STANDARD OPERATING PROCEDURES

Suggestions and changes should be forwarded to the ODEN Net Manager.
1. **Purpose.** This SOP provides guidance on when and how the state emergency HF nets will operate. It cannot cover every scenario or foresee every event. It provides a common framework and a place to start during an emergency.

2. **Introduction.** The Old Dominion Emergency Net (ODEN) is a Virginia Section ARES\(^1\) and RACES\(^2\), statewide, communications network consisting of one or more discrete HF nets. ODEN exists to provide backup communications during an emergency for the Commonwealth of Virginia, ensuring statewide emergency interoperability between:

- The State Emergency Operations Center (EOC);
- The EOCs of the Counties and Cities of Virginia;
- Virginia hospitals and other designated medical centers;
- State\(^3\) and Federal\(^4\) Government agencies deployed to support the emergency;
- Non-government agencies supporting the emergency\(^5\);
- Ham stations representing the National Traffic System (NTS); and,
- Others as required.

2.1. Typically any supported organization would depend on their public switched phone system (landline, cellular, internet, etc.) as their primary means of communications. While the Commonwealth has secondary systems to depend on – such as portable VHF/UHF radios and repeaters, as well as satellite phones and radios – the former are not typically available to everyone and the latter cannot cover the entire area in a large scale emergency. Amateur radio, in the form of ARES and/or RACES, would most likely be required if the primary services are down or overloaded. This could be during a state-wide emergency or one that covers any portion of the Commonwealth where the public switched network is affected.

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\(^1\) The Amateur Radio Emergency Service (ARES\(^®\)) consists of licensed amateurs who have voluntary registered their qualifications and equipment for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization, is eligible for membership in the ARES. ([http://www.arrl.org/FandES/field/pscm/sec1-ch1.html](http://www.arrl.org/FandES/field/pscm/sec1-ch1.html)) ARES is a registered trademark of the American Radio Relay League.

\(^2\) The Radio Amateur Civil Emergency Service (RACES) is “A radio service using amateur [radio] stations for civil defense communications during periods of local, regional, or national civil emergencies.” (FCC Rules, Part 97). RACES™ is a trademark of the Federal Government.

\(^3\) Examples of supporting state government agencies include, but are not limited to, Virginia’s Task Force 1 (TF1), Virginia’s Office of Emergency Services EMS Disaster Task Forces, etc.

\(^4\) Examples of supporting federal government agencies include, but are not limited to, FEMA’s Disaster Medical Assistance Teams or DMATs, etc. Normally federal support agencies will use SHARES (SHAreed RESources HF Network) or FNARS (FEMA National Radio System) for long distance HF communications; they will only use amateur radio HF frequencies when authorized.

\(^5\) Examples of non-governmental agencies include, but are not limited to, the Salvation Army, Red Cross, etc.
2.2. Support will usually – but not always – consist of formal written traffic following either the ARRL/NTS Radiogram format and/or the ICS Form 213. At times informal tactical communications may be required, or specialized served agency traffic may be necessary for the urgent protection of life and property, where time is of the essence. Because of the emphasis on formal, NTS formatted traffic, all amateur radio operators who would support an emergency (whether or not support is via ODEN or on a local 2 meter net), should participate in the various NTS nets to practice passing formal traffic.

2.3. The individual ODEN nets are described in paragraph 5, below.

2.4. ODEN should be exercised regularly to hone skills in support of the Amateur Radio public service mission.

2.5. The ODEN Net Manager is appointed by the Section Traffic Manager (since the STM manages all the Section-level Nets), in consultation with the Section Emergency Coordinator. The ODEN Net Manager has a dual reporting chain: to the STM for administration, such as reports; and to the SEC for net operations.

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3. **References.** Amateur radio operators operating in ODEN should;

3.1. Be familiar with and possess the following references:

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6 ARES/RACES personnel should be familiar with both forms. While the ARRL Radiogram is better suited to passing traffic accurately, the free style form of the ICS form may be the better form to use depending on the situation at hand.

