

RUS Engineering Seminar 2006

Hoosier Energy REC VRA and ERP Development

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Hoosier Energy REC

Hoosier Energy Facilities



Hoosier Energy REC

Generation Assets

- Two coal fired generating stations with a combined capacity of 1270 MW
- Two gas fired combustion turbine generating stations with a combined capacity of 432 MW

Hoosier Energy REC

Power Delivery Assets

- 1400 miles of transmission lines from 69kV to 345kV
- 14 primary transmission substations
- 250 distribution substations along with numerous metering points



Common Industry Emergency Plans

- Emergency Action Plan
- Storm Response Plan
- Mutual Aid Agreement

- Emergency Restoration Plan (ERP)



Examples of Emergencies

- **South Central Indiana REMC**
Severe weather
- **City of Bloomington Utilities**
Fire
- **South Central Indiana REMC**
Power outage

RUS Bulletin 1730B-2

UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Utilities Service
Bulletin 1730B-2

SUBJECT: Guide for Electric System Emergency Restoration Plan

TO: RUS Electric Supervisors and RUS Electric Staff

EFFECTIVE DATE: Date of Approval

OFFICE OF PRIMARY INTEREST: Electric Staff Division, Electric Program

FEILING INSTRUCTIONS: This is a new bulletin and file with 7 CFR Part 1730.

AVAILABILITY: This bulletin is available on the RUS electric website at:
<http://www.rusda.gov/electric/bulletins.htm>

PURPOSE: This guide bulletin contains information to assist RUS electric supervisors in the development of a vulnerability and risk assessment (VRA) and an Emergency Restoration Plan (ERP). This guide bulletin provides references to existing resources and suggested practices with respect to security of critical electric infrastructure.


Brian H. Neuber
Assistant Administrator, Electric Program

January 7, 2005
Date

RUS Implementation Schedule

- Vulnerability and Risk Assessment completed and certification to RUS on or before **July 12, 2005**
- Emergency Restoration Plan completed and certification to RUS on or before **January 12, 2006**
- Exercise of Emergency Restoration Plan completed on or before **January 12, 2007**



Resources for Emergency Planning

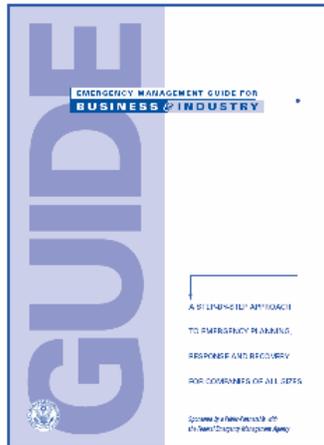
- **Emergency Management Guide for Business & Industry**
<http://www.fema.gov/library/bizindex.shtm>
- **RUS Bulletin 1730B-2**
<http://www.usda.gov/rus/electric/pubs/1730b-2.pdf>
- **Security Guidelines for the Electricity Sector: Version 1.0**
<http://www.nerc.com/~filez/cipfiles.html>



Resources for Emergency Planning

- **Disaster Recovery Journal**
<http://www.drj.com>
- **Disaster-Resource. COM**
<http://www.disaster-resource.com>

Emergency Management Guide for Business & Industry



September 11, 2001





Immediate Actions After 9-11

- Establishment of a Corporate Security Committee
- Senior Management supplied the committee with necessary resources to carry out their responsibilities



Corporate Security Committee

Member make-up

- Power Delivery
- Power Production
- Information Systems
- Corporate Communications
- Safety, Training & Facilities
- Co-chairs are Vice Presidents of these divisions



Corporate Security Committee

Actions Taken

- Identified available industry resources for information and assistance concerning security matters
- Contracted for vulnerability assessments
- Identified critical facilities
- Developed a quick hit list



Corporate Security Committee

Identify critical facilities

- The committee used procedures outlined in the NERC Security Guidelines for the Electricity Sector to determine Hoosier Energy's critical facilities

NERC Definition of Critical Assets

- “Those facilities, systems, and equipment which, if destroyed, damaged, degraded, or otherwise rendered unavailable, would have a significant impact on the ability to serve large quantities of customers for an extended period of time, would have a detrimental impact on the reliability or operability of the electric grid, or would cause significant risk to the public health and safety.”

