WA-PAWS – Tab C5A	**Monitoring Guidelines for All Participants**	9.14.21

INTRODUCTION

The Tabs in this section address Analog EAS Monitoring Requirements as determined by the Washington and Oregon State SECC's as directed by the FCC. This information is designed to provide a means for EAS Participants to determine what sources they should be monitoring in order to be FCC compliant.

LEGACY/ANALOG SOURCES

The reader is cautioned that these sources covered in this Tab are for what is commonly termed 'Legacy/Analog' EAS. Typically, a participant will utilize off-air receivers to provide an input to the analog inputs on their EAS equipment. **Other, Internet based sources, such as FEMA-IPAWS, are not addressed here.**

CONTENTS OF THIS TAB-

THE SECC and the FCC's ARS –

It is important to understand that information regarding the Monitoring Assignments for LP and Distribution System is conveyed to the FCC via their Alert Reporting System (ARS) and, thereby, becomes part of the FCC's Washington State EAS Plan.

For a more complete understanding of the role of the FCC in regulating the EAS,
Please refer to Part 11 of the Commissions Rules available at –
https://www.govinfo.gov/app/details/CFR-2010-title47-vol1/CFR-2010-title47-vol1-part11.

[Section 1]

NATIONAL DISTRIBUTION & RULES

NATIONAL SOURCES

PEP's
SiriusXM
NPR Affiliates
Premiere Affiliates

DISTRIBUTION SYSTEMS

State Relay Network (SRN, SP & NP)
NWPB – (Statewide NP)
KNKX – (Western Washington NP)
KPBX – (Northeastern Washington NP)

LP - LOCAL PRIMARY STATIONS

Two or more per Operational Area (See Tab B9)

PN - PARTICIPATING NATIONAL FACILITIES

___Those that are not LP's (Radio/TV/Cable)

THE RULES

___Distribution Systems must monitor two or more National Sources as determined by the SECC
___LP's must monitor two or more National Sources as determined by the SECC

___PN's must monitor two or more LP's

THE EXCEPTIONS

___PN's may, additionally, monitor National Sources directly
___PN's may, additionally, monitor Distribution Systems directly

[*Section 2*]

Primary Entry Points (PEP's) and National Primaries (NP's)

PRIMARY ENTRY POINT (PEP) WASHINGTON

There is one PEP Radio Station in Washington State – 710 - KIRO-AM- Seattle

PRIMARY ENTRY POINTS (PEP) OREGON

There are multiple PEP Radio Stations in Oregon State
Participants along the southern portion of Washington State may monitor the following PEP stations in Oregon that are affiliated with Oregon Public Broadcasting (OPB):

- 89.7- KOAC- FM Astoria
- 91.5- KOPB-FM - Portland
- 89.7- KOTD - The Dalles
- 90.1- KHRV - Hood River
- 90.9- KRBM - Pendleton

PREMIERE SATELLITE NETWORK (NP)

National EAS messages are received on Premiere Satellite Receivers 'FEMA Channel'
This channel must be connected to an input of the associated station's EAS equipment
___Stations that are so connected are to advise the SECC to become recognized as a National Primary Source.
___More info - http://engineering.premiereradio.com/files/pages/XDSDocsMan.html

NPR (NP)

National EAS messages are received on NPR Satellite Receivers 'Squawk Channel'
This channel must be connected to an input of the associated station's EAS equipment
___Stations that are so connected are to advise the SECC to become recognized as a National Primary Source. (NP)

SIRIUS/XM SATELLITE RADIO (NP)

National EAS messages are received on Sirius/XM Satellite Receivers 'Barker Channel'
This channel must be connected to an input of the associated station's EAS equipment
Stations that are so connected are to advise the SECC to become recognized as a National Primary Source. (NP)

NATIONAL WEATHER SERVICE (NWS) TRANSMITTERS (NWR)

In the future, NWR facilities will be able to broadcast certain FEMA/IPAWS sourced alerts and warnings using Non-Weather Emergency Messages (NWEM) via AWIPS in each NWS forecast office.
See Tab B-11 for additional updated information.

