

Battelle Energy Alliance, LLC, Continuity Readiness Assurance Report — Fiscal Year 2017

Sherman Campbell

September 2017

The INL is a
U.S. Department of Energy
National Laboratory
operated by
Battelle Energy Alliance



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Emergency Management

Battelle Energy Alliance, LLC, Continuity Readiness Assurance Report — Fiscal Year 2017

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Approved by:

Carl J. Farmer
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Date

ABSTRACT

Battelle Energy Alliance, LLC, the prime contractor for Idaho National Laboratory (INL), provides this Continuity Readiness Assurance Report (CRAR) in accordance with DOE O 150.1A, "Continuity Programs." This CRAR documents the readiness of the INL Continuity of Operations Program using emergency response planning, recovery actions, and preparedness activities, and where applicable, summarizes and/or provides supporting information for Fiscal Year (FY) 2017. This CRAR also provides goals for FY 2018.

Specifically, this CRAR assures the Department of Energy Idaho Operations Office that the emergency capabilities at INL are sufficient to implement the INL Continuity of Operations Plan.

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ACRONYMS

AOF	alternate operating facility
BDBE	beyond design basis events
BEA	Battelle Energy Alliance, LLC
BIA	Business Impact Analysis
CERG	continuity emergency response group
CET	Continuity Evaluation Tool
COOP	continuity of operations
COOPSC	Continuity of Operations Subcommittee
CPO	Continuity Program Office
CRAR	Continuity Readiness Assurance Report
CSIRT	Cyber Security Incident Response Team
DOE	Department of Energy
DOE-ID	Department of Energy Idaho Operations Office
ECC	emergency control center
EDMS	Electronic Document Management System
EMI-SIG	Emergency Management Issues-Special Interest Group
EOC	emergency operations center
ESA	essential supporting activity
FEMA	Federal Emergency Management Agency
FY	Fiscal Year
GETS	Government Emergency Telecommunications Service
INL	Idaho National Laboratory
LSPT	limited scope performance test
MEF	mission essential functions
N/A	not applicable
NEF	National Essential Functions
PMEF	primary mission essential function
SNM	special nuclear material
WPS	Wireless Priority Service

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1. PROGRAM, PLANS AND PROCEDURES

The Idaho National Laboratory (INL) Continuity of Operations (COOP) program is mature and the level of readiness is commendable. The INL site is located approximately 45 miles west of Idaho Falls, Idaho, with administrative, research, and development support located in Idaho Falls, Idaho. Battelle Energy Alliance, LLC (BEA) is INL's prime contractor and is responsible for five major facilities, two nuclear testing reactors, nuclear research and development, and nuclear material storage on an 890-square-mile reservation. BEA's primary mission essential function (PMEF) at INL is to maintain the safety and security of special nuclear material.

Table 1. Continuity Plan Status.

Organization/ Mission/Site	Date of Signed Planned	Last Reviewed	Next Review	Sent to CPO
BEA/INL COOP Plan	09/16/12	02/28/17	02/28/18	03/11/16

2. RISK MANAGEMENT

INL's COOP program managed risk by evaluating perceived vulnerabilities to the PMEF, conducted tabletops with scenarios based on those vulnerabilities, worked through mitigating actions based on the scenarios and with input from the Continuity Emergency Response Group (CERG), and tested those mitigating activities and resources using limited scope performance tests (LSPT). Additionally, COOP performed a business impact analysis (BIA) for the Great American Solar Eclipse event planning at INL.

Table 2 identifies current or in-process risk management assessments.

Table 2. Current or In-process Risk Management assessments.

Organization/ Mission/Site	Assessor	Date of Assessment	Scope of Assessment
COOP/INL	Sherman Campbell/ Dan Hammer	08/02/17	BIA for Eclipse event planning
BEA/EM/INL	Sherman Campbell	08/10/17	CERG quarterly notification tests (4)
BEA/EM/INL/ (COOP Command)	Sean Finnigan	04/28/17	LSPT Response Equipment
BEA/EM/INL	Sherman Campbell/ Dan Hammer	05/31/17	LSPT Notification Process
BEA/EM/INL	Sean Finnigan	06/30/17	LSPT Essential Records
BEA/EM/INL (REC, MFC, CFA, ATR)	Dan Hammer	07/31/17	LSPT Emergency Power
BEA/EM/INL	Dan Hammer	08/31/17	LSPT Accountability Process

Table 2. (continued).

