NEW YORKER 21

After-Action Report/Improvement Plan

28 August 2021

The After-Action Report/Improvement Plan (AAR/IP) aligns exercise objectives with preparedness doctrine to include the National Preparedness Goal and related frameworks and guidance. Exercise information required for preparedness reporting and trend analysis is included; users are encouraged to add additional sections as needed to support their own organizational needs.

Rev. 2017 508
HSEEP-IP01

Exercise Overview

Exercise Name	NEW YORKER 21
Exercise Dates	7-8 August 2021
Scope	This exercise is a functional exercise, planned for two days at Haubrich Armory and coordinated two-way radio stations around Ohio. Exercise play is limited to radio communication.
Mission Area(s)	Response
Core Capabilities	1. Operation of radio nets to maintain comms in affected areas 2. Accurate origination, relay, and delivery of third-party traffic
Objectives	1. Activate BLACK SWAN Net 2. Originate third-party traffic for served agencies 3. Relay third-party traffic 4. Deliver third-party traffic to served agencies 5. Operate station on emergency (non-grid) power
Threat or Hazard	Natural/severe winter storm system
Scenario	Conditions: High wind, rapid snowfall, fluctuating temperatures. Impacts: Snow drifting blocking roads. Roads further impeded by night with freezing and by day with melting and flooding. Heavy snow and ice snapping power and communications lines. Ohio National Guard Joint Task Force providing military personnel to augment local emergency operations. Amateur operators providing inter-site communication.
Sponsor	Signal Section, Headquarters 4th Civil Support & Sustainment Brigade Ohio Military Reserve
Participating Organizations	Central Ohio Poison Center Volunteer amateur radio stations
Point of Contact	C. Matthew Curtin SGT (OH), OHMR NCOIC Communications, S-6/HHC/4CSSB Exercise Director Charles.Curtin@OHMR.Ohio.gov

Analysis of Core Capabilities

Aligning exercise objectives and core capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 includes the exercise objectives, aligned core capabilities, and performance ratings for each core capability as observed during the exercise and determined by the evaluation team.

Objective	Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Activate BLACK SWAN Net	Operation of radio nets to maintain comms in affected areas		S		
Originate third-party traffic for served agencies	Accurate origination, relay, and delivery of third-party traffic		S		
Relay third-party traffic	Accurate origination, relay, and delivery of third-party traffic		S		
Deliver third-party traffic to served agencies	Accurate origination, relay, and delivery of third-party traffic			M	
Operate station on emergency (non-grid) power	Operation of radio nets to maintain comms in affected areas		S		

Table 1. Summary of Core Capability Performance

Ratings Definitions:

Performed without Challenges (P): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.

Performed with Some Challenges (S): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.

Performed with Major Challenges (M): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.

Unable to be Performed (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).

The following sections provide an overview of the performance related to each exercise objective and associated core capability, highlighting strengths and areas for improvement.

Objective 1: Activate BLACK SWAN Net

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability: Operation of radio nets to maintain comms in affected areas

Strengths

The partial capability level can be attributed to the following strengths:

Strength: Regular operation of the net at various times

Strength: Regular practice of procedures for message relay

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement: Getting all stations into the net.

Reference: N/A

Analysis: Haubrich Station W8OMR was unable to report into the net, taking the served agency station out of play. Haubrich station is currently under construction. Operators did not succeed in getting a temporary station into the net.

Area for Improvement: Keeping pace with messaging demands.

Reference: BLACK SWAN SOI, BLACK SWAN Training Slides, ACP 121(I).

Analysis: Stations with access to Winlink and the BLACK SWAN net had difficulty monitoring both. Several operators reported difficulty keeping track of message status and performing relay functions. Some of this difficulty had an impact on tasking for other objectives.

One operator suggested using Winlink messaging to indicate where to find the net. This raises problems for single-transceiver stations, unable to get incoming Winlink messages while also trying to find the net.

Another operator suggested a multioperator station, e.g., one to work the radio, the other to perform administrative functions.

Objective 2: Originate third-party traffic for served agencies

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability: Accurate origination, relay, and delivery of third-party traffic

Strengths

The partial capability level can be attributed to the following strengths:

Strength: Regular opportunities to originate messages in practice nets.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement: Origination during net operations.

Reference: ACP 125 (G), ACP 131 (F), ACP 121 (I)

Analysis: Station operators reported difficulty watching a video to simulate a doctor presenting information to transmit and feeling attentive to the radio net. The multioperator station suggestion again becomes relevant, e.g., one to work the radio, the other to perform people-facing functions like origination.

Area for Improvement: Use of radio message features.

Reference: ACP 121 (I), https://www.winlink.org/HELP (See Precedence Features.)

Analysis: We observed that messages delivered through the Winlink Global Radio Email system often did not include the definition of precedence to indicate desired level of service. Precedence in amateur radio operations is not well understood. Common assumptions that all messages must move as fast as possible or that all messages in an "emergency communications" circuit are equally urgent.