[*Section 3*]

Washington – State Relay Network (SRN)

STATE RELAY NETWORK (SRN) STATE PRIMARY (SP) – 155.475 MHz

The sole entry point for the SRN is the Washington Emergency Management Division (WEMD) facility at Camp Murray. Here WEMD can launch EAS Messages, via the SRN, that reach the State, as such, is classified as a State Primary (SP)
WEMD also automatically relays – KIRO-AM (The PEP) as well as KNKX (FM) which is a source of NPR-Squawk. This qualifies the SRN to be a NP Relay
The SECC has assigned the SRN to be monitored by LP's in some cases, we encourage all stations to monitor the SRN
For those in much of Western Washington, they also relay Seattle NWR EAS encoded messages.
See Tab-C4 for Map showing SRN transmitter locations

STATE RELAY NETWORK Transmitter Locations –

Site Name	Location	Additional Information
Mt Ellis	West Clallam County	North of Forks
Nasselle	Southern Pacific County	East of Longbeach- North of Astoria, Oregon
Galbraith Mt	Whatcom County	Often called Lookout Mountain – South of Bellingham
Gold Mt	Kitsap County	West of Bremerton
Boistfort Pk.	West Lewis County	SW of Centralia/Chehalis. Often called Baw-Faw

Burch Mt	Chelan County	North of Wenatchee
Sunny Slope	Yakima County	South of Mabton
Joe Butte	Benton County	SE of Tri-Cities
Stacker Butte	Skamania County	In the Columbia Gorge, NE of The Dalles, Oregon
Mt Spokane	North Spokane County	North of Spokane
Steptoe Butte	Whitman County	North of Colfax

[*Section 4*]

Northwest Public Broadcasting (NWPB) - Distribution System

NORTHWEST PUBLIC BROADCASTING (WSU)

NWPB monitors and automatically relays 3- PEP's: NPR/Squawk, Sirius/XM & the SRN
This enables an NWPB Radio station to be used as a NP Relay or Distribution System.
The SECC may assign specific NWPB Radio Stations to be monitored by LP's in certain Operational Areas
PN's are encouraged to monitor these sources
For a listing of NWPB Radio Transmitters – see the following table.

NWPB Radio Stations –

Location	Frequency	Call Sign	Operational Areas
Bellingham	91.7	KZAZ	North Puget Sound
Chehalis	88.9	KSWS	Lewis
Clarkston	90.5	KNWV	Inland Northwest (South)
Cottonwood	90.1	KNW0	Inland Northwest (South)
Ellensburg	90.7	KNWR	Kittitas/North Central
Forks	91.5	KNWU	Clallam (West)
Manson	88.3	KHNW	North Central

Moscow, ID	91.7	KRFA	Inland Northwest (South)
Moses Lake	91.5	KLWS	North Central
Mt Vernon	89.7	KMWS	North Puget Sound
Omak	90.1	KQWS	Okanogan
Port Angeles	90.1	KNWP	Clallam (East)
Pullman	1250	KWSU	Inland Northwest (South)
Tacoma	90.9	KVTI	Central Puget Sound
Tri-Cities	89.1	KFAE	Columbia Basin
Walla Walla	89.7	KLWS	Columbia Basin
Yakima	88.5	KYVT	Yakima
Yakima	90.3	KNWY	Yakima

Note – NWPB also operates a number of Translators.
See - https://www.nwpb.org/about-us/ for a complete listing.