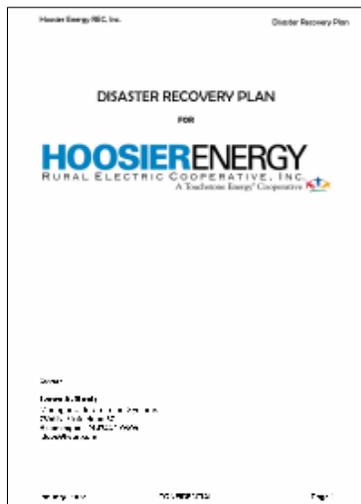
Response to Assessments

- The Security Committee considered information revealed during the vulnerability assessments and developed various plans to address these issues. An action item register was started noting assignments and deadlines

Security Committee Action Items

Corporate Security Committee (CSC)					
ACTION ITEM REGISTER					
A.I.#	Date Given	Task Description	Assigned To	Assigned/Actual Completion Date	Status (A)Active (I)Inactive (C)Complete
1	10/09/01	Prepare Draft Purpose Statement	Chris, Ian Paul R	10/31/01	C
2	10/09/01	Engage security consultant to do immediate assessment of plants	Fred, Ian, Jerry	10/31/01	C
3	10/09/01	Engage security consultant to do immediate assessment of Bloomington Facilities & Transmission	Paul B, Bob, Phil	10/31/01	C
4	10/09/01	Further assessment of facilities to follow immediate assessment. Merom focus on controlling access/egress	F. Southworth	1/21/2003	C
5	10/09/01	Establish back up control center at Worthington	Darrell, Dave, Paul B & Bob	12/31/01	C
6	10/09/01	Increase guard service at Merom & establish day guard service at Ratts	Fred, Ian, Jerry	10/22/01	C
7	10/09/01	Review & establish delivery policy for each location	TBD	PI, FS, IB	C
8	10/09/01	Employee ID Cards & Visitor Passes	Bob	11/16/01	C
9	10/09/01	Communication Memo to employees advising them of actions taken & procedures to be followed	Dale, Paul B, Paul R	10/12/01	C
10	10/09/01	Install Control Access Doors for Selected Bloomington Facilities, & Gate to Garage Area	Bob, Paul B, Darrell & Phil	11/30/2001	C
11	10/09/01	Plant Recommendations for implementing Control Access Door measures	Fred, Ian, Jerry	10/19/01	C
12	10/09/01	HQ Main Entrance - install monitor & control at reception desk	Paul B & Phil	ASAP	C
13	10/09/01	Investigate availability of outside resources, e.g. NERC, NRECA, DOE, NRC, EPRI, etc.	Paul B & Chris	TBD	C
14	10/09/01	Monitor and make recommendations on how to influence and/or respond to public policy initiatives	Randy Haymaker	TBD	Ongoing
15	10/09/01	Review & Establish IS protection & recovery plan	Paul B & Lance Davis	TBD	C
16	10/09/01	Investigate need for providing air travel guidelines to employees	Paul B & Chris	TBD	C
17	10/09/01	Identify Local FBI Contact Persons	Bob, Fred	ASAP	C
18	10/9/01	Explore feasibility of working with Williams to establish security measures and establishment of back up control capability at Worthington Primary	Dave, Bob Hill	TBD	C
19	10/9/01	Establish cost tracking mechanism and prepare cost estimates for implementing recommendations	Paul R, Arza, Tamm	ASAP	C
20	10/31/01	Develop training resources for HE work force	Paul B & Bob R	ASAP	C
21	10/31/01	Determine CRN/NRECA interest in work force training	Paul R	11/16/01	C
22	10/31/01	Evaluate & recommend implementation of CGC recommendations for HE facilities	Plant: FS, IB & JS, Blunt & Other: BK, PJ & DG	11/16/01	C
23	10/31/01	Prepare Administrative Bulletin for employee ID badge procedures	Bob R & Roger Owens	11/16/01	C

IS Disaster Recovery Plan



Importance of IS Recovery Plan

- Identified Critical Business Activities by conducting a Business Impact Analysis
- Established methodology to restore the business network and critical applications
- Completed in 2002
- Used as a model for ERP