Objective 3: Relay third-party traffic

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability: Accurate origination, relay, and delivery of third-party traffic

Strengths

The partial capability level can be attributed to the following strengths:

Strength: Regular practice of message relay during BLACK SWAN net sessions.

Strength: Practice with tools like FLAMP for transmission.

Strength: Practice with adjustment of waveform to fit conditions.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement: Difficulty hearing other stations.

Reference: ACP 125 (G), ACP 131 (F), ACP 121 (I)

Analysis: When stations cannot hear one another well, instructions from net control are easier to miss, and more time is needed to complete relays. More stations in the net would be helpful, allowing for relays to take place.

Another option would be relaying through Winlink, where stations need not hear the same RMS, and can work through any RMS to which they have an RF pathway. In times of high D-layer absorption, for example, stations in-state will likely have difficulty working, but will much more readily be able to go to higher frequencies to connect to more distant RMS stations.

Objective 4: Deliver third-party traffic to served agencies

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability: Accurate origination, relay, and delivery of third-party traffic

Strengths

The partial capability level can be attributed to the following strengths:

Strength: Regular practice with formatted messages.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement: Difficulty reaching agency station.

Reference: BLACK SWAN SOI, BLACK SWAN Training Slides, ACP 121(I).

Analysis: Haubrich station being taken out of play was mentioned in Objective 1 but is also relevant here.

Though Doc's requests for help went as Priority, Tox 1 went out at 1315; request for help received at 1426, reply to that request went out at 1433; by 1607, the Doc still hasn't got the reply (exerciseemergencydoc email).

Same for tox 2: sent out 1345; request for help at 1502; reply sent at 1510; by 1607 still no reply to the requesting doc.

Case 3 out at 1415; request for help received 1531; reply went out 1534; still no reply to the requesting doc.

Case 4 went out 1435; Case 5 went out 1455; Case 6 went out late 1521. As far as I can tell there was no activity on those last three cases.

We observe message performance expectations: Priority messages have a time objective of one to six hours between acceptance of the message at the sender's communications facility at the point of origin to delivery to the addressee at the destination. With such urgency in these messages they should probably use Immediate (O) precedence, generally unfamiliar to amateur radio but defined and used for government circuits, as well as Winlink.

The multioperator station suggestion again becomes relevant, e.g., one to work the radio, the other to perform people-facing functions like delivery.

Objective 5: Operate station on emergency (non-grid) power

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability: Operation of radio nets to maintain comms in affected areas

Strengths

The partial capability level can be attributed to the following strengths:

Strength: Some stations are able to operate on non-grid power.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement: Not all stations were able to operate without grid power.

Reference: http://www.arrl.org/emergency-alternative-power

Analysis: Some stations just did not have or did not exercise non-grid power sources. Extended power loss scenarios are very much part of the mission profile for emergency communication stations, so all participants are encouraged to develop and to exercise the capability to work without grid power.

Appendix A: Improvement Plan

Core Capability	Issue/Area for Improvement	Corrective Action	Capability Element[1]	Primary Responsible Organization	Start Date	Completion Date
Operation of radio nets	Getting all stations	Ensure that each intended station is prepared for operation and tested plans can be executed to address problems.	Planning	Each station	Now	ASAP
Operation of radio nets	Keeping pace	Considered practice will help operators to understand their pace and to find and practice techniques needed to ensure efficient operation.	Exercise	Each station	Now	1 Apr 2022
Accurate origination, relay, and delivery	Origination during net operations	Organizing operators to meet need at various stations, and stations to meet the need throughout the net.	Organization	S-6/HHC/4 (OHMR)	1 Nov 2021	1 Jun 2022
Accurate origination, relay, and delivery	Use of radio message features	Ensure origination includes good choices for precedence, addressing, and routing.	Training	Each station	Ongoing	1 May 2022
Accurate origination, relay, and delivery	Hearing all stations	Practice of control of the net by signals and radiotelegraph/radioteletype procedure to improve contact when voice becomes unreliable.	Exercise	S-6/HHC/4 (OHMR)	1 Nov 2021	1 Mar 2022
Accurate origination, relay, and delivery	Difficulty reaching agency station	Ensure agencies have multiple pathways to receive that are tested.	Planning	Each station	Now	1 Apr 2022
Operation of radio nets	Power without grid	Develop capability for operation without grid power.	Equipment	Each station	Now	ASAP

This IP has been developed specifically for BLACK SWAN NET as a result of NEW YORKER 21 conducted on 7-8 August 2021.

[1] Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

Appendix B: Exercise Participants

Participating Organizations
Volunteer Amateur Radio Operators
N2LC, Noble Co., Ohio, Lee Coyle, MAJ, OHARNG (Ret)
WD8SDH, Guernsey Co., Ohio, Richard W Wayt
WD8SAB, Jefferson Co., Ohio, William R (Rick) Shuster
WD8IIJ, Jefferson Co., Ohio, Monte E Pettengill
KD8OSI, Noble Co., Ohio, Gary J Oliver
State
Ohio Military Reserve
Central Ohio Poison Center, Marcel Casavant, MD. AD8CM.