[*Section 5*]

KNKX - Distribution System

KNKX – Tacoma/Seattle

KNKX monitors and automatically relays –PEP's – NPR/Squawk and KIRO-AM (Seattle PEP)
This enables KNKX to be used as a NP Relay or Distribution System.
The SECC may assign specific KNKX Affiliated Radio Stations and Translators to be monitored by LPs in certain Operational Areas.
PN's are encouraged to monitor these sources.
KNKX Sources may be listed KNKX even if the local transmitters call letters are different.
For a listing of KNKX Radio Transmitters – see the following table.

KNKX Radio Stations –

Location	Frequency	Call Sign	Operational Area
Aberdeen	100.9	K265DP	Grays Harbor
Bellingham	88.7	K204BI	North Puget Sound

Longview	104.7	K284BM	Cowlitz/Wahkiakum
Olympia	90.1	KPLI	Mason/Thurston
Port Angeles	89.3	KVIX	Clallam East
Raymond	90.7	K214FI	Grays Harbor
Seattle	88.5	KNKX	Central Puget Sound
Sedro-Wooley/Mt Vernon	88.9	KPLK	North Puget Sound

[*Section 6*]

KPBX - Distribution System

KPBX (Spokane Public Radio)

KPBX monitors and automatically relays –PEP's – NPR/Squawk and Sirius/XM
This enables KPBX to be used as a NP Relay or Distribution System.
The SECC may assign specific KBPX Affiliated Radio Stations and Translators to be monitored by LPs in certain Operational Areas.
PN's are encouraged to monitor these sources.
KPBX Sources may be listed KPBX even if the local transmitters call letters are different.
For a listing of KPBX Radio Transmitters – see the following table.

KPBX Radio Stations –

Location	Frequency	Call Sign	Operational Areas
Bonners Ferry, Idaho	92.1	KIBX	Inland Northwest
Brewster	91.9	KPBW	Okanogan
Grand Coulee	91.9	K220DV	North Central

Kellogg, Idaho	89.3	KLGG	Inland Northwest
Omak	88.5	KOMQ	Okanogan
Oroville/Tonasket	90.9	KPBG	Okanogan
Spokane	91.1	KPBX	Inland Northwest
St Maries, Idaho	92.1	KXJO	Inland Northwest
Twisp	91.1	KTWP	Okanogan

[Section 7]

TAB-C5B - MONITORING TABLES FOR LP STATIONS

This Tab, generally, contains two tables per Operational Area
(*Some Operational Areas may have additional tables to provide clarity*)
Table of LP Stations and their **required** Monitoring Assignments
Table of Contact Information for the LP Stations as well as applicable LECC Chair

OPERATIONAL AREA - LP MONITORING ASSIGNMENT TABLE - COLUMN GUIDE

Column	Label	Explanation
1	OP AREA	Operational Area (See Tab 3/C4 for map)
2	CALL	Call letters of the Station
3	FREQ	Frequency of the Station

4	MON-1	First Required Source Monitor – Must be a PEP, NP or other acceptable to the SECC
5	MON-2	Second Required Source Monitor – Must be a PEP, NP or other acceptable to the SECC
6	MON-3	First Recommended Source – NWS
7	MON-4	Second Recommended Source – SRN
9	MON-5	Third Recommended Source – LRN
10	MON-6	Station Option

___Any deviation from these Monitoring Assignments **must** be approved in writing by the SECC.

It is important for LPs to automatically relay NWS, State and Local sources as soon as possible for the benefit of those stations that are depending on them to receive the alerts.

Additionally – LPs should follow the guidelines found in Tab-B7 regarding which Event Codes should be automatically forwarded.

OPERATIONAL AREA - CONTACT INFORMATION TABLE

___Below the Monitoring Assignment Table is an additional Table containing contact information for each of the LPs as well as a contact for the Operational Area LECC Chair.

It is the responsibility of each LECC to notify the SECC regarding corrections, updates and changes so that the appropriate WA-PAWS Tab can be updated.

