



gai consultants

Emergency Action Plan (EAP) Training and Table Top Exercise

Surface Impoundment
Richmond Power and Light Company
Whitewater Valley Station

December 2020

Presentation Contents

- **Safety**
- **Introduction to the Surface Impoundment**
- **What is an Emergency Action Plan?**
- **Basic Assumptions**
- **Surface Impoundment Emergency Action Plan**
- **Table Top Exercise**



Safety Topic



Health and Safety

- Confined Space Awareness

- A confined space must meet all three of the following criteria:

- Limited Openings for Entry and Exit. A confined space may be difficult to enter and perform repair work or general maintenance. If something goes wrong while you are inside a confined space, escape/rescue may be difficult. Just because a work area has more than one way of escape does not necessarily mean it is not a confined space. If the space has limited ways to get in and out, it could be a confined space. An open-top sump or tank would have limited openings for entry and exit.
 - The Space is not Intended for Continuous Human Occupancy. This means that the space was designed to hold something other than people. Examples include tanks, sumps, and manholes.
 - The Space is Large Enough for You to Enter and Conduct Work. If you cannot fit your body into the space, you cannot become trapped inside.



Whitewater Valley Power Station Surface Impoundment



Surface Impoundment

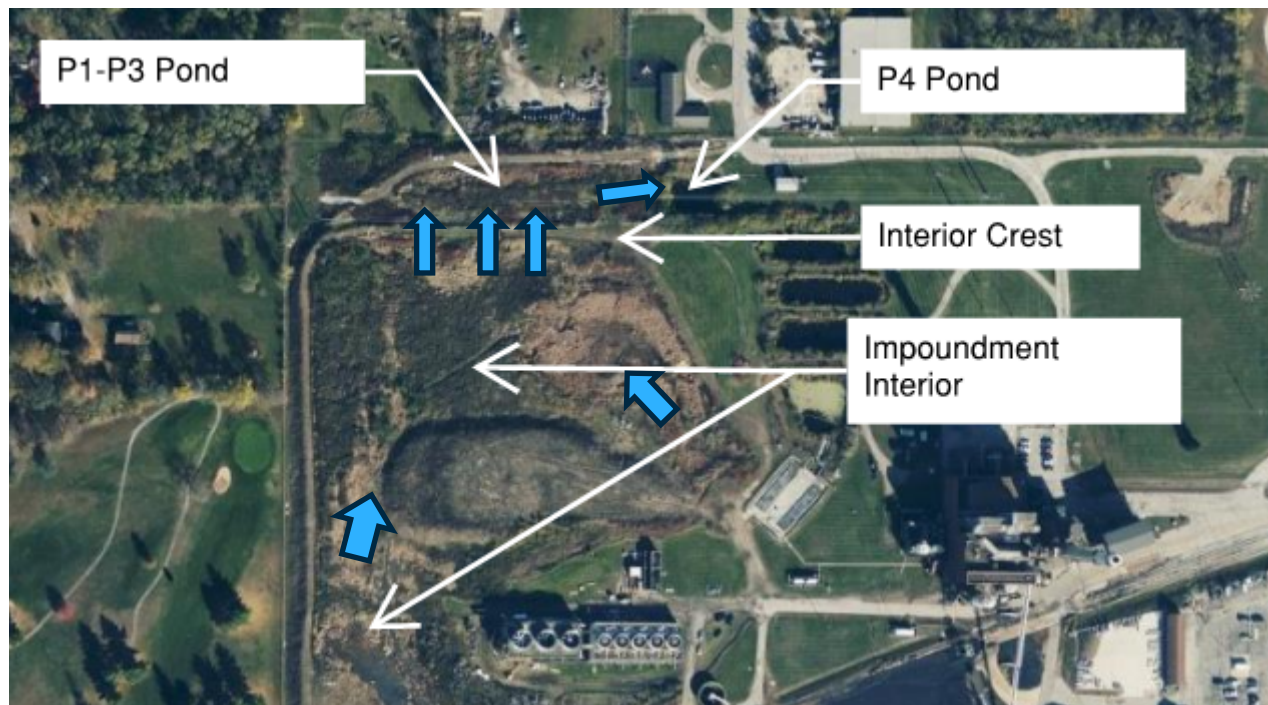


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Surface Impoundment

- Historically used to store Coal Combustion Residuals (CCR)
- Regulated as a CCR surface impoundment under the EPA's CCR Rule
- Currently inactive
- Design storm is the 1,000-year 24-hour storm (7.26 inches of rain in 24 hours). This has a 0.1% chance of occurring in a given year.

