS decoding equipment, is the decoder installed in a way that enables broadcast station staff to be alerted instantaneously upon receipt of an activation occurring during any portion of your broadcast operation? [See 11.52]

30. Y P MONITORING ASSIGNED STATIONS: Is the EAS decoder/monitor tuned to receive EAS activations from the monitoring priorities named in the FCC-EAS Mapbook or State EAS plan? [See 11.52 and the FCC-EAS Mapbook]

**NOTE 1**: EAS test and activation announcements are to be in the same language as the primary language of the station. [See 11.54(b)(2&7), 11.55(c)(4) and 11.61(a)(1)(v)]

**NOTE 2:** The Commission released a report and order (FCC 02-64) on February 26, 2002, authorizing the use of selective display and logging of state and local EAS activations and the use of additional alert codes. This same order authorized EAS manufacturers and system operators to upgrade existing systems on an optional basis without need for additional equipment authorizations. The order further requires all EAS units produced after August 1, 2003 to have the additional codes and selective display and logging features installed prior to sale. [See 11.33(a)(4) and the R&O]

## *SECTION III: Continued*

**C. EAS TESTS:** LPFM stations are not required to have equipment capable of generating the EAS codes and Attention Signal. However, effective October 24, 2003, all LPFM stations are required to transmit the EAS test script and log receipt of required EAS tests and activations. Required monthly tests (RMT) of the EAS are to be conducted once a month as coordinated by the Emergency Communications Committee for each state. The RWT is optional during the week that a monthly (RMT) test is conducted. The RMT conducted in odd numbered months shall occur between 8:30 a.m. local time and local sunset. The RMT conducted in even numbered months shall occur between local sunset and 8:30 a.m. local time. [See 11.61]

**Note**: Since stations are required to monitor two EAS sources, then each station should receive at least one RWT (or emergency activation) from each of the two sources. An EAS activation for a state or local emergency, as defined in the EAS Handbook, may be substituted for an RWT. The RMT may result in only one test being received during that week.

31. Y P RECEIPT OF EAS TESTS: Did the station receive an EAS activation during the last full calendar week from each of its two assigned EAS monitoring sources? [See 11.61(a)]

32. Y P MONTHLY TESTS: Does the station transmit the EAS test script within 60 minutes of receipt of the RMT? [See 11.61(a)(1)(v)]

**D. STATION LOGS:** Effective October 24, 2003, all stations are to maintain a station log containing entries pertaining to each test and activation of the Emergency Alert System that is received or initiated by the station. EAS entries must be made in the station log either manually by responsible broadcast station staff, or by an automatic device. Stations may keep EAS data in a special EAS log which can be maintained at any convenient location; however, such log must be considered a part of the official station log. It is also to contain entries which adequately describe the reason why any test activation was not received and any corrective action taken. [See 11.35(a), 11.51(j), 11.52(e), 11.55(c)(7), and 11.61(b)]

Whenever any EAS equipment becomes defective, the station may operate without the defective equipment, pending its repair or replacement, for a period not in excess of 60 days. The station must make appropriate entries into the station log showing the date and time the equipment was removed and restored to service. [See 11.35(b)] If the station cannot restore service to the defective equipment within 60 days due to conditions beyond the control of the licensee, then the station must request an extension of this time from the FCC District Director of the area in which the station is located. Such request shall include the steps that were taken to repair or replace the defective equipment, the alternative procedures being used while the defective equipment is out of service and an estimation when the defective equipment will be repaired or replaced. [See 11.35(c)]

33. Y P STATION LOGS MAINTAINED: Does the licensee maintain a station log containing an entry of each activation (both sent and received) of the Emergency Alert System (EAS)? [See 11.51(j), 11.52(e) and 11.55(c)(7)]

34. Y P FAILURE TO RECEIVE EAS TEST: Does the station log contain appropriate entries indicating the reasons why required EAS Weekly/Monthly Test Transmissions were not received? If all tests have been received and logged during the last two year period, then the appropriate response is yes "Y". [See 11.35(a)]

