Chief Operator Responsibilities

What should I be doing?

Dennis Baldridge,
Presenter

January 12, 2012

Topics covered:

Chief Operator Responsibilities
TX Systems
Measurements
Station Records (logs) samples included
Accountability
  Licensee
  FCC
  FAA
Why is the Chief Operator important?

FCC requirement

73.1870 Chief operators.

(a) The licensee of each AM, FM, TV or Class A TV broadcast station must designate a person to serve as the station’s chief operator. At times when the chief operator is unavailable or unable to act (e.g., vacations, sickness), the licensee shall designate another person as the acting chief operator on a temporary basis.

Chief Operator Responsibilities

Why is the Chief Operator important?

FCC requirement

- Administrative responsibilities
- Technical responsibilities
- Accuracy requirements
- Communication requirements
- Validation requirements

Chief Operator Responsibilities
The Chief Operator is responsible for:

Day to Day Operation of the Station

*Which includes the*

Technical Operations of the Station

Who is qualified to be the Chief Operator?

- Chief Operator not the same as Chief Engineer
- Employee or contract basis?
### Employee or contract basis?

<table>
<thead>
<tr>
<th></th>
<th>Employee</th>
<th>Contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMD or &gt; 10KW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AM ≤ 10 KW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chief Operator Responsibilities

### Employee or contract basis?

<table>
<thead>
<tr>
<th></th>
<th>Employee</th>
<th>Contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMD or &gt; 10KW</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AM ≤ 10 KW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chief Operator Responsibilities
### Employee or contract basis?

<table>
<thead>
<tr>
<th></th>
<th>Employee</th>
<th>Contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMD or &gt; 10KW</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TV</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>AM ≤ 10 KW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chief Operator Responsibilities
Employee or contract basis?

<table>
<thead>
<tr>
<th></th>
<th>Employee</th>
<th>Contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMD or &gt; 10KW</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>AM ≤ 10 KW</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FM</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Chief Operator Responsibilities

Employee or contract basis?

73.1870

(b) Chief operators shall be employed or serve on the following basis:

(1) The chief operator for an AM station using a directional antenna or operating with greater than 10 kW authorized power, or of a TV station is to be an employee of the station on duty for whatever number of hours each week the station licensee determines is necessary to keep the station's technical operation in compliance with FCC rules and the terms of the station authorization.

(2) Chief operators for non-directional AM stations operating with authorized powers not exceeding 10 kW and FM stations may be either an employee of the station or engaged to serve on a contract basis for whatever number of hours each week the licensee determines is necessary to keep the station's technical operation in compliance with the FCC rules and terms of the station authorization.

Chief Operator Responsibilities
Chief Operator (DCO)

Has many duties

May delegate

Maintains oversight

“The buck stops here.”

Chief Operator Responsibilities

Chief Operator (DCO)

The DCO must accept responsibility for

- Compliance with the FCC's Rules
- Terms of the station Authorization
- Requirements met in a timely and correct manner

Chief Operator Responsibilities
Chief Operator (DCO)
73.1870

(c) The chief operator is responsible for completion of the following duties specified in this paragraph below. When these duties are delegated to other persons, the chief operator shall maintain supervisory oversight sufficient to know that each requirement has been fulfilled in a timely and correct manner.

Duties – 73.1870 (c)

- Transmission systems
- Systems; Monitors, Metering & Control
- Measurements
- Station Records
Duties: Transmission Systems

- Inspections
- Calibrations
- Required Monitors
- Metering and control systems
- Any necessary repairs
- Adjustments

Chief Operator Responsibilities

---

Duties: Systems Monitors, Metering & Control

- Any necessary repairs or
- Adjustments
- Document!

Chief Operator Responsibilities
Duties: Measurements

- AM field monitoring point measurements
- Equipment Performance Measurements
- Modulation, frequency, ...
- Other Tests required from the rules or
- Terms of the station authorization

Chief Operator Responsibilities

Duties: Station Records

- Station logs including
- EAS logs

Chief Operator Responsibilities
Chief Operator Designation

- Must be a written designation
- Posted with License
- Must be a person
- May appoint alternate or “acting” CO

Chief Operator Responsibilities

Chief Operator Designation

- Must be in writing
- Posted with the station license
- Contract in writing - copy in files
- 73.1870 (b) (3)

(3) The designation of the chief operator must be in writing with a copy of the designation posted with the station license. Agreements with chief operators serving on a contract basis must be in writing with a copy kept in the station files.