Organization/ Mission/Site	Assessor	Date of Assessment	Scope of Assessment
BEA/EM/INL	Sherman Campbell/ Dan Hammer	08/01/17	LSPT Communications
BEA/EM/INL	Sherman Campbell/ Dan Hammer	07/31/17	LSPT Emergency Food Supply
BEA/EM/INL	Dan Hammer	05/23/18	COOP Tabletop
BEA/EM/INL	Sherman Campbell	08/09/17	COOP Tabletop
BEA/EM/INL	Sherman Campbell/ Dan Hammer	09/30/17	COOP Annual Exercise
BEA/EM/INL	Sherman Campbell/ Dan Hammer	03/15/18	CERG Annual Training

3. BUDGETING AND ACQUISITION

BEA funds INL's COOP program through the Emergency Management organization. The figures shown in Table 3 are approximates and reflect personnel resources and infrastructure improvements.

Table 3 provides the budget for continuity of operations at INL including the amount spent on continuity activities, and what is projected for the upcoming fiscal year.

Table 3. Budgeting and Acquisition.

Organization/ Mission/Site	Current FY Budget	Proposed Budget Next FY	Percentage Change
BEA/INL	~ \$350K	~ \$350K	No change

4. ESSENTIAL FUNCTIONS

A partial review of organizational functions occurred during FY 2017 resulting in no requirement changes or impacts to INL's PMEF. The review is in progress. Currently, INL COOP leadership is working with INL organizations in the Mission Essential Function (MEF) identification process.

5. ORDERS OF SUCCESSION AND DELEGATIONS OF AUTHORITY

Orders of succession and delegation of authority at INL are reviewed and changes are made in real-time, as needed, as a standard operating practice. It is standard operation for all managers to delegate authority in place of their absence by completing a formal delegation of authority form identifying an employee in their line-of-succession, accepted by that employee, and then communicating that delegation to all employees and managers impacted by the change. Additionally, the CERG roster is identified in order of both authority and succession and is updated quarterly or as needed by the COOP coordinator.

6. CONTINUITY FACILITIES

Continuity facilities were reviewed for sufficiency and capability to support essential functions in FY 2017. This review was limited to specific Essential Supporting Activities (ESAs) that support INL's PMEF (e.g., assessments, tabletops, and CERG training):

- Willow Creek Building, Room 120-D, COOP Command Room – Primary Alternate Operating Facility (AOF)
- Willow Creek Building, Room 120-C, Strategic Planning Room – Primary AOF (augmented)
- INL Administration Building, Emergency Operation Center (EOC) – Alternate AOF
- Central Facilities Area, Building 609, Emergency Control Center (ECC) – Alternate AOF

There were updates completed at the alternate/devolution facilities to enhance COOP's ability to perform essential functions. Significant enhancements to the COOP Command Room's technology (e.g., hardware and software) and visualization were completed earlier this year. In addition, major enhancements to the COOP Essential Records Tool were made, providing current essential records with or without network support increasing the capability and resilience of each operating facility.

7. CONTINUITY COMMUNICATIONS

Throughout FY 2017, COOP made significant enhancements to its current satellite communications. A series of testing various satellite equipment led to COOP procuring both a nautical antenna, capable of sending and receiving voice and data on a large scale, and a satellite hotspot, capable of converting multiple users' smartphones into satellite phones sending both voice and data. These two upgrades allow for a robust, flexible, and redundant communication hub enhancing emergency communications throughout INL.

Additionally, COOP procured cell phones along with Wireless Priority Service (WPS) and Government Emergency Telecommunications Service (GETS) capabilities.

Inherently, each new piece of communication equipment has been accounted for and included in the monthly equipment assessment. This equipment was also tested under real-world challenges during the 2017 Solar Eclipse, where local communication infrastructure was saturated and challenged due to the influx of spectators.

8. ESSENTIAL RECORDS

In FY 2017, INL COOP made significant improvements to COOP essential records by developing, enhancing, and deploying the COOP Essential Records Tool. This tool allows INL COOP ease and efficiency in records management, and most importantly, access to current essential records by CERG members with or without the network. This flexibility facilitates devolution and adhoc mobilization of COOP command. The tool operates as an app and is loaded onto select laptops and computers under COOP's accountability and control. When the tool is accessed, it can connect to the Electronic Document Management System (EDMS) when the local network is present and COOP essential records can be managed and shared. When the tool is accessed and the local network is unavailable, COOP essential records can be accessed, managed, and shared from a local repository.

INL COOP has augmented its leadership team and essential records management by leveraging Emergency Management's information technologies professional to oversee and manage the use and familiarization of the tool.