35. Y P EQUIPMENT OUTAGE: Does the station log contain appropriate entries documenting the date and time any EAS equipment was removed and/or restored to service? If there have been no such outages in the last two years, then the appropriate response is yes "Y". [See 11.35(b)]

**NOTE:** On February 26, 2002, the Commission released a report and order (FCC 02-64) which allows licensees the option to program their EAS equipment to preselect which EAS messages containing state and local event codes they wish to display and log. Stations will continue to display and log all National level alerts, RWT's, RMT's and any state and local events they elect to receive.

## *SECTION IV: TECHNICAL REQUIREMENTS*

**A. POWER vs HEIGHT:**

For LP100 stations: The maximum facilities authorized will be based on 100 watts effective radiated power (ERP) at an antenna height above average terrain (HAAT) of 30 meters (100 ft). An LP100 station with a HAAT that exceeds 30 meters will not be permitted to operate with an ERP greater than that which would result in a 60 dBu contour of 5.6 kilometers. In no event will an ERP less than one watt be authorized. No facility will be authorized in excess of one watt ERP at 450 meters HAAT. The minimum facilities will be based on 50 watts ERP at 30 meters HAAT, or the equivalent necessary to produce a 60 dBu contour of at least 4.7 kilometers.

For LP10 stations: The maximum facilities will be based on 10 watts ERP at 30 meters HAAT. An LP10 station with an antenna height over 30 meters will not be permitted to operate with an ERP greater than that which would result in a 60 dBu contour of 3.2 kilometers. No facility will be authorized in excess of one watt ERP at 100 meters HAAT. The minimum facilities authorized may not operate with less than one watt.
[See TSA and 73.811]

36. Y P POWER/HEIGHT: Are the station's operating ERP and antenna HAAT within the limits specified by this section? [See TSA and 73.840]

**B. POWER DETERMINATION:** The transmitter power output (TPO) of an LPFM station must be determined by the procedures set forth in Section 73.267 of the Rules. The operating power of a LPFM authorized a TPO more than 10 watts must be maintained as near as practicable to its authorized TPO and may not be less than 90% of the minimum TPO nor greater than 105% of the maximum authorized TPO. An LPFM with authorized power of ten watts or less may operate with less than the authorized power, but not more than 105% of that authorized. [See 73.840 and TSA]

In the event that it becomes technically impossible to operate, then a station may temporarily discontinue operation for a period of not more than 30 days without specific authority from the FCC. If operation is terminated for 10 consecutive days, then a notification must be sent to the FCC-Media Bureau, Audio Division, Washington, D.C. 20554 no later than the 10th day of the terminated operation. If normal power is restored prior to the expiration of the 30 day period, the licensee must notify the FCC upon restoration of normal operation.

37. Y P N/A OPERATING POWER: Is the station's operating power at 105% or less of that authorized? [See TSA and 73.840]

## *SECTION IV: Continued*

**C. DIRECT vs INDIRECT METHOD:** The operating power of LPFM stations may be determined by either the direct or indirect method. The direct method of power determination for a LPFM station uses the indications of a calibrated transmission line meter located at the RF output terminals of the transmitter. This meter must be calibrated whenever there is any indication that the calibration is inaccurate or whenever any component of the metering circuit is repaired or replaced.

The indirect method is determined by applying the appropriate factor to the input power to the last radio-frequency power amplifier stage of the transmitter, using the following formula:

Transmitter output power = $E_p$ x $I_p$ x F

Where: $E_p$ = DC input voltage of final radio stage.
$I_p$ = Total DC input current of final radio stage.
F = Efficiency factor of the transmitter.

The value of the efficiency factor, F, is to be determined and a record of its value is to be maintained and available upon request. [See 73.267]

Licensees must make certain that all duty operators know which method of power determination is being used and how to calculate the output power based on that method.

