Spotsylvania VOPEX 2008 Emergency Drill

22 July 2008

Presentation to RVARC

27 May 2008

Introduction

- VDEM will lead the Virginia Operations Plan Exercise with a simulated radiological emergency at the North Anna Power Station.
- This drill will help state and local governments test their response procedures in the unlikely event of a radiation release.
- This will help Spotsylvania ARES/RACES test mobilization, deployment, voice & digital communications and APRS operations in a realistic environment.

Operational Objectives

- Activate drill participants via the RVARC repeater
- Establish voice communications between the EOC, ARC HQs and Shelter on simplex.
- Exchange data via packet between the EOC, ARC HQs and Shelters on 145.550 MHz.
- Establish APRS tracking of the mobile units by the EOC.

Voice Operations

- The RVARC repeater (147.015+) shall be used for administrative traffic (check in, station assignment, etc.) as well as the initial mobilization.
- The primary operational communications between the EOC, shelter, field units and the ARC HQ will be conducted on the Spotsylvania Operations Simplex Channel (OPS1), 146.490 MHz.
- All stations shall maintain a log of radio traffic received and sent from their location.

Digital Operations

- Data files will be exchanged via packet between the EOC, the shelter at Massaponax High School and the ARC Headquarters.
- The frequency for the intra-county packet shall be 145.550 MHz.
- **The EOC will be using the Outpost Packet Message Manager software.**
- Message traffic will be relayed via the Spotsylvania EOC Mail Box (KI4AFE-1).
- No direct "chat" connection between packet stations (you must periodically log into the KI4AFE-1 mail box to retrieve traffic).
- The EOC will attempt to establish packet communications with the State EOC on 145.730 MHz.