Chief Operator Responsibilities
Chief Operator Designation

“Acting” Chief Operator

- Fills in for illness, vacation or other reasons
- Each station should have an alternate
- Also posted with station license
- Should be informed and responsible

Chief Operator Responsibilities

73.1870 Chief operators.

(a) The licensee of each AM, FM, TV or Class A TV broadcast station must designate a person to serve as the station's chief operator. At times when the chief operator is unavailable or unable to act (e.g., vacations, sickness), the licensee shall designate another person as the acting chief operator on a temporary basis.

Chief Operator Responsibilities

Chief Operator Designation

WSDG-FM

“The Best Blend”

January 12, 2013

To whom it may concern:

Radio station WSDG designates John Doe as Chief Operator. In his absence, Jane Doe will serve as acting Chief Operator.

Signed by

Signature

Authorized Licensee Signature, WSDG

Chief Operator Responsibilities
Chief Operator Responsibilities

- Numerous
- Insure compliance with rules and license
- Must be aware of all rules for service (AM, FM, TV)

73.1820 Transmission system operation.

(a) Each licensee is responsible for maintaining and operating its broadcast station in a manner which complies with the technical rules set forth elsewhere in this part and in accordance with the terms of the station authorization.

(b) The licensee shall designate a Chief Operator in accordance with § 73.1870. The licensee may designate one or more technically competent persons to adjust the transmitter operating parameters for compliance with the technical rules and the station authorization.

(i) Persons so authorized by the licensee may make such adjustments directly at the transmitter site or by using control equipment at an off-site location.

(ii) The transmitter control personnel must have the capability to turn the transmitter off at all times. If the personnel are at a remote location, the control system must provide this capability continuously or must include an alternate method of acquiring control that can satisfy the requirement of paragraph (e) of this section that operation be terminated within three minutes.
Chief Operator Responsibilities

Where do I start?
What should I be doing?

Self-Inspection checklists
and
FCC Rules

Checklists

Summary of Changes (May, 2010)  Acrobat
AM Broadcast Station Checklist (Sept. 2009)  Acrobat
FM Broadcast Station Checklist (Sept. 2009)  Acrobat
TV Broadcast Station Checklist (Sept. 2009)  Acrobat
Class A TV Broadcast Station Checklist (Sept. 2009)  Acrobat
FM Translator Checklist (June 2008)  Acrobat
LPFM Checklist (June 2008)  Acrobat
Low Power TV, TV Translator & TV Booster Checklist (May 2010)  Acrobat

http://transition.fcc.gov/eb/bc-chklsts/
Checklists

**CHIEF OPERATORS:** Each station must designate a chief operator. The designation is to be in writing with a copy posted with the station authorization. Agreements with chief operators serving on a contract basis must be in writing with a copy kept in the station files. The chief operator is to review the station logs at least once each week to determine if required entries are being made correctly and to **SIGN AND DATE** the log upon completion of the review. The chief operator is also responsible for inspection and calibration of the transmission system, monitors, metering and control systems in addition to any equipment performance measurement or other tests as specified in the rules or terms of station authorization. **[See 73.1870]**

**NOTE:** An electronic signature is acceptable in lieu of a written signature for those making, or reviewing, entries in station logs and records which are maintained on digital media.

6. **YP**  **CHIEF OPERATOR DESIGNATION:** Has the licensee designated a person to serve as the station chief operator? **[See 73.1870(a)(1)]**

7. **YP**  **DESIGNATION POSTING:** Is the designation in writing with a copy of the document posted or readily available? **[See 73.1870(b)]**

8. **YP**  **STATION LOG REVIEW:** Does the station's chief operator review the station logs at least once each week to determine if required entries are being made? **[See 73.1870(c)]**

9. **YP**  **SIGNING STATION LOGS:** Does the chief operator or a designate date and sign the logs upon completion of the weekly review of these documents? **[See 73.1870(d)]**

Chief Operator Responsibilities

DCO Position

- Responsible for technical operation
- The “eyes” and “ears” of the station
- Not . . . a revenue making position
- Can be a revenue saving position