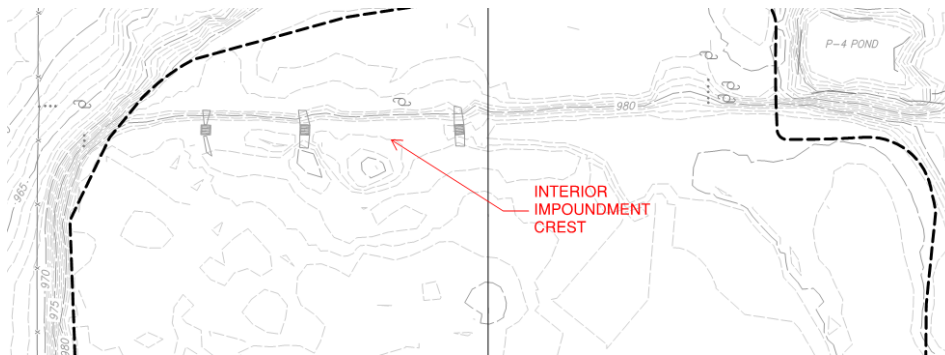
Surface Impoundment



Stormwater Drainage

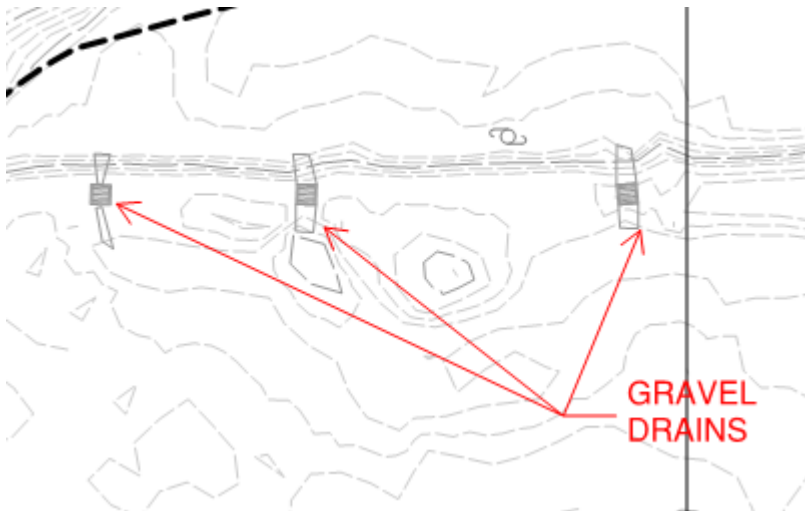
Surface Impoundment

- Interior Impoundment Crest Elevation = 983 feet



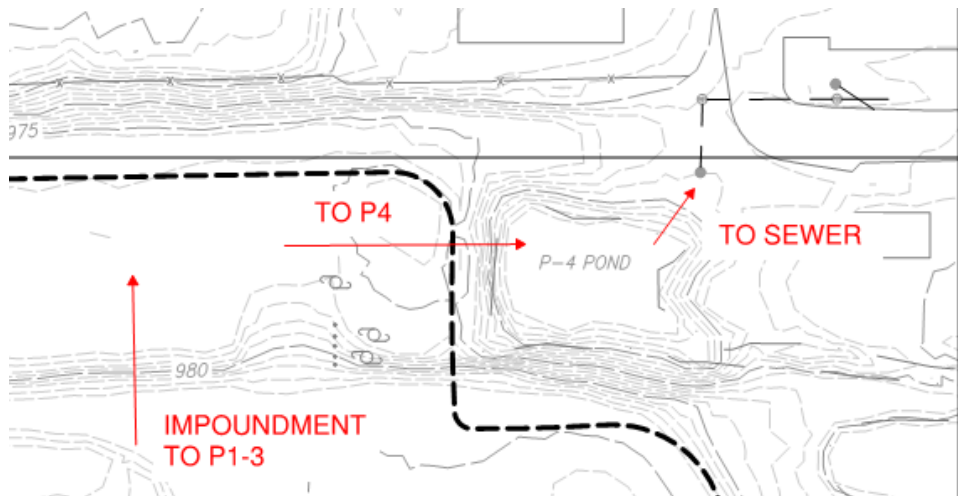
Surface Impoundment

- Impoundment drains to receiving pond (Pond P1-3) via gravel drains



Surface Impoundment

- Discharges eventually goes to the Sanitary Sewer



Emergency Action Plan (EAP)



EAP

- Formal Document
- Required by the U.S. Environmental Protection Agency's CCR Rule
