Virginia RACES - Member Self Assessment

Background:

This RACES Member Self-Assessment is based upon the concept of an Internet message written by James R. "Ric" Sohl, in March 1997. Reliance on Internet, cellular, paging and other personal communication services for disaster communications has resulted in some notable failures. This is because these systems are not designed to include the necessary capacity and system redundancy to handle disaster call volume. Urban cellular systems are overloaded during everyday highway tie-ups when citizens stuck in traffic all try to call at once. Public safety has priority via "ruthless preemption," but these systems remain vulnerable to single-point failures in their Central Offices and automated switching. Antenna towers can be damaged by ice, high winds or lightning. Exercises rarely stress the high probability for substantial loss of communications services. The advantage of using amateur radio to supplement disaster communications lies in its inherent flexibility. RACES can bring more operators and equipment than most localities can afford to keep in reserve. Operators maintain their equipment in a high state of readiness, are familiar with it from daily use, technically trained and able to work around most common problems. When integrated into local emergency plans, RACES is a valuable communication asset.

Purpose:

This self-assessment is a tool for measuring the readiness of Virginia RACES operators to provide effective emergency communications, independent of existing communications infrastructure. In order to generate an accurate **Disaster Readiness Index (DRI)** to learn from this assessment, it is vital that you be completely honest in your responses. A passing score of 75 is "acceptable" for trainees being aided by team members to improve. **Active Disaster Response Team members are expected to maintain a DRI of 90**. ***How well do you do?***

Assumptions:

Disaster relief organizations are *supposed* to have trained members, who are prepared to deal with a disaster. **RACES Disaster Response Team members are presumed to be trained and prepared, including:**

- Basic First Aid, and CPR training
- Basic land navigation, map and compass fundamentals, outdoor survival skills
- Fire safety, hazardous material and terrorism awareness
- Ability to travel to served agency locations, carry / set up equipment needed to support their assignment
- Understand that disaster response and recovery is hazardous and dangerous
- Understand that communication between the disaster site and surrounding areas is absolutely necessary
- Understand that separate communications are also required within the affected incident area
- Understand that operational efficiency and team safety depend upon reliable, efficient communications
- Awareness that no locality is immune from disasters, therefore:
- Family members are pr

*Read and carefully consider the following situation assessment, and respond appropriately to honestly calculate your **Disaster Readiness Index (DRI).***

Your community has been hit by a disaster. The following conditions now exist:

- EAS alert on NOAA weather radio indicates that your community has activated its Emergency Plan
- On 2 meters, you hear an Operations Net, so you change to Logistics to listen to the situation brief.
- Electric power is out countywide, 1600 poles are down, power will not be restored for 72 hours.
- Landline telephone service is lost to 60% of the community.
- Countywide "fire watch" is activated with RACES communicating between neighborhoods and EOC
- Schools, local, state and federal government offices are closed, except for emergency personnel.
- Only 40% of public safety repeaters are operational. The rest will be out of service for 72 hours.
- Surviving public safety repeaters have 12 hours of battery backup and generator fuel for 48 hours.
- Surviving public safety radio system has marginal mobile coverage in the most densely populated half of the county, but is affected by terrain / building attenuation and is ineffective in outlying areas
- In-building public safety 2-way portable coverage is reliable only within 2 miles of the repeater.
- Public safety trunking is inoperative. Tactical communications must be conducted direct unit-to-unit using only four working out of the 16 channels normally available.
- Public safety services have pre-empted cellular service. "Essential" civilian users must wait two hours to get a line, and then may only use the service for only 3 minutes.
- Non-public safety radios (transit, schools, public works, etc.) are reduced to 25% of normal capacity
- Only NOAA weather, broadcast radio and TV stations more than 40 miles away remain on the air.
- Cable TV system and satellite TV services are out of service
- All Internet service providers are out of service
- 25% of fire department, police department and public works equipment has been destroyed.
- No gasoline or diesel is available from any underground tanks. Local government has taken over all above ground storage tanks for public safety use. If operationally necessary to support disaster response and recovery, assigned RACES drivers may be authorized only minimum necessary fuel.

Part 1 - Family Disaster Preparedness

- **Do you have 3 days supply of packaged, nonperishable food** for your household right now? *Give yourself one point for each person / day of nonperishable food available*. _____
- **How many gallons of safe drinking water** do you have **in portable containers** right now? *Take number of gallons ÷ by number of persons in household, and enter figure* _____
- **Do you have now**: 1) **heating**, fireplace, wood stove or space heater and fuel, 2) **cooking equipment and supplies**, fireplace, gas/wood stove, grill, 3) **sleeping bags or blankets**, 3) **extra warm, dry clothes** 4) **boots, and rain gear,** and 5) **flashlight and extra batteries** to shelter in place for 3 days? *Two points each category, if "yes" to all maximum score ten points!* _____
- ***If your supplies are stored in your house, they were just destroyed with the house by the storm***. *So salvage what you can, but you must now deduct eight points from your total!* - _____
- **If your evacuation supplies are stored right now in your car, add 10 points**! _____
- **If your vehicle fuel tank is over half full,** and you have a 1A/10-BC fire extinguisher, first aid kit, blanket, 1 gallon of water and FM mobile radio ≥25w *in your vehicle now*, *add 10 points* _____
- **If you have changed your smoke detector battery** AND conducted an Exit Drill In the Home within the last 6 months, *add 5 points!* _____