7 A listing of Virginia NTS HF nets can be found at: [http://www.arrlva.us/nts/nts.html](http://www.arrlva.us/nts/nts.html).
3.1.1. ARRL Public Communications Service Manual (PCSM). This manual describes the Amateur Radio Emergency Service (ARES) and the National Traffic System (NTS).

3.1.2. This Standing Operating Procedure.

3.2. At a minimum, consider keeping the following references on hand:

3.2.1. ARES Field Resources Manual. This is a field resource guide for the emergency communicator providing basic program information, forms, operating aids, and templates to be customized for the local area to include reference information such as important phone numbers, emergency frequencies, maps, organizational details, and more.

3.2.2. Blank ARRL Radiograms, ICS Form 213, and Red Cross Shelter Inquiry Forms.

3.3. While there are no training requirements for Virginia ARES, at a minimum each operator should consider taking the following on-line training courses:

3.3.1. The American Radio Relay League (ARRL) Emergency Communications Courses I, II, and III.

3.3.2. The Incident Command System (ICS) course and National Incident Management System (NIMS) course, taught by the Emergency Management Institute (EMI), Federal Emergency Management Agency (FEMA). This course (and others in EMI) helps you speak the same language as your emergency manager.

4. Coverage. The intended coverage area of ODEN is the Commonwealth of Virginia, or areas thereof. However, ODEN could be activated by the SM or SEC to support an emergency in an adjacent section.

5. ODEN Nets. During an emergency, ODEN and three of the four Section-level HF NTS nets – the Virginia Sideband Net (VSBN), the Virginia Net Early (VNE), and the Virginia Digital Net (VDN) – come together to form four discreet HF nets known as the ODEN network. These nets, ODEN, VSBN, VNE, and VDN, become ODEN/A, ODEN/B, ODEN/C, and

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8 This publication is available on-line at the ARRL web site at [http://www.arrl.org/FandES/field/pscm/](http://www.arrl.org/FandES/field/pscm/).


10 These blank forms are enclosed at the end of this document in TAB X, and are available on the web at [insert].

11 Links to these courses are available on-line at the ARRL web page at [http://www.arrl.org/cee/](http://www.arrl.org/cee/).

12 This, and other similar courses, are available on-line at the EMI web site at [http://training.fema.gov/EMIWeb/IS/](http://training.fema.gov/EMIWeb/IS/).
ODEN/D respectively during an emergency as indicated below (a chart of these nets, including alternate frequencies, is at TAB A):

5.1. ODEN /A. This is typically what we have come to know as the Old Dominion Emergency Net (ODEN) on HF. ODEN /A will be the principle command net, used to pass operational traffic between the State EOC and the city/county EOCs, and supported agencies. It can also be used for other purposes (i.e., H&W traffic, logistics, etc.) if operations permit. The Net Manager is the ODEN NM.

5.2. ODEN /B. This is the emergency designation of the NTS Virginia Sideband Net (VSBN) on HF. This will be the overflow net for ODEN/A. It can also be used as (1) hospital and medical support net, (2) logistics net, and (3) H&W traffic net, as required. The Net Manager is the VSBN NM.

5.3. ODEN /C. This is the emergency designation of the NTS Virginia Net Early (VNE) on HF. It is principally a Health and Welfare (H&W) CW traffic net. The Net Manager is the VNE NM.

5.4. ODEN /D. This is the emergency designation of the Virginia Digital Net (VDN) on HF. This is an excellent mode for record traffic, large lists, etc. It can be used for H&W traffic, and logistics and/or medical support net. The primary digital mode is CHIP64 (USB & 1300 Hz offset). Alternate modes could include PSK31, MFSK16, and RTTY. The Net Manager is the VDN NM.