- Identifies potential emergency conditions at a CCR Surface Impoundment
 - Accident at an impoundment or failure of an impoundment
 - Impending flood condition

EAP

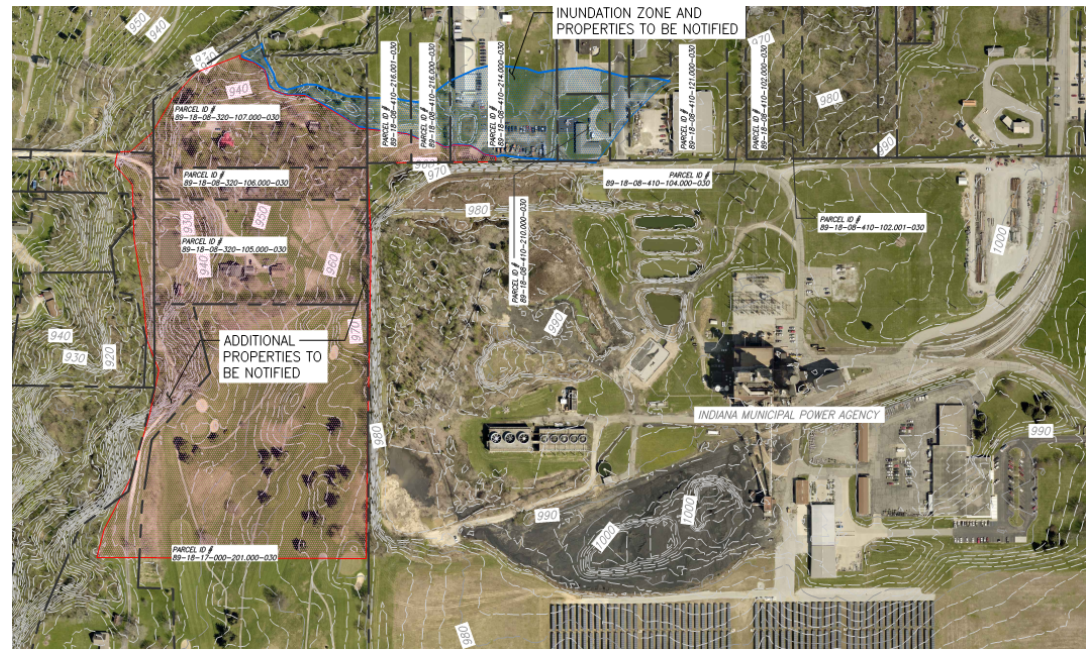
- Specifies procedures to:
 - Mitigate problems at an impoundment
 - Provide early notification to responsible parties
- Provides information for local emergency managers
- Annual face-to-face EAP meetings or exercises are required as part of the CCR Rule [Section 257.73(a)(3)]