[Section 8]

TAB-5C – MONITORING SOURCES FOR PN STATIONS

This Tab has one table per Operational Area
(*Some areas may have additional tables to provide clarity*)

The Table includes -

- A list of LP Stations, two of which are to be monitored
- Location of the SRN Transmitter location
- Frequency and location of the Operational Area LRN
- Frequency and location of the NWS Transmitters serving the area

OPERATIONAL AREA - MONITORING SOURCE TABLE COLUMN GUIDE

Column	Label	Explanation
1	OPERATIONAL AREA & REVISION DATE	The name of the Operational Area – (See Tab 3/B9 for Map) The date this information was updated
2	COUNTIES	Counties within the Operational Area – (See Tab 3/B9 for Map)
3	DESIG	The facility designation
4	CALL	Call Letters
5	FREQ	Frequency
6	LOCATION	Location of the monitored station
7	SRN & LOCATION	State Relay Network location
9	LRN & LOCATION	Local Relay Network location
10	NWR & LOCATION	NOAA Weather Radio transmitter frequency and location
11	NOTES	SECC Remarks

[Section 9]

IMPORTANT INFORMATION FOR ALL PARTICIPATING NATIONAL (PN) FACILITIES

- The SECC only 'assigns' Monitoring Assignments for Local Primary and Distribution Facilities.

- For PN facilities, the choice of what is monitored is determined by the participants, provided they follow these guidelines

- All Participating Facilities must monitor TWO Local Primary (LP) facilities within their Operational Area. They are encouraged to monitor the LP's that provide the best consistent message quality – 24/7.

- Participants may, and are encouraged to, monitor the same-sources as the LP's to enhance the viability of the system.

- Participants are also encouraged to monitor the SRN in order to receive State EAS Messages.

- Participants are also encouraged to monitor the LRN serving their Operational Area to receive Operational Area level Messages.

- Participants are highly encouraged to monitor the NWR facility in their Operational Area since a high percentage of Alerts and Warnings are weather related.

- It is important to understand that NWS will often broadcast specific area warnings via their transmitters in adjacent areas where broadcasters may have coverage via their main-stations and/or translators etc. In these cases, Participants are encouraged to monitor these additional NWR facilities and forward those messages as well. (e.g. – coastal warnings on the Olympia NWR station)

o Reporting of what is monitored-is a function of the FCC's EAS Test Reporting System (ETRS)

o Message Originators need to know that stations will be forwarding their messages. Therefore, It is important to remember that all EAS Encoders need to be programmed to include all the counties within each Operational Area (OA). Should a station cover more than one OA, those counties should be included as well.

[Section 10]

ANTENNA RECOMMENDATIONS FOR OFF-AIR SOURCES

The receivers used to receive signals from various sources are often located near their companion EAS equipment – within - a building or structure. These structures tend to attenuate the received signal yielding poor audio quality that should be avoided. The solution to this problem is to, always, **strive to**

mount all receiving antennas outside of these structures and as high as possible. Indoor antennas for ANY frequencies should be avoided.

Technical Questions should be addressed to the SECC Technical Committee via the State EAS Remailer.

Failure to use an outside antenna is not a valid excuse for being unable to receive a consistently high-quality signal.

Source	Antenna Recommendations
Any AM Station	A 'Loop' Antenna mounted outside, on the roof, of a structure will yield superior results and is highly recommended.
Any FM Station	For an FM station with a strong signal –an omni-directional antenna such as a, vertically polarized, Discone should work well. For a distant FM station- a directional FM antenna is recommended, carefully aimed for the best reception. A VHF TV antenna may work.
NOAA Weather Radio (NWR)	If the NWR signal is strong, then an omni-directional antenna such as the Discone should work well. NOTE - The same, vertically polarized, antenna used for receiving a strong FM can be used. If the NWR signal is not strong (Yielding noise free reception) then a directional VHF antenna should be used, carefully aimed for the best reception. A VHF TV antenna may work, however, it may need to be vertically polarized.
State Relay Network (SRN)	If the SRN signal is strong, then an omni-directional antenna such as the, vertically polarized, Discone should work well. NOTE - The same antenna used for receiving a strong FM can be used. If the SRN signal is not strong (yielding noise free reception) then a directional VHF antenna, such as a Yagi, should be used, carefully aimed for the best reception.
Local Relay Network (LRN)	It should be noted that LRNs can be on VHF or UHF Frequencies. The Participant can obtain this information from their LECC or local Emergency Management. If the LRN signal is strong, the same, vertically polarized, antenna used for other sources can be used. If the LRN signal is not strong (yielding noise free reception) then use a directional antenna, chosen for the band of frequencies used (VHF or UHF) carefully aimed for the best reception.