6. Net Administration

6.1. Activation and Duration. Any of the four ODEN nets can be activated as follows:

6.1.1. Only the SM, SEC, Assistant SEC, or NM will activate any ODEN net in preparation of an imminent emergency (e.g., a hurricane, major ice storm, etc.).

6.1.2. In addition to the above, any DEC or EC may activate ODEN/A in response to a sudden emergency (e.g., tornado touchdown, where all area communications to the outside world are down), if not already active.

6.1.3. ODEN/A will be activated anytime the Virginia Department of Emergency Management (VDEM) moves to Level 3 activation (Response Operations); which is when the amateur radio station in the Virginia EOC is activated. The SM, SEC, STM, and ODEN NM will be alerted when VDEM moves to Level 2 (Increased Readiness); in turn, the ODEN NM will alert the ODEN Net Control Stations.

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13 VDEM activation levels are: Routine, Increased Readiness, Response Operations, and Recovery Operations. For definitions of VDEM status levels go to: [http://www.vaemergency.com/newsroom/showEocStatus.cfm](http://www.vaemergency.com/newsroom/showEocStatus.cfm)
6.1.4. Once any ODEN net is activated, only the SM, SEC, Assistant SEC, or ODEN NM will terminate an ODEN net.

6.1.5. Throughout the activation the STM shall direct, supervise, and maintain all nets in support of the SEC and SM.

6.1.6. The Virginia Late Net (VLN) NM will be used as an alternate NM for one of the ODEN nets (i.e., the VSBN NM is on vacation out of state when the emergency strikes, etc.) or as needed by the SEC/STM. In the absence of the STM (i.e., vacation), the VLN NM will serve as the Acting STM and perform his duties during the emergency.

6.2. NM Responsibilities.

6.2.1. Once it is determined that any of the ODEN Nets will be activated, each respective NM shall arrange NCS schedules. NCS duty should try to schedule NCS duties for no longer than 2 hours at a time whenever possible.

6.2.2. At the conclusion of the emergency, each NM will provide a net report to the ODEN NM, who in turn, will provide a consolidated report to the STM and SEC.

6.3. NCS Qualifications. Net Control Stations should be drawn from the regular National Traffic System (NTS) NCS ranks, whenever possible. They must be capable of maintaining net discipline and handling nets with high traffic loads. They must also be well acquainted with the Virginia NTS net control SOP.

6.4. Net Liaison. Net Liaison Stations should be capable of phone, CW, and/or digital modes of operation. They must be well acquainted with the Virginia NTS SOP, should be accomplished at liaison operation, and be able to operate on 80 and 40 meters.

6.5. Net Discipline. ODEN Nets will normally be directed nets; therefore, the NCS must maintain strict control of the net. This is of primary importance in time of emergency. Informal chatter and comments should be allowed only when allowed by NCS and there is NO other traffic pending or expected; e.g., when in stand-by mode or during periods of inactivity.

7. **Declaration of Communications Emergency.** Only the SM or SEC will make a formal request for a “Declaration of Communication Emergency” with the FCC.

8. **Training.** The ODEN Net Manager, as directed by the SEC and STM, will regularly schedule ODEN/A NETS to practice net procedures, pass announcements, pass formal traffic, test propagation, and check equipment. From time to time ODEN/C and ODEN/D should be activated and tested for the same reasons.
9. **Conclusion.** In any net, one of the most important functions is that of the NCS. This is why most of this SOP is aimed at NCS functions. The NCS who maintains control of his or her net insures that it will run efficiently and makes his / her own job much easier. The purpose of this SOP is to aid the efficient operations of the Virginia Emergency Radio Network. It is not intended to circumvent the SOP for NTS nets. To the contrary, they overlap quite a bit. It should be perfectly clear that the NTS SOP should always be followed except for the few differences given above, or, when due to extreme urgency for the protection of life and property, when time is of the essence.