38. Y P N/A EFFICIENCY FACTOR: Is the efficiency factor known for each transmitter used and a record kept as to its value, along with the source from which this value was determined? [See 73.267(c)]

**D. FREQUENCY:** The departure of the carrier or center frequency of a LPFM station may not exceed 3000 Hz from that authorized. [See 73.1545(b)]

39. Y P FREQUENCY: Is the station in compliance with the frequency tolerance specified in 73.1545?

**E. MODULATION:** The percentage of modulation is to be maintained at as high a level as is consistent with good quality of transmission and good broadcast service. Generally the modulation should not be less than 85% and may not exceed 100 percent on peaks of frequent reoccurrence with reference to 75 kHz deviation. [See 73.1570]

40. Y P MODULATION: Is the station in compliance with the modulation limits specified in 73.1570(b)?

## *SECTION IV: Continued*

**F. TRANSMISSION SYSTEM:** LPFM stations must maintain the bandwidth occupied by their emissions in accordance with the following: Any emission appearing on a frequency removed from the carrier by between 120 kHz and 240 kHz inclusive must be attenuated at least 25 dB below the level of the unmodulated carrier. Any emission appearing on a frequency removed from the carrier by more than 240 kHz and up to and including 600 kHz must be attenuated at least 35 dB below the unmodulated carrier. Any emission appearing on a frequency removed from the carrier by more than 600 kHz must be attenuated at least [43 + $10\log_{10}$ (Power in watts) dB] below the level of unmodulated carrier, or 80 dB, which ever is the lesser attenuation. [See 73.317 and 73.508]

41. Y P EMISSIONS: Is this station maintaining emissions within the limits specified in 73.317?

**G. CERTIFIED TRANSMITTERS:** Only transmitters that have been granted FCC certification shall be used at LPFM stations. Certified transmitters will have a permanently attached label bearing an FCC identifier. [See 2.907, 2.925 and 73.1660(a)(2)]

42. Y P CERTIFICATION: Is the transmitter at this station certified by the FCC and have an FCC ID attached? [See 2.925 and 73.1660(a)(2)]

**H. BLANKETING INTERFERENCE:** For one year after the commencement of transmissions with new or modified facilities, all LPFM stations are required to take remedial action to resolve blanketing interference complaints occurring within the immediate vicinity of the antenna site. The blanketing contour for an LP100 station would extend approximately 125 meters (410 ft) and a 10-watt LP10 contour would extend 39 meters (128 ft) from the transmitter site. Resolution of complaints shall be at no cost to the complainant. These requirements do not include interference complaints involving malfunctioning or mistuned receivers, improperly installed antenna systems, high gain antennas, booster amplifiers, mobile receivers and non-RF devices such as tape recorders, hi-fi amplifiers, or hard wired telephone devices. [See 73.318]

43. Y P BLANKETING: Has this licensee resolved all complaints of blanketing interference within the stations blanketing contour occurring within the specified one year? [See 73.318]

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## *SECTION V: UNATTENDED OPERATION*

**A.** **ATTENDED VS UNATTENDED:** Broadcast stations may be operated as either attended or unattended. No prior FCC approval is required to operate a station in the unattended mode. Regardless of which method of station operation is employed, licensees must employ procedures which will ensure compliance with the EAS rules. [See 73.1300]

**ATTENDED OPERATION:** Attended operation consists of ongoing supervision of the transmission facilities by a station employee or other person designated by the licensee either at the transmitter site, a remote control point, or an ATS control point. Such supervision may be by direct observation and control of the transmitting system by a live person at the transmitter site or remote control point, or such supervision can be by automated equipment that is configured to contact a person designated by the licensee. In either case a live person must be on duty at a **FIXED** location during all hours of broadcast operation where they can turn off the transmitter and where they can either monitor the station operating parameters themselves or be contacted by the automated equipment which is monitoring the equipment for them. During attended operation it is expected that the transmitter will be turned off by station personnel within 3 hours of an overpower, overmodulation or out-of-tolerance frequency condition that can cause interference that cannot be corrected within that period of time. [See 73.845 and 73.1400(a)]