9. HUMAN RESOURCES

COOP's improved access to INL's mass-notification tool (Everbridge) increased employee and Emergency Management expectations to notify INL employees of known and potentially unsafe conditions. INL's Warning Communication Center and Emergency Management organization have updated their notification policy and process. Additionally, COOP conducted INL's first all-employee accountability test using the Everbridge system, which had enhanced the COOP accountability process and policy. The test resulted in a 96% positive contact with BEA employees at INL. In addition, INL has developed and is deploying a new proprietary timecard software, policy, and process.

Telework policies remain the same with practices and supporting infrastructure becoming more resilient through building improvements, server prioritization, and relocation.

There have not been any changes to COOP's CERG structure. The only changes have been internal positions reflecting normal attrition and movement and are updated by the COOP Coordinator as needed.

10. TEST, TRAINING, AND EXERCISE PROGRAM

INL's COOP conducted three tabletops, two CERG trainings, and one annual exercise in FY 2017. The first tabletop scenario was a loss of commercial power and aided the COOP leadership team in validating trigger points in the INL COOP plan. It also aided in scenario development for a national tabletop. During this same time, INL COOP was heavily engaged with INL's National & Homeland Security cyber response assets and infrastructure protection professionals in developing a credible scenario reflecting a malware attack, impacting the national power grid resulting in a Black Sky event. The scenario was delivered by INL COOP leadership at the Emergency Management Issues-Special Interest Group (EMI-SIG) annual conference to DOE, Federal Emergency Management Agency (FEMA) leadership, and national COOP professionals from 17 national labs and 4 power administrations. The third tabletop was in preparation for the "Great American Solar Eclipse." After evaluating potential challenges from an estimated surge of eclipse tourists into the local communities and INL site, INL COOP leadership took proactive precautionary measures including a preparedness tabletop with BEA CERG and supporting activity stakeholders to ensure continuity throughout the unknown impacts of the weekend. The extra preparedness measures led to a successful continuity experience throughout the solar eclipse experience. INL COOP leadership also facilitated two CERG trainings, one with BEA CERG, and one with the Department of Energy Idaho Operations Office (DOE-ID) CERG. The training focused on a top-down perspective from National Essential Functions (NEF) to the specific continuity actions taking place at INL's most granular level. Lastly, INL COOP leadership conducted an annual exercise. The scenario was shared using INL's 3D Scenario Visualization Tool (3DSVT) and shared the final malware assault on the national power grid scenario to INL's CERG.

INL COOP also activated preparedness levels and event planning to ensure successful continuous operations at INL throughout the "Great American Solar Eclipse." Preparations began with networking and collaboration with other emergency management professionals within INL and surrounding communities. COOP then conducted a BIA for potential impacts and challenges to the COOP PMEF, deriving from a significant influx of eclipse viewers. The anticipated increase of tourists coming to the area to view totality had the potential to saturate and exhaust local infrastructure resulting in communication, power, and physical access challenges at the INL site and supporting facilities. After conducting the BIA, the CERG was assembled and a preparedness tabletop was conducted to address

points of coordination, resource needs, and concerns. COOP also heightened awareness among mission critical personnel and staffed the primary AOF 24/7 throughout the eclipse weekend, ensuring continuity before, during, and after the actual eclipse. Specific actions that were conducted and tested throughout the event by the COOP leadership team were:

- Engagement in daily situational briefings and conference calls
- Planning coordination
- Emergency communications
 - Cell phones (WPS)
 - Response radios
 - Satellite phones
 - Video Teleconference Communications
- Emergency power for human capital concerns
- Emergency food and water supply
- COOP Essential Records Tool
- Telework.

Table 10a lists all training events that took place during FY 2017 and those that are planned for FY 2018.

Table 10a. Training.

Projected/Scheduled/Actual Date of Execution (MM/DD/YY)	Type of Training (General, Leadership, COOP Team)	Scenario/Scope	Intended/Actual Participants
03/15/17	Annual CERG training	National Continuity perspective/roles and responsibilities/available resources/new resources	BEA CERG DOE-ID CERG
08/27/17	Mandatory, all-employee online training	COOP expectations and process for employee accountability	All BEA employees
04/15/17	INL COOP Accountability Process	Full accountability drill and training	All BEA employees
05/23/17	COOP Tabletop	Loss of Power/Malware attack	EMI-SIG COOP Subcommittee
08/09/17	COOP Tabletop	Eclipse Preparedness	BEA CERG
03/15/18	Annual CERG training	National Continuity perspective/roles and responsibilities/available resources/new resources	BEA CERG
08/27/18	Mandatory, all-employee online training	COOP expectations and process for employee accountability	All BEA employees
04/15/18	INL COOP Accountability Process	Full accountability drill and training	All BEA employees

Table 10a. (continued).