[Section 11]

TERMS AND ABBREVIATIONS

The following are Terms and Abbreviations used in these Tabs. For additional information, see Tab-F1.

EAN	The Emergency Action Notification is the notice to all EAS Participants and to the general public that the EAS has been activated for a national emergency.
EOC	Emergency Operations Center. A facility used by Emergency Management within a governmental jurisdiction.
ETRS	EAS Electronic Test Reporting System
KNKX	A Seattle/Tacoma based broadcast station that includes a number of additional connected stations and translators forming a NP Distribution Facility.
KPBX	A Spokane based broadcast station that includes a number of additional connected stations and translators forming a NP Distribution Facility.
LP	A Local Primary is a facility that serves other EAS Participants within an Operational Area
LRN	A Local Relay Network consisting of an analog wireless distribution system whose purpose it is to distribute Public Warning Messages from government entities within an Operational Area to EAS Participants. See the applicable Local Area Plan for additional information.
NP	A source of National EAS Messages. Such as NPR Squawk channel, Premiere 'FEMA Channel' and the SiriusXM 'Barker Channel' used to distribute EAN's and NPT's. Local Primary (LP) facilities are required to monitor at least two of these sources. Other participating systems are welcome do so as well.
NP	A source of National EAS Messages. Such as NPR Squawk channel, Premiere 'FEMA Channel' and the SiriusXM 'Barker Channel' used to distribute EAN's and NPT's.
NPT	A nation-wide test of the EAN system. Historically conducted annually by FEMA.
NWPB	Northwest Public Broadcasting. A network of Radio Stations and translators operated by the Murrow College of Communication at Washington State University. NWPB (Radio) is a NP Distribution Facility.
NWS & NWR	National Weather Service – NOAA Weather Radio Transmitters (NWR)– which broadcast Weather Warnings – See Tab 15 for a listing of frequencies, locations and associated Operational Areas.
OA	Operational Area. Historically based on Market Areas.
PEP	A Primary Entry Point or Source of National EAS Messages. Such as KIRO-AM in Seattle or OPB in Oregon.
PEP	A Primary Entry Point or Source of National EAS Messages. Such as KIRO-AM in Seattle or OPB in Oregon.
PN	A Participating National Station- A facility that stays on the air during a National Emergency. Generally, all Participating Stations or Cable Systems are considered to be a PN.
Premiere	The Premier Satellite 'FEMA Channel' is used to distribute EAN's and NPT's to their affiliates.
SiriusXM	SiriusXM Barker Channel is used to distribute EAN's and NPT's .
Squawk	An auxiliary audio channel used by NPR to distribute EAN's and NPT's to their affiliates.
SRN & SP	State Relay Network – An analog distribution system owned and operated by the Washington State Emergency Management Division (WEMD) the purpose of distributing State Public Alerts and Warnings. This function is described as a State Primary or SP. It is also used to forward National Level Messages (EAN's & NPT's) from KIRO-AM in Seattle as well as serving as a back- up system for local area alerts and warnings. The origination point is WEMD. The frequency is 155.475- Statewide – See Tab 4/C4 for a map for a geographical overview.
WEMD	The State of Washington Emergency Operations center at Camp Murray.