Chief Operator Responsibilities
# DCO Save $

## Top Ten Violations Cited

- EAS Issues (Part 11)
- Public Inspection File Issues (73.3526)
- Chief operators (73.1870)
- AM tower base fencing (73.49)
- Unauthorized Operation (73.1745)
- Antenna Structure Issues (Part 17)
- Transmission system operation (73.1350)
- Station main studio location (73.1125)
- Equipment Performance Measurements (73.1590(a))
- Broadcast Auxiliary Stations (Part 74)

---

Chief Operator Responsibilities

---

Licensee

Chief Operator Responsibilities
Chief Operator Responsibilities
DCO as Supervisor

- Develop and establish operating practices
- Train operators
- Weekly log review
Transmission Systems

- Frequencies
- Modulation
- Metering and calibration
- Inspections and calibrations
- Logging of parameters and adjustments

Chief Operator Responsibilities

EAS

Check EAS equipment
  - Operational
  - Receivers active and correct
Tests done correctly
Documentation done correctly
Handbook current and available

Chief Operator Responsibilities
**EAS – Required Retransmit**

FCC 11.51 (m) – must forward these
- Immediately FCC 11.51 (m) (2)
  - Emergency Action Notification (EAN)
  - Emergency Action Termination (EAT)
- Not to exceed 60 Minutes (FCC 11.61)
  - Required Monthly Test (RMT)

**EAS – Sources**

Two sources are required to be monitored
- Check State EAS plan or FCC Mapbook
- Local Primary station (LP1)
- Local Primary secondary station (LP2)
EAS – Equipment

Should be checked daily for proper operation
- Note failures in station logs
- 60 days for repair or replacement
- Informal request to the District Director of the FCC field is required FCC 11.35 (c)
- RMT Test script still required FCC 11.35 (b)

For personnel training purposes, the required monthly test script must still be transmitted even though the equipment for generating the EAS message codes, Attention Signal and EOM code is not functioning.

Chief Operator Responsibilities

Tower

Lighting functional?
Document discrepancies
Notify FAA as required

FAA NOTIFICATIONS: The tower owner/licensee is to notify the Federal Aviation Administration (FAA) at (Phone: 877-487-6867) within 30 minutes of the observation of an improper functioning or extinguished any 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 ensure that the telephone number for the FAA is readily available and known to all personnel who would be responsible for notifying the FAA of such outages. [See 17.43]

Chief Operator Responsibilities
Tower

Lighting functional?
  - Document discrepancies
  - Notify FAA as required
Quarterly Tower light Inspection
Fences and locks in good condition
AM – ground radials
Painting as required

Annual Measurements

AM NRSC tests
Any other tests
  - Required in the rules
  - Necessary to maintain compliance

Chief Operator Responsibilities
A closer look at

Things the Chief Operator should know

\textit{and}

Logging – examples

Chief Operator Responsibilities

Chief Operator Should know:

Is the station attended or unattended?

Power readings: direct or indirect?

EAS Participating vs Non-participating

Chief Operator Responsibilities
Attended vs. Unattended Operation

Attended = a live person, on duty, monitoring the station's parameters

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
Attended vs. Unattended Operation

Unattended = automatic monitoring equipment or known stable equipment

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. [See 73.1358(c) and 73.1490(b)]

Chief Operator Responsibilities

Direct or Indirect Power readings

Direct = reading from a meter
EX: 24KW or 6.8A

Indirect = determined by calculations
EX: Transmitter output power = Ep x Ip x F

Ep = DC input voltage of final radio stage
Ip = Total DC input current of final stage
F = Efficiency factor of the transmitter

Chief Operator Responsibilities
Direct or Indirect Power readings

Indirect Power Example

Transmitter output power = $E_p \times I_p \times F$

4500 volts $\times$ 2.5 Amps $\times$ 66% = 7425 Watts

AM Power Calculations

Power = $I^2 \times R$

Day: $(10.18)^2 \times 50 = 5181$ watts

Night: $(0.68)^2 \times 50 = 23$ watts

Current (amperes): Day: 10.18  Night: 0.68
Resistance (ohms): Day: 50  Night: 50

Chief Operator Responsibilities
Log Examples

Can be simple or elaborate

Simple example to follow:
Unattended Operation
Automatic Monitoring System

But first, let's talk about log corrections

Log Corrections

Once signed, they are an official record.