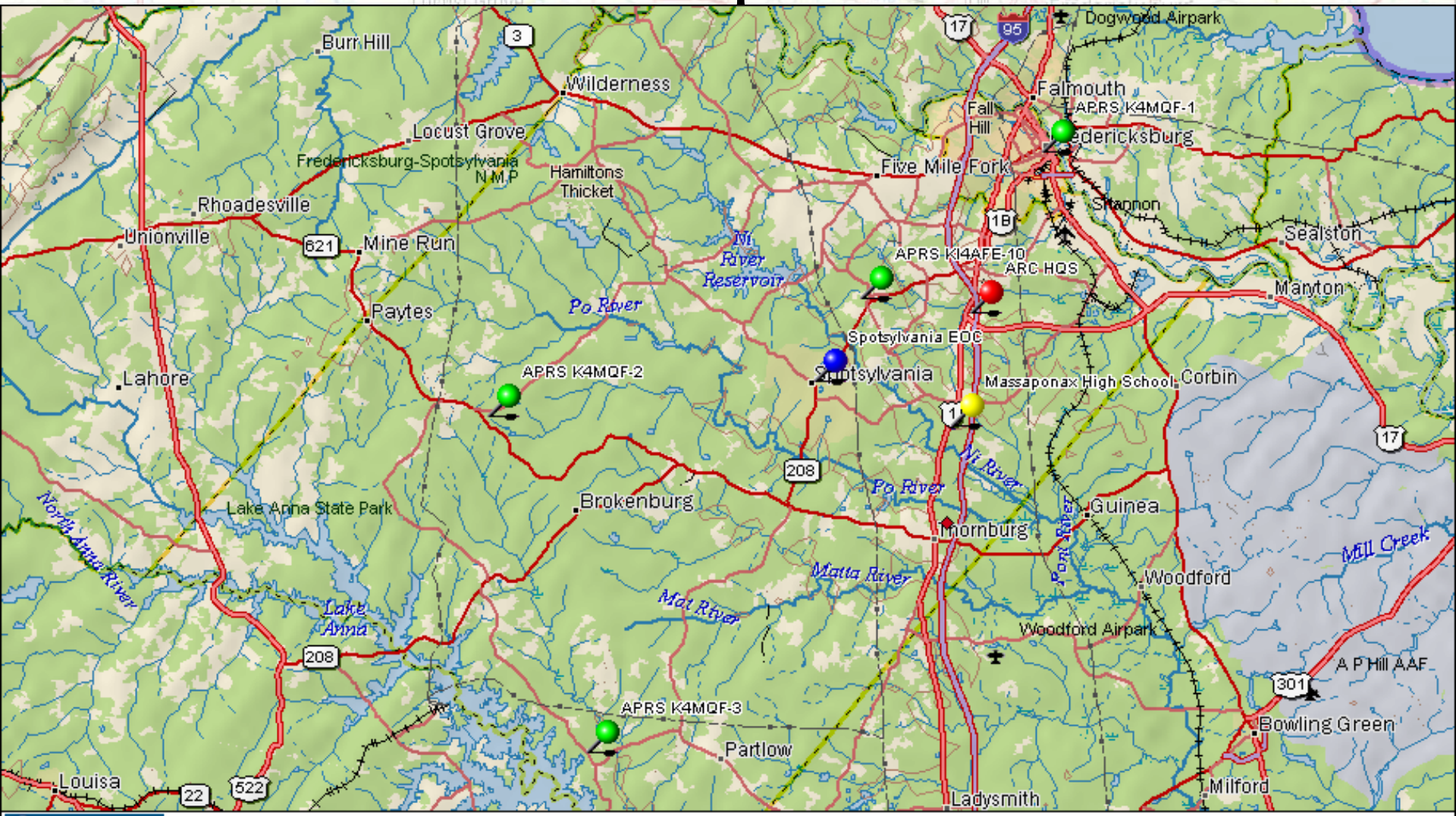
Digital Operations

- All stations will identify with a tactical call sign
- All messages are uniquely identified
- All messages are as short as possible
- All stations will poll the BBS on a periodic basis
- All stations will poll for specific message types
- All message traffic becomes part of the official event documentation package

APRS Operations

- The EOC shall track the field team locations in near real time using APRS
- APRS stations must conform to the new N paradigm
  - RELAY, WIDE, TRACE, TRACEn-N and SS are obsolete
  - Use WIDE2-2 for fixed stations
  - Use WIDE1-1, WIDE2-1 for mobile stations
  - Use DIGI1 DIGI2, DIGI3…for point-to-point communications

Area of Operations



MN (10.1° W)

0 1 2 3 4 5 6 7 8 mi

Data Zoom 9-0

Equipment Requirements

- EOC
  - The EOC is equipped with 2 Kenwood D700 radios and 2 computers
  - Station 1 will monitor OPS1 and APRS
  - Station 2 will monitor the RVARC Repeater and Packet
- Field Teams
  - Field team members will need to equip themselves with a VHF mobile radio for simplex voice and an APRS radio with GPS
- ARC HQs
  - Equipped with VHF voice, packet and HF
- Shelters
  - Shelter operators will need to equip themselves with a VHF mobile radio for simplex voice and a packet radio setup (radio, TNC and computer)

Frequency Plan

- **Primary Repeater:** 147.015(+) MHz
  - Initial mobilization and administration traffic
- **Simplex (OPS1):** 146.490 MHz
  - Primary simplex channel for operational traffic
- **Simplex (OPS2):** 146.460 MHz
  - Secondary simplex channel for operational traffic
- **Intra-county Packet:** 145.550 MHz
  - Packet communications between EOC, Shelters and ARC HQ
- **APRS:** 144.390 MHz
  - Field Team vehicle tracking and short messaging
- **VDEN Packet:** 145.730 MHz
  - Packet communications between Spotsylvania EOC and state EOC
- **HF (ODEN):** 3947 kHz
  - HF communications between EOC and state EOC via HF liaison

Positions

Position	Location	Tactical Call Sign	Packet Tactical Call Sign*
EC	Spotsylvania EOC	EC	--
County Liaison	Spotsylvania EOC	County	--
Operator 1	Spotsylvania EOC	EOC 1	--
Operator 2	Spotsylvania EOC	EOC 2	SPEOC
Backup Operator 1	Spotsylvania EOC	--	--
Backup Operator 2	Spotsylvania EOC	--	--
Route 1 Team Member	Spotsylvania EOC	Field Team 1	--
Route 2 Team Member	Spotsylvania EOC	Field Team 2	--
ARC HQ	Rappahannock ARC Headquarters	Red Cross	RVARC
Shelter 1 Operator	Massaponax HS	Massaponax	MASHS
HF Liaison	Home Station or ARC HQs		
EOC Packet Mailbox	--	--	KI4AFE-1

*Used in Outpost for packet communications

Schedule

• APRS Check	10 May	Complete
• Packet Check	31 May	
• Shelter Drill	10 June	0800-1200
• Packet Check 2	TBD	
• APRS Check 2	TBD	
• VOPEX 2008	22 July	0800-1200