Subtotal Part 1 - Family Disaster Preparedness - Max. Score This Section 35 points _____

Part II - Amateur Radio Emergency Communications Equipment Preparedness

Any radios or batteries not used / tested / recharged within the last 7 days are deemed "out of service"

- **Do you have a gasoline-powered portable generator to power your station equipment?** *If so, give yourself one point per kilowatt of generator capacity* (maximum 10 points) _____
- **How much generator fuel do you have right now?** *Assumptions: fuel (gallons) / fuel consumption rate = hours @ 50% load, and fuel consumption = kW*0.1 gallon / hour.* (You may include automobile or other fuel tanks only if they are more than half full now AND you have a way to get the fuel out). *Allow 1 point for each hour that you can operate your generator.* _____
  (If you must run your automobile engine to recharge batteries, deduct 5 points) - _____
- **Deep cycle gel or sealed AGM batteries** and cords to connect to your mobile / base equipment *For each 25ah of battery tested in equipment use within the last week 1 pt. (Max.10)* _____
- **Dual-band 2 m/440 or 2m/220 mobile**, frequency-agile, field programmable, with 10 memories per band, capable of CTCSS encode and operation from an external 12VDC source with unity gain or better portable /mobile antenna and minimum of 25 watts output at 12 VDC (*15 pts*.) _____
- **2 meter FM mobile**, frequency-agile, field programmable, with 10 memories, capable of CTCSS encode and operation from an external 12VDC source with unity gain or better portable /mobile antenna and minimum of 25 watts output at 12 VDC (*10 pts*.) _____
- **Dual-band 2m/440 or 2m/220 HT** minimum 2w, frequency-agile, field programmable, 10 memories per band, capable of CTCSS encode, with alkaline battery case and adapter cord enabling operation from external 12VDC power source, with a unity gain or better antenna.
  If this dual-band HT is a spare in addition to your 25w mobile radio, add (5 pts.) _____
  If this HT is your ONLY rig, you may count only: *(1 point)* _____
- **2 meter HT**, min. 2w, frequency-agile, field programmable, 10 memories, with alkaline battery case and adapter cord to enable operation from external 12VDC source, with unity gain portable antenna
  If this 2m HT is a spare in addition to your 25w mobile radio, you may add (3 pts.) _____
  If this 2m HT is in addition to a dual-band HT, but you have no mobile rig add (1 point) _____
  If this HT is your ONLY rig, you may count only: *(1 point)* _____
- **For each amp-hour of HT battery** charged / tested *in the last week add 1pt. (Max 10)* _____
- ‰ ***If all you have is a HT, but you have a "brick amp"*** **≥25 watts** *you may add: (5 pts.)* _____
- **Portable 2m-packet equipment ≥25w**, *separate from the primary mobile add:*(*10 pts.)* _____
- ***For each rig not actually tested on-air*** *within the last week* ***subtract*** *(-10 pts. / rig)* _____
- **For a home station w/outdoor 2m /440 antenna ≥3dB-gain elev. ≥30ft.** *add* (*5 pts*.) _____
- **For each spare / portable 3dB minimum gain 2m or dual-band antenna** (3 *pts*.) _____
- **For each portable mast** suitable to elevate a VHF/UHF antenna at least 15 ft.(3 *pts*.) _____
- **For mobile and/or portable HF, ≥50w SSB with 40 + 75 meter antenna(s)** (*10 pts*.) _____
- **If your mobile / portable HF also has 2m capability,** add: (*5 pts*.) _____
- **For each additional: 1)** 50 ft. RG8-X or better coax, **2)** 2m, 220 or 440 HT, **3)** unity gain VHF/UHF, 40m+75m HF antenna or **4)** 50ah battery capacity above a station total ≥*200ah*, *(1 pt.)* _____
- **For "extra" mobile/portable HF ≥50w** w/portable 40 + 75m antennas and battery ≥80ah or other emergency power, which you have inspected / tested within the last week add:*(10 pts.)* _____
- **For mobile / portable HF ≥10w SSB but < 50w** with 40 +75 meter antennas (5 pts.) _____
- **For each "extra" mobile/portable 25w VHF/UHF mobile** rig with battery ≥30ah or other emergency power you have inspected / tested within the last week add: (5 pts.) _____
- **For each "extra" laptop + TNC** *capable of packet operation from 12V*DC add:(5 pts.) _____
- **For each portable PC line printer** *capable of operation from 12VDC* add: (5 pts.) _____

Subtotal Part 2 - Equipment Preparedness - Max. Score for This Section 65 points. _____

Total of Parts 1 and 2 ≥ 75 "Pass," is deemed "acceptable for new DRT trainees" _____

*A **D**isaster **R**eadiness **I**ndex of **90** is expected within 1 year to attain / maintain full operational status.*