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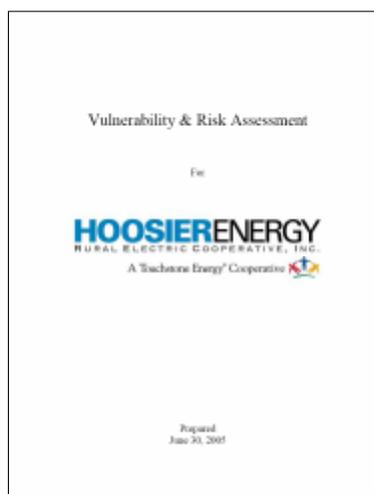

Brian E. Nealey
Account Administrator, Electric Program

January 7, 2005
Date

Developing an Emergency Restoration Plan

- Establish a planning team
- Perform Vulnerability/Risk Analysis
- Develop the plan
- Review and modify plan
- Seek plan approval
- Implement the plan
- Exercise plan

Vulnerability & Risk Assessment



Vulnerability & Risk Assessment

- Critical facilities & assets
- Business operational assets
- Exposure & possible mitigation methodology

RUS Definition of Critical Assets

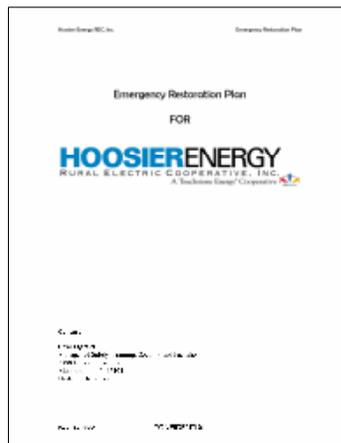
“ Those facilities or *business functions* that if damaged or destroyed would cause significant loss of life, risk to public health, negatively impact the ability to serve a large portion of its customers for an extended period of time, have a detrimental impact on the reliability or operability of the energy grid, or impact continuity of business to the point where the repayment of RUS loan funds are jeopardized.”

Vulnerability Analysis Chart
Location: Worthington Primary

(The lower the total the better)

Type of Emergency	Probability High 5 + + 1 Low	Impacts			Resources		Total
		High Impact Human	5 + + 1 Low Property	Impact Business	Weak 5 + + 1 Strong Internal	External	
Robbery	3	1	1	1	4	2	12
Earthquake	1	1	3	3	4	4	16
Technical Staff	3	1	3	3	3	5	18
Typhoid Winds	3	1	3	3	3	5	17
Gas System	3	1	2	3	3	5	17
Tornado	3	1	3	3	4	5	19
Police Catastrophe	1	1	3	3	5	4	21
City - Major	4	1	3	3	3	3	18
Fire - Minor	3	1	2	3	3	2	15
Telecom - Failure Data	3	1	1	3	2	2	11
Telecom - Failure Voice	3	1	1	1	2	2	9
HAZMAT - External	1	1	1	3	4	2	11
Death Threat	1	1	1	1	2	2	8
Vandalism	2	1	2	2	2	3	12
Explosion	4	1	3	3	3	3	17

Emergency Restoration Plan





Goals of ERP

Establish recovery sites within 1 to 24 hours

- Use Hot Sites
- Reciprocal use agreements
- Purchase equipment and supplies locally
- Preplanning
- Dedicated resources are made available
- Pre-installed basic infrastructure



Goals of ERP

Establish interim sites within 7 days

- Purchase equipment and supplies locally
- Multiple interim sites are available
- Dedicated resources are made available
- Pre-installed basic infrastructure

Emergency Restoration Plan (ERP)

RUS Required Elements

- List of key contact emergency telephone numbers.
- List of key utility management and other personnel
- Procedure for the recovery from loss of electricity to the headquarters

Emergency Restoration Plan (ERP)

RUS Required Elements

- A business continuity section describing a plan to maintain or re-establish business operations
- Other items identified as essential for inclusion in the ERP

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What's Next?

- Train the balance of employees on the plan
- Complete the infrastructure for the plan
- Design the plan exercise
- Be prepared to modify the plan
- Maintain the plan current

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