**ISSUE ON:** TBD

**APPROVED BY:**

Glen Sage, W4GHS  
ARRL Virginia Section Manager

Henry Wyatt, K4YCR  
Section Emergency Coordinator
# TAB A

## OLD DOMINION EMERGENCY NET (ODEN) SYSTEM

<table>
<thead>
<tr>
<th>NET</th>
<th>FREQUENCY</th>
<th>PRIMARY PURPOSE</th>
<th>NET MANAGER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODEN/A</td>
<td>P: 3947 kHz / LSB</td>
<td>This is a voice/SSB net. It will be the main operational net, and will principally be used to pass operational traffic, as follows: 1. Into/out of the State EOC; and, 2. Between the affected counties/cities. 3. Emergency or Priority Traffic.  When only one ODEN net is active, this net will handle all of the emergency traffic.</td>
<td>ODEN NM⁷</td>
</tr>
<tr>
<td></td>
<td>A: 7240 kHz / LSB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ODEN/B</td>
<td>P: 3943 kHz / LSB</td>
<td>This is a voice/SSB net. It will be the support net, handling the following traffic: 1. Hospital voice network. 2. NGO traffic. 3. Health &amp; Welfare Traffic, if ODEN/C or /D are not active or not available.</td>
<td>VSBN NM⁸</td>
</tr>
<tr>
<td></td>
<td>A: 7248 kHz / LSB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ODEN/C</td>
<td>P: 3578.5 kHz / CW</td>
<td>This is a CW net. It is principally used to pass formal NTS traffic, as follows: 1. Health &amp; Welfare Traffic. 2. Routine Traffic, as time and resources permit.</td>
<td>VNE NM⁹</td>
</tr>
<tr>
<td></td>
<td>A: 7050 kHz / CW</td>
<td>See Note below.</td>
<td></td>
</tr>
<tr>
<td>ODEN/D</td>
<td>P: 3578.5 kHz / Digital</td>
<td>This is a digital net. It is principally used to pass formal NTS traffic, as follows: 1. Operational traffic which is lengthy or requiring accuracy in transmission, at the discretion of the ODEN/A NCS. 2. Health &amp; Welfare Traffic. 3. Routine Traffic, as time and resources permit. During an emergency, digital modes will be limited to one of the following three modes, in order of preference: 1. CHIP64, USB, 1300 Hz offset. 2. PSK31, USB. 3. RTTY, 170 Hz shift, 45.45 baud</td>
<td>VDN NM¹⁰</td>
</tr>
<tr>
<td></td>
<td>A: 7050 kHz / Digital</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Both the ODEN/C and /D nets can meet concurrently without QRM.

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⁷ Old Dominion Emergency Net – Net Manager.
⁸ Virginia Sideband Net – Net Manager.
⁹ Virginia Net Early – Net Manager.
¹⁰ Virginia Digital Net – Net Manager.
B-1. **Net Procedures.** Most emergencies require a "fly by the seat of your pants" approach. However, there are some general procedures that should always be followed. Common sense and standard procedure used in normal NTS nets are of the utmost importance.

B-1.1. **Net call up.** Identify the net and NCS. A brief explanation of why the net is in session should be given. Long call-ups should be avoided. Explain that the net is directed and only formal traffic and net business will be handled unless otherwise requested. Identify key receive stations (i.e., Richmond and those in affected areas) and liaison stations. If liaison stations have not been designated, do so at this time (this is an NCS responsibility) don't wait until you need liaison functions to call for them. That will only cause confusion.

B-1.2. **Traffic.** Call for emergency or priority traffic first. All traffic should be handled in that order. Pay particular attention to traffic going into and out of Virginia EOC. This traffic, if equal in priority to other pending traffic, should be handled first. Accept routine traffic only after clearing all higher precedence traffic possible.

B-1.3. **Routing.** During high traffic loads it will not be possible to pass all traffic at one time. As soon as traffic can be handled, begin calling for outlets and get things moving. Then go back and continue listing. The use of side frequencies is very important during high traffic loads. Use them wisely. NCS should by no means send more than 2 transmit stations off to the same frequency at the same time. Traffic may be handled on net frequency only when it is light.