EAP

■ Inundation mapping

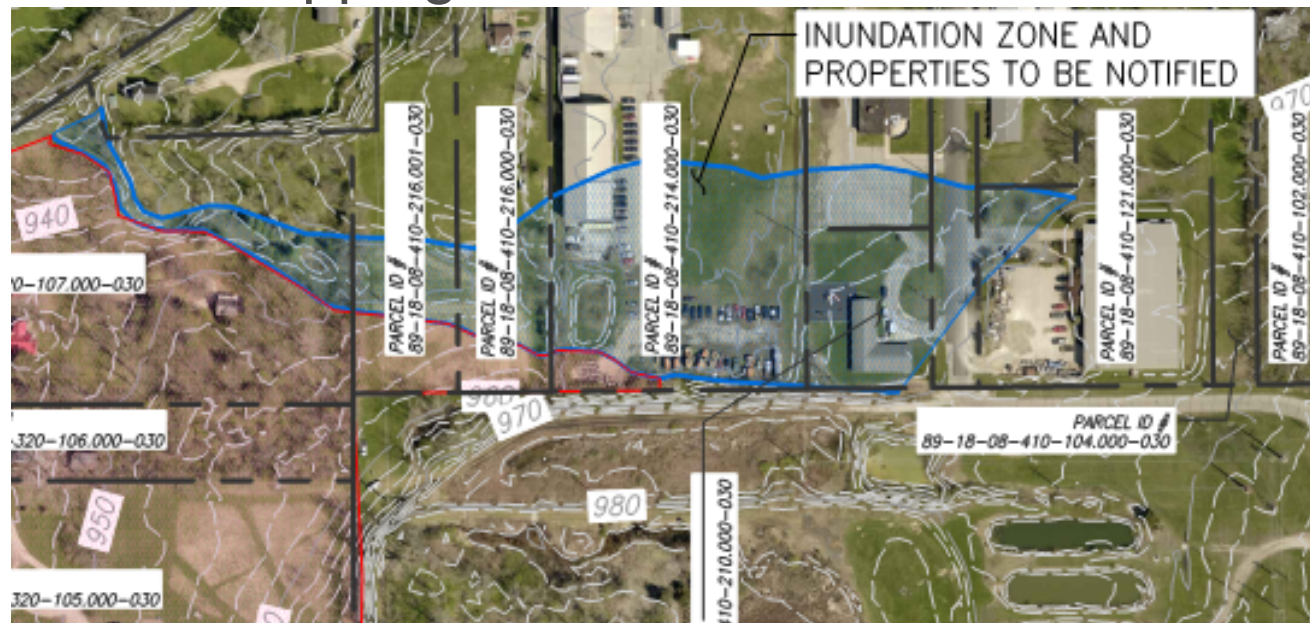
NOTES:

1. THE INFORMATION CONTAINED IN THIS MAP IS PREPARED FOR USE IN NOTIFICATION OF DOWNSTREAM PROPERTY OWNERS BY EMERGENCY MANAGEMENT PERSONNEL. THIS INFORMATION SHOULD ONLY BE USED AS A GUIDE FOR ESTABLISHING EVACUATION ZONES. ACTUAL AREAS INUNDATED WILL DEPEND ON ACTUAL FAILURE CONDITIONS AND MAY DIFFER FROM AREAS SHOWN ON THE MAP. NO LIKELIHOOD OF A FAILURE OF THE RICHMOND POWER AND LIGHT SURFACE IMPOUNDMENT IS IMPLIED.
2. THE DESIGN EVENT FOR THE RICHMOND POWER AND LIGHT SURFACE IMPOUNDMENT IS THE 1000-YEAR, 24-HOUR STORM EVENT.
3. MAP SOURCES INCLUDE GIS IMAGERY AND 10 FOOT CONTOUR SURVEY DATA. INUNDATION BOUNDARIES ARE INTERPRETED.
4. THE MAXIMUM WATER LEVEL SHOWN IS THE RESULT OF A COMBINATION OF A 1000-YEAR, 24-HOUR STORM EVENT IN THE SURFACE IMPOUNDMENT WATERSHED, AS WELL AS THE STORMWATER MANAGEMENT POND WATERSHED AND ADJACENT SURFACE WATER RUNOFF COINCIDING WITH A FAILURE EVENT. THIS ELEVATION IS ASSUMED TO VARY LINEARLY BETWEEN CONSECUTIVE CROSS SECTION LOCATIONS.
5. THE INUNDATION BOUNDARIES, WATER SURFACE ELEVATIONS, AND MAPPING OF FLOODED AREAS ARE APPROXIMATE AND SUBJECT TO THE ASSUMPTIONS, METHODS, AND PROCEDURES USED TO SIMULATE HYPOTHETICAL EMBANKMENT BREACH CONDITIONS.