**UNATTENDED OPERATION:** Unattended operation consists of using self-monitoring or automatic transmission system (ATS) monitoring equipment to control the transmission system, or alternatively, operation in the absence of constant human supervision with equipment that can operate for prolonged periods of time within assigned tolerances. In the former case, equipment must be configured to automatically take the station off the air within the required 3 hour time period after an out-of-tolerance condition arises. In the latter case, the licensee is required to make certain that the station is monitored frequently enough to ensure that station operation is corrected or terminated within the designated 3 hour time limit, but constant human supervision is not required. LPFM stations that operate unattended will be required to advise the Commission by letter to FCC, Media Bureau, of the unattended operation and provide an address and telephone number where a responsible party can be reached during such times of operation. Licensees should maintain a copy of any such letter with their station records. [See 73.845 and 73.1400(b)]

**NOTE 1**: A Media Bureau Fact Sheet on Unattended Operation may be found on the Internet at "http://www.fcc.gov/mb/audio/bickel/noonehome.html".

**NOTE 2:** The 3 hour time starts whenever operation exceeds any tolerance. Therefore, the licensee should make certain sufficient monitoring is in place to detect and correct out-of-tolerance conditions within this three hour period.

44. Y P N/A ATTENDED: Does the licensee maintain a person on duty at a fixed location, during all periods that the station is on the air, where they can either monitor and control the station themselves or be contacted by automated transmitter monitoring equipment within 3 hours after an out-of-tolerance condition arises?
[See 73.845 and 73.1400(a)]

45. Y P N/A UNATTENDED: Does the licensee maintain either automated equipment or periodic human monitoring that enables station operation to be corrected or terminated within 3 hours after an out-of-tolerance condition arises?
[See 73.845, 73.1300 and 73.1400(b)]

46. Y P N/A NOTIFICATION: For unattended operations, did the licensee notify the Commission's Media Bureau, in writing, of the address and telephone number of a responsible party?
[See 73.845, 73.1350(g) and 73.1400(a)]

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## *VI. ABBREVIATIONS*

***ATS*** - ***Automatic Transmission System***

***dB*** - ***Decibel***

***EAS*** - ***Emergency Alert System***

***EFM*** - ***Educational FM Station***

***ERP*** - ***Effective Radiated Power***

***F*** - ***Transmitter Efficiency Factor***

***FAA*** - ***Federal Aviation Administration***

***FCC*** - ***Federal Communications Commission***

***FM*** - ***Frequency Modulation***

***HAAT*** - ***Height Above Average Terrain***

***kHz*** - ***Kilohertz***

***LPFM*** - ***Low Power FM Station***

***MHz*** - ***Megahertz***

***NRSC*** - ***National Radio Systems Committee***

***RF*** - ***Radio Frequency***

***RMT*** - ***Required Monthly Test (EAS)***

***RWT*** - ***Required Weekly Test (EAS)***

***SCA*** - ***Subsidiary Communications Authorization***

***STA*** - ***Special Temporary Authority***

***TPO*** - ***Transmitter Power Output***

***TSA*** - ***Terms of the Station Authorization***

***TV*** - ***Television Broadcast***

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## *VII. GLOSSARY OF BROADCAST TERMS*