Corrections:
- Cross out the old information
- Make correction
- Explain correction
- Signature . . . FCC 73.1800 (c)
Log Corrections

FCC 73.1800 (c)

(c) Any necessary corrections of a manually kept log after it has been signed in accordance with paragraph (a) of this section shall be made only by striking out the erroneous portion and making a corrective explanation on the log or attachment to it. Such corrections shall be dated and signed by the person who kept the log or the station chief operator, the station manager or an officer of the licensee.

Chief Operator Responsibilities

Log Corrections

<table>
<thead>
<tr>
<th>EAS LOGS</th>
<th>TOWER LIGHTS</th>
<th>EAS EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>From</td>
<td>Time</td>
<td>Initial</td>
</tr>
<tr>
<td>WPWT W...</td>
<td>10:59 am</td>
<td>Initials</td>
</tr>
</tbody>
</table>

Chief Operator Review

Signature: __________ Date: 1-12-12

Other comments: Ice on tower – power @ 85% Jan 6. 5-8 am then back to 100%. Correction – 1-14-12: January 5th, not the 6th. Operator entered wrong date. Signature here
Log Notifications

If a problem persists, the CO must notify the licensee of the situation.
FCC 73.1870 (c)(3)

(3) Review of the station records at least once each week to determine if required entries are being made correctly. Additionally, verification must be made that the station has been operated as required by the rules or the station authorization. Upon completion of the review, the chief operator or his designee must date and sign the log, initiate any corrective action which may be necessary, and advise the station licensed of any condition which is repetitive.

EAS LOGS
What are you looking for?

- Received
  RWT/RMT from both assigned sources each week

- Sent
  RWT/RMT

CONDUCT WEEKLY EAS TESTS: Does the station conduct RWT transmission tests of the EAS header and EOM codes a minimum of once a week at random days and times? [See 11.61(a)]

CONDUCT MONTHLY EAS TESTS: Does the station initiate/retransmit RMT tests that include the EAS header, tone attention signal, audio message and EOM codes as required each month? [See 11.61(a)]

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 11.83(a)]
EAS LOGS

An entry for each EAS test and activation is required!

73.1820 (a) (1) (iii)

(iii) An entry of each test and activation of the Emergency Alert System (EAS) pursuant to the requirement of part 11 of this chapter and the EAS Operating Handbook. Stations may keep EAS data in a special EAS log which shall be maintained at a convenient location; however, this log is considered a part of the station log.

Chief Operator Responsibilities

OFFICIAL STATION LOG FOR STATION

WEEK OF: January 1 through January 7, 2012
All times are X ST (non-advanced) or DT (advanced)

1. Record of EAS Tests/Activations Received By This Station
(RWT=Required Weekly Test; RMT=Required Monthly Test)
on __________ at ________ from ________
on __________ at ________ from ________
on __________ at ________ from ________

2. Record of EAS Tests/Activations Sent by This Station
on ________ at ________
on ________ at ________
on ________ at ________
on ________ at ________

3. Tower Lighting and Control

Chief Operator Responsibilities
EAS LOGS

OFFICIAL STATION LOG FOR STATION W8DG
WEEK OF: January 1 through January 7, 2012
All times are _ST (non-advanced) or _DT (advanced)

1. Record of EAS Tests/Activations Received By This Station
   (RWT=Required Weekly Test; RMT=Required Monthly Test)
   RWT on 1-2-12 at 10:59 am from W...
   RMT on 1-3-12 at 3:55 pm from W...
   RMT on 1-3-12 at 3:55 pm from X...

2. Record of EAS Tests/Activations Sent by This Station
   RMT on 1-3-12 at 1:10 pm
   RMT on 1-5-12 at 8:22 am

3. Tower Lighting and Control

Chief Operator Responsibilities

MISSED EAS TESTS

Suggested follow-up steps:

- Check the equipment
- Check receivers
- Other reasons
- Contact the source
- Log all findings

Chief Operator Responsibilities
EAS LOGS

4. Chief Operator Review
I have reviewed the station operations for the one week period specified above. This review indicates that any required log entries have been made properly and that the station operated within the requirements of the FCC and the station authorization, unless noted below. Any required corrective action is also noted below, and the licensee of the station has been advised of any repetitive unacceptable conditions.