Lessons Learned from 2006

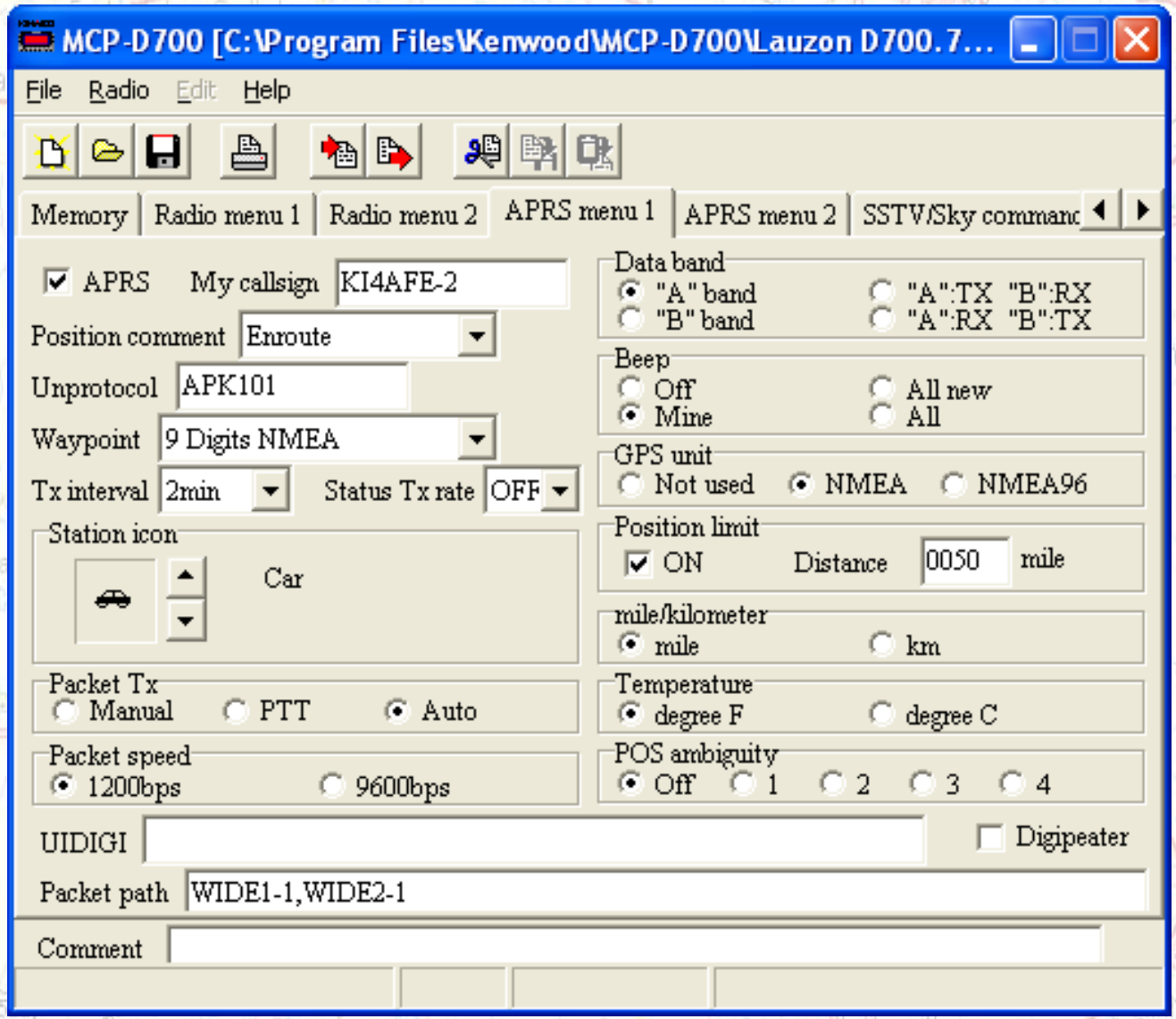
- HTs don't cut it.
  - The field teams must have mobile rigs with battery power supplies to reach back to the EOC.
- Test and test again
  - APRS went down the day of the last VOPEX in Spotsylvania
  - We had difficulty establishing packet communications
    - People were unfamiliar with the software
    - People were unfamiliar with the D700s
    - Trying to get any distance through a metal roof is hard
  - Solution: Pre-drill training sessions on packet and APRS, frequent testing and monitor of the APRS digi-peaters

Other Lessons Learned

- Listen before transmitting
- Keep reports brief and to the point
- Speak into the microphone
- Test your packet setup before the event