B-1.4. **Use of relays and alternate net frequencies.** There will undoubtedly be times when band conditions will make operations on 80 meters difficult. When this happens, NCS has 3 alternatives. The use of relays, sending stations to alternate frequencies or move the entire net to the alternate frequency. The first choice is the use of relays. Second, move the stations passing traffic to the alternate frequency. And last, move the entire net. Moving the net should only be done as a last resort, since it will usually cause confusion and some stations are bound to get lost in the shuffle. If the net is moved, a directing station should be monitoring the former frequency to direct those who have not received the word of the move.

B-1.5. **Check-ins.** First priority is always the served “customers”, the county/city EOC’s or the stations that they assign to be their representative. General check-ins are used ONLY when there is a need for specific information of a location, or bulk information such as weather, local conditions, etc. In this case the NCS should request all stations, when checking in, to provide the necessary information. Please remember, the purpose of these nets is to provide emergency communications, not to fill up rosters.
B-1.6. Closure. The Virginia Emergency Radio Network shall remain in operation until instructions for closure are received from or approved by either the SEC or SM. This will usually be done by means of QNC traffic.

B-1.7. Reporting. All net controls are responsible for reporting net statistics to the proper NM. The NMs should in turn compile all statistics and report them to the SEC with a copy to the STM.

B-1.8. Interference. Stations interfering with Emergency Operations should be identified and their call sign provided to the SM or SEC. The SM and SEC have direct contact numbers for the FCC and where a friendly request to the disrupting station falls on deaf ears, and the interfering station is causing disruption of declared emergency traffic, immediate FCC intervention will be requested. Remember, most stations will gladly give emergency stations sufficient room to operate without interference, if you make them aware of the situation in a friendly manner!

B-1.9. Tactical Callsigns. During any emergency, the use of tactical call signs may be required. This makes it much easier to contact jurisdictions or agencies, without having to consult a list to see what amateur radio station (and callsign) is supporting a particular jurisdiction/agency. At the end of each short QSO, both stations must give their assigned FCC callsign to ensure it is a legal transmission. The following are some examples of acceptable tactical callsigns: State EOC; the particular jurisdiction’s county or city name (e.g., Stafford, Bristol, Fairfax City, Norfolk, etc.); the name of a supporting agency (e.g., Red Cross). Below are sample QSO’s using Tactical Callsigns. In this example, assume there are two major Red Cross operations supporting the state, both with Amateur Radio, and assigned the tactical callsigns by NCS as “Red Cross – South” and “Red Cross – East”. Remember, this is a directed net.

QSO #1:

- City of Hampton: “Net Control this is Hampton.”
- NCS: “Go ahead Hampton.”
- City of Hampton: “Permission to contact Red Cross East.”
- NCS: “Permission granted, Hampton. This is K3EP.”
- City of Hampton: “Thank you Net Control. This is WB4AAA.”
- City of Hampton: “Red Cross East this is Hampton.”
- ARC-East: “Hampton, this is Red Cross East.”
- … (a short discussion ensues about supplies) …
- City of Hampton: “Thank you Red Cross East. Nothing further. This is WB4AAA.”
- ARC-East: “WB4AAB.”

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14 This callsign is unassigned as of the date of this SOP and is used only as an example.
QSO #2:

- Wise County: “Net Control this is Wise.”
- NCS: “Go ahead, Wise.”
- Wise County: “I have Priority traffic for the State EOC.”
- NCS: “Wise, contact the State EOC on this frequency.”
- Wise County: “Roger, Net Control. This is WB4AAC."  
- Wise County: “State EOC this is Wise.”
- State EOC: “Wise this is State EOC, go ahead.”
- … (formal, NTS formatted, traffic from the County Administrator is passed) …
- State EOC: “Roger your number 234. This is WB4AAD.”
- Wise County: “Thank you State EOC. This is WB4AAC."