[Redacted text]

---

Signature of CO for ___________ 1/12/12
Designated Chief Operator
Date Reviewed

Note: This station operates without continuous human supervision in accordance with FCC 73.1400(b).

Chief Operator Responsibilities

Tower Lights

3. Tower Lighting and Control
[X] This station employs an automatic tower lighting alarm system to perform daily tower lighting checks. Only lighting failures are recorded on this log.

( ) Failure Noted: ______________

( ) For Failures Requiring FSS Notification:
FSS Notified: ______________
NOTAM # Assigned: ______________ Initials: ______________
FSS Notified problems cleared: ______________
NOTAM # ______________ Cancelled: ______________ Initials: ______________

Chief Operator Responsibilities
Other Comments

4. Chief Operator Review
I have reviewed the station operations for the one week period specified above. This review indicates that any required log entries have been made properly and that the station operated within the requirements of the FCC and the station authorization, unless noted below. Any required corrective action is also noted below, and the licensee of the station has been advised of any repetitive unacceptable conditions.

- No log entries were made from 1/7/12 to 1/13/12
- Log entries for 1/14/12 to 1/20/12

Note: This station operates without continuous human supervision in accordance with FCC 73.1400(b).

Signature of CO here

Designated Chief Operator

Date Reviewed

LOGS – Attended Operation

Radio Station WSDG-FM
123 S Radio Station Street, Anytown, USA zip
99.3 MHz 25 kW ERP

<table>
<thead>
<tr>
<th>STATION LOG</th>
<th>Date</th>
<th>January 3, 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATOR SIGNATURE</td>
<td>TIME ON</td>
<td>OPERATOR SIGNATURE</td>
</tr>
<tr>
<td>Signature here</td>
<td>6 am</td>
<td>Signature here</td>
</tr>
<tr>
<td>Signature here</td>
<td>2 pm</td>
<td>Signature here</td>
</tr>
<tr>
<td>Signature here</td>
<td>10 pm</td>
<td>Signature here</td>
</tr>
</tbody>
</table>

TRANSMITTER READING: Taken using the Indirect Method at the beginning,
LOGS

Chief Operator Responsibilities

LOGS AMD

AM directional systems should log
- Currents within 5% of allowable
- + 3° for phases
- Corrections or adjustments noted
- Common point current
- Other required information

Chief Operator Responsibilities
LOGS

Logs can be simple or detailed. So what is required?

- Log whatever is required to verify compliance with the FCC requirements
- In accordance with your operation
  Attended vs. unattended
  Other required entries

Chief Operator Responsibilities

<table>
<thead>
<tr>
<th>10:59 am</th>
<th>W</th>
<th>Initial</th>
<th>8:50 pm</th>
<th>Initial</th>
<th>10 am</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chief Operator Review</td>
<td></td>
<td></td>
<td>Signature</td>
<td>Date</td>
</tr>
</tbody>
</table>
Electronic Logs

Logs can be saved as a file
An electronic signature is permissible

CHIEF OPERATORS: Each station must designate a chief operator. The designation is to be in writing with a copy posted with the station authorization. Agreements with chief operators serving on a contract basis must be in writing with a copy kept in the station files. The chief operator is to review the station logs at least once each week to determine if required entries are being made correctly and to SIGN AND DATE the log upon completion of the review. The chief operator is also responsible for inspection and calibration of the transmission system, monitors, metering and control systems in addition to any equipment performance measurements or other tests as specified in the rules or terms of station authorization. (See 73.1870)

NOTE: An electronic signature is acceptable in lieu of a written signature for those making, or reviewing, entries in station logs and records which are maintained on digital media.

Chief Operator Responsibilities

Electronic Logs

Logs can be saved and stored as a file
An electronic signature is permissible
- Copy and paste signature
- Recommend reference to all portions of station logs if not in same file – Example = transmitter logs

Chief Operator Responsibilities
Other Items

Public Inspection File
  • Not specifically assigned to DCO, yet often accompanies this job.
Proofs and 2 years of logs
Any other requirement in rules or authorization

Chief Operator Responsibilities

Resources

• FCC rules – start with 73.1870
• FCC Self Inspection Checklists
• SBE Radio Chief Operator's Handbook
• SBE Certification Handbook for Radio Operators

Chief Operator Responsibilities
Q & A

Thank you for your attentiveness and participation!

Dennis Baldridge

Chief Operator Responsibilities