Equipment Setup

APRS Setup (D700)

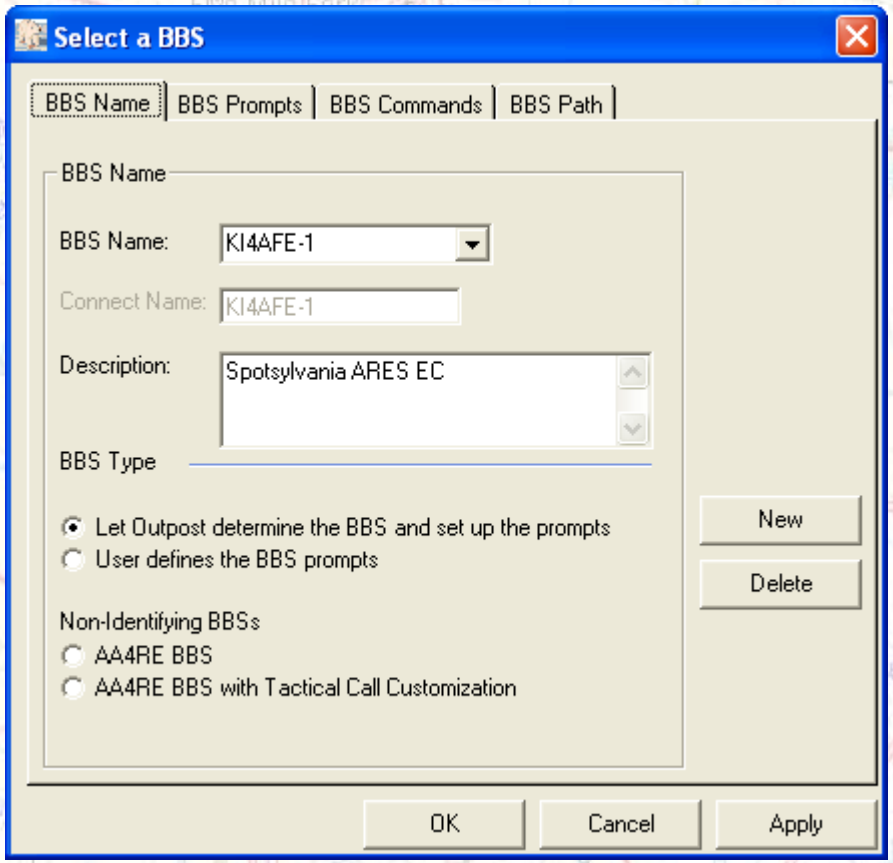


Outpost Supported BBSs

PBBSs (Firmware-based, resides in TNCs)	BBSs (Software-based)	Support pending (26-Apr-2007)
KPC3, KPC3+ **KPC9612** **KAM, KAM-XL, KAM-98 KAM Plus** **Kantronics' Data Engine** **PK-88, PK-232, PK-88** **DSP-232** **MFJ-1270x** **MFJ-1278**	**AA4RE** **F6FBB** **MSYS** **N0ARY** **DXNET** **Telpac/Winlink** **W0RLI**	**KPC3 5.1** **MFJ-1274** **OpenBCM** **JNOS** **TNOS**

Outpost Setup

- ***Setting up the KI4AFE-1 BBS***
- From the Outpost main menu, select: **Setup > BBS…**
- **Tab 1 – BBS name** The fields on this tab should be filled in as shown here.
  - **BBS Name**. Enter **KI4AFE-1.**
  - **Description.** Optional; the Description field is optional, and can be any description you want to enter.
  - **BBS Type.** Choose the 1st option…
  - ”Let Outpost determine the BBS and set up the prompts”



Outpost Setup

- **Tab 2 – BBS Prompts**
  - This tab is only used if you intend to manually set up the BBS prompts that the BBS will send back to Outpost.
  - The BBS Type selection on the previous tab will automatically pick the KI4AFE prompts.
  - There is nothing to configure on this form!
- **Tab 3 – BBS Commands**
  - For all users, the default set of commands will work fine. No need to change anything here.

Outpost Setup

- **Tab 4 – BBS Path**
- This is a… *it depends* setting.
  - Most stations can access the BBS directly. If you are one of them and can access the BBS directly from your location, then select "**Direct to BBS**".
  - If you usually access the BBS through a digipeater, then check "**Via Digipeater(s)**" and enter the digipeater name.