Projected/Scheduled/Actual Date of Execution (MM/DD/YY)	Type of Training (General, Leadership, COOP Team)	Scenario/Scope	Intended/Actual Participants
05/23/18	COOP Tabletop	Cyber-Nuclear	BEA CERG
08/09/17	COOP Tabletop	Major Infrastructure Challenge (earthquake)	BEA CERG

Table 10b lists all testing conducted during FY 2017 and testing planned for FY 2018.

Table 10b. Testing.

Projected/ Scheduled Date (MM/DD/YY)	Type of Test (Notification, Comms Equipment, Personnel Accountability)	Frequency of Tests	Success Rate (for Tests Completed)
01/18/17	Actual COOPCON increase in support of presidential inauguration	Actual	95% of entire CERG notified
08/10/17	CERG quarterly notification tests (4)	Quarterly	Average 90%+
04/28/17	LSPT Response Equipment	Annual	Effective
05/31/17	LSPT Notification Process	Annual	Effective
06/30/17	LSPT Essential Records	Annual	Effective
07/31/17	LSPT Emergency Power	Annual	Effective
07/31/17	LSPT Emergency Food Supply	Annual	Effective
08/31/17	LSPT Accountability Process	Annual	Effective
08/01/17	LSPT Communications	Annual	Effective
08/10/18	CERG quarterly notification tests (4)	Quarterly	
04/28/18	LSPT Response Equipment	Annual	
05/31/18	LSPT Notification Process	Annual	
06/30/18	LSPT Essential Records	Annual	
07/31/18	LSPT Emergency Power	Annual	
07/31/18	LSPT Emergency Food Supply	Annual	
08/31/18	LSPT Accountability Process	Annual	
08/01/18	LSPT Communications	Annual	

Table 10c lists all exercises that took place during FY 2017 and exercises planned for FY 2018.

Table 10c. FY 2017 Exercises.

Projected/ Scheduled Date (MM/DD/YY)	Type of Exercise (Training/Drill/Annual Exercise/Full Participation Exercise)	Scenario/Objectives	Intended/Actual Participants
06/20/17	Eagle Horizon 17	Devolution/Pandemic	COOP Leadership Team
09/30/17	Annual Exercise	Loss of power	BEA CERG
04/30/17	COOP Accountability Drill	Accountability Drill/Sheltered or Displaced	All INL BEA Employees
06/10/18	Annual Exercise	Collaborative Exercise with Emergency Management's Annual Exercise – Beyond Design Basis Event (BDBE)	BEA CERG/INL ERO
04/30/18	COOP Accountability Drill	Accountability Drill/Sheltered or Displaced	All INL BEA Employees

11. DEVOLUTION

INL COOP considers devolution under the context that the protection of special nuclear material (SNM) will not necessarily devolve, but command, control, and PMEF supporting activities may relocate from either the INL site or administrative facilities. In the past fiscal year, COOP has enhanced communication and response equipment at both the primary and secondary AOFs. The secondary AOF is located at the INL site, approximately fifty miles from the primary AOF located in Idaho Falls, Idaho. INL's primary and secondary AOFs have redundant and interoperable capabilities for any foreseeable COOP response needs.

12. RECONSTITUTION

INL COOP reconstitution preparedness efforts are centered on INL's PMEF and associated ESAs. Maintaining a real-time PMEF status on both safety and security provides the catalyst for seventeen specific supporting activities, infrastructure and facility recovery, and both long and short-term strategic planning. This process is reflected in COOP's CEMT checklist and is re-enforced through tabletops, training, and event planning.

13. EVALUATIONS, APPRAISALS, AND ASSESSMENTS

Results from the FY 2017 program self-assessment highlighted a need to complete a MEF identification with associated business impact analysis and risk management assessments, a work-for-others assessment, and improving the format of existing COOP plans to more fully align with the DOE Continuity Evaluation Tool (CET) 8 and Continuity Program Office (CPO) expectations.

Table 13 identifies evaluations, assessments, and self-assessments completed in FY 2017 and evaluations, assessments, and self-assessments planned for FY 2018.

Table 13. Evaluation and Assessment Schedule.