EAP

- Inundation mapping - North



EAP

- Inundation mapping - West



EAP Review

- Responsible parties – Review Section 1 (Basic Information) to verify that the information is accurate and up-to-date

EAP Review

■ Section 1 – Responsible Parties

Name of Structure:	CCR Disposal Surface Impoundment
State ID No.:	89-UP-04
Hazard Potential Classification:	Significant (as defined in the CCR Rule)
Owner:	Richmond Power and Light
Address:	2000 U.S. 27 South, P.O. Box 908, Richmond, IN 47374
Tel:	765.973.7200
Responsible Individual:	Randall Baker / General Manager
Tel:	765.969.2746
Line Superintendent:	Aaron Haller
Tel:	765.973.7200
	Cell 765.969.0609
Chief Engineer:	Skip Moore
Tel:	765.914.7548
Buildings and Grounds:	Tony Foster / Assistant General Manager
Tel:	765.993.5605

EAP Review

- Section 1 – Responsible Parties

Wayne County Emergency Management Coordinator (WCEMC):	Matthew Cain / Director
Address:	401 East Main Street, Richmond, IN 47374
Tel:	765.973.9399
Richmond Police Department:	Mike Britt / Chief of Police
Address:	50 N 5 th Street, Richmond, IN 47374
Tel:	765.983.7247
Wayne County Fire and EMS Department:	Jerry Purcell / Fire Chief
Address:	101 South 5 th Street, Richmond, IN 47374
Tel:	765.983.7266 / 765.962.1808

EAP Review

- Step 1 – Emergency Condition Detection
- Step 2 – Emergency Level
- Step 3 – Notification and Communication
- Step 4 – Expected Action
- Step 5 – Termination and Follow Up

EAP Review

- Step 1 – Emergency Condition Detection
 - Water Levels in the Impoundment or downgradient stormwater management pond
 - Rainfall Depth
 - Seepage, Cracks, etc. as seen in the Impoundment
 - Other conditions documented in Section 4.5 of the EAP

EAP Review

- Step 2 – Emergency Level
 - Stage 1 – Non-emergency. Failure is unlikely, and storm development or other conditions are slow in advancing to a potential emergency.
 - Stage 2 – Potential Failure. Storm development or other conditions are quickly accelerating.
 - Stage 3 – Imminent Failure.

EAP Review

- Step 3 – Notification and Communication (Stage 1)
 - Stage 1 – Responsible Individual will notify
 - Richmond Power and Light
 - Indiana Municipal Power Agency

EAP Review

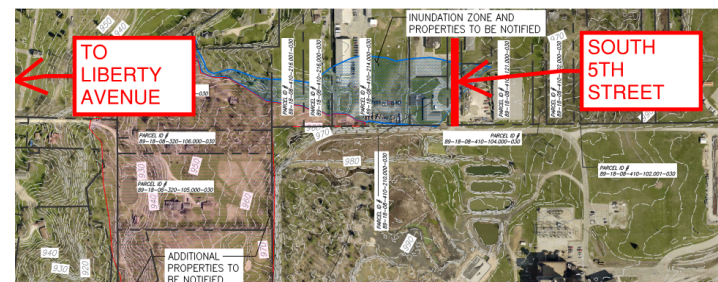
- Step 3 – Notification and