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| ***Amplitude Modulation (AM)*** | - | ***A type of transmission used in the standard radio broadcast band at 535-1705 kilohertz.*** |
| ***Bandwidth*** | - | ***The amount of frequency spectrum a radio signal occupies.*** |
| ***Booster Station*** | - | ***Similar to translator stations, these stations provide supplementary service to areas in which direct reception of radio service is unsatisfactory due to distance or terrain. Booster stations operate on the same frequency, under same ownership and with 100% rebroadcast content of the main station they are associated with, but at 20% or less of the main station's power.*** |
| ***EAS Attention Signal*** | - | ***An audio signal using the two tone frequencies of 853 and 960 Hz which is transmitted by an EAS station to actuate muted receivers for interstation receipt of emergency cuing announcements and broadcasts.*** |
| ***EAS Operating Handbook*** | - | ***A booklet which states in summary form the actions to be taken by station personnel upon receipt of emergency action notification, termination, or test messages.*** |
| ***EAS Generator/Encoder*** | - | ***Equipment capable of generating the EAS attention signal for transmission.*** |
| ***EAS Monitor/Decoder*** | - | ***Equipment capable of receiving the EAS attention signal and emergency programming transmitted by other EAS stations.*** |
| ***EAS Tests*** | - | ***Tests conducted weekly/monthly by EAS stations to ensure that their EAS equipment is functioning properly.*** |
| ***Equipment Performance Measurements*** | - | ***Measurements performed to determine the overall performance characteristics of a broadcast transmission system from point of program origination to sampling of signal as radiated.*** |
| ***Experimental Period*** | - | ***The time between 12 midnight local time and local sunrise, used by AM broadcast stations for tests, maintenance and experimentation.*** |

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| ***Extension Metering*** | ***-*** | ***The meters used to provide indications of a sampled parameter of a broadcast station transmitting system. To be considered an extension meter and not a remote meter, it must be less than 100 feet from the transmitter and installed in the same building as the transmitter.*** |
| ***Field Strength*** | ***-*** | ***Electric field intensity, usually measured in millivolts per meter (mV/m) or in decibels above 1 microvolt per meter (dBu).*** |
| ***Frequency Modulation (FM)*** | ***-*** | ***A method of modulation where the amplitude remains constant and the frequency of the carrier wave is varied according to the modulating wave. The FM broadcast band covers 88-108 Megahertz.*** |
| ***Low Power FM (LPFM)*** | ***-*** | ***A noncommercial educational broadcast radio service.*** |
| ***LP10*** | ***-*** | ***A LPFM service with maximum ERP/HAAT combination equivalent to 10 watts at 30 meters (100ft).*** |
| ***LP100*** | ***-*** | ***A LPFM service with maximum ERP/HAAT combination equivalent to 100 watts at 30 meters.*** |
| ***Output Power*** | ***-*** | ***See TPO*** |
| ***Public Inspection File*** | ***-*** | ***A publicly accessible file to be maintained by broadcast stations which contains documents pertaining to the station's licensing, ownership, and operation.*** |
| ***Remote Control*** | ***-*** | ***Operation by a properly designated person on duty at a control position from which the transmitter is not visible but that position is equipped with suitable controls so that essential functions can be performed.*** |
| ***Special Temporary Authority*** | ***-*** | ***Authority granted to the licensee, in writing, by the Media Bureau for operation of a broadcast facility for a limited time at a specified variance from the terms of the station authorization or requirements of the FCC rules.*** |

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| ***Spurious Emissions*** | - | ***An emission on a frequency or frequencies which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products.*** |
| ***Station Authorization*** | - | ***Any construction permit, license, special temporary authority, or any other authorization issued by the FCC.*** |
| ***Time Brokerage*** | - | ***Sale by a licensee of discrete blocks of time to a broker who then supplies the programming to fill that time and sells the commercial spot announcements to support it.*** |
| ***Translator Station*** | - | ***Stations that provide supplementary service to areas in which direct reception of radio service is unsatisfactory due to distance or terrain barriers. Translators simultaneously rebroadcast the signal of a primary FM station on a different frequency. May be owned by same or different licensee than that of primary station.*** |
| ***Transmitter Power Output (TPO)*** | - | ***The radio frequency power output of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.*** |
| ***Unattended Operation*** | - | ***Operation of a station by automatic means without the attention of a qualified operator.*** |