FY/Quarter	Activity	Conducting Organization
FY 2017/Q1	COOP plan PLN-4267	INL Emergency Management
FY 2017/Q2	Notification procedure MCP-3366	INL Emergency Management
FY 2017/Q3	Pandemic plan PLN-2420	INL Emergency Management
FY 2017/Q4	Contractor Requirements Document Crosswalk	INL Emergency Management
FY 2018/Q1	Leadership/MEF Identification/BIA	COOP Leadership Team
FY 2018/Q2	Staff/ Mission Critical Personnel/Risk Management	COOP Leadership Team
FY 2018/Q3	Facilities/Work-for-Others	COOP Leadership Team
FY 2018/Q4	Communications	COOP Leadership Team

14. PROGRAM GOALS AND ACHIEVEMENTS

INL's COOP has been successful throughout FY 2017 in the following areas:

- **Leadership** — The INL COOP leadership team made meaningful contributions at INL working both vertically and horizontally with cyber security and infrastructure protection professionals on real-world incident response, training, and collaborative problem solving. The team also influenced national continuity efforts by developing and facilitating a national tabletop, featuring a malware attack on the US power grid, using COOP's 3D Scenario Visualization Tool (3DSVT). Additionally, the team collaborated with Information Technology professionals on creating a proprietary COOP Essential Records Tool that relieves reliance on network support for essential records management during any emergency event. Outside of INL, COOP's leadership is also the leadership for the EMI-SIG Continuity of Operations Subcommittee (COOPSC), sponsored by NA-40. The COOPSC enhances national continuity by bringing COOP professionals from around the nation together to solve real-world problems, collaborate on efficiencies and best practices, and influence national policy.
- **Staff** — During FY 2017, CERG participation has increased significantly in testing and training. Training has become more meaningful with the utilization of the 3DSVT for tabletops and training. In addition, Cyber Security Incident Response Team (CSIRT) engagement and resource sharing with COOP has increased to an effective level, and information sharing is directly improving preparedness and response levels for both groups. Lastly, INL stakeholders are continuing to be engaged by COOP leadership in MEF identification efforts.
- **Facilities** — Functionality assessments for all COOP AOFs have been completed in FY 2017. Enhancements have been made to the primary AOF by upgrading both hardware and software in the room to improve communications and information sharing. These enhancements are benefiting multiple INL stakeholders in addition to COOP responders.
- **Communications** — Enhancing satellite communications at COOP's primary AOF and implementing WPS/GETS for COOP have been the biggest successes for INL's COOP communications this fiscal year. The enhancements increase both capability and reliability of redundant, interoperable communications at INL, and pave a pathway for future communication improvements locally and nationally.

Table 14a provides a listing of the goal achievements over the past fiscal year (FY 2017).

Table 14a. Goal Achievements over Past Fiscal Year.

Element	Goal	How Achieved	Date of Completion
COOP Response Equipment	COOP Command Room Enhancements (hardware and software upgrades for more reliable video conferencing, audio, and information sharing, replacing projectors with flat screen HD TVs and control systems that will facilitate COOP's 3D Scenario Visualization Tool (3DSVT) for training and testing)	Physical equipment installation and software programming	07/31/17
Emergency Communications	COOP Communications Infrastructure Improvements (installation of a nautical KV3 and an IridiumGo satellite antenna to facilitate connectivity and communications from the primary AOF with site operations with both voice and data)	Physical equipment installation and software programming	09/29/17

Tables 14b and 14c identify the short and long-term goals for the next fiscal year (FY 2018).

Table 14b. Short Term Goals.

Element	Goal	Milestones to Achievement	Estimated Completion Date
FY 2018/Q1	Improve COOP plan format	CET-8	12/12/17
FY 2018/Q1	MEF Identification	TEM-312	12/12/17
FY 2018/Q2	Self-Assessment	COOP Leadership Team	04/01/18
FY 2018/Q3	Operational Assessment	LSPTs	07/01/18
FY 2018/Q4	BDBE with EM	COOP/Emergency Management	09/15/18

Table 14c. Long Term Goals.

Element	Goal	Milestones to Achievement	Estimated Completion Date
FY 2018	Incorporate Business Continuity into COOP Program	INL Stakeholders/COOP	FY 2020
FY 2018	Increase satellite communication connectivity throughout INL operational areas	INL Pro Force/EM/COOP	FY 2021

15. STATUS OF EXTERNAL OVERSIGHT CORRECTIVE ACTIONS

There are no overdue emergency management corrective actions identified at this time

Table 15. Status of Outstanding and Overdue Corrective Actions.

Corrective Action (Issue #/Title)	Status	Original Due Date	Projected Completion
None	N/A	N/A	N/A

16. PROGRAMMATIC ISSUES

Currently, there are no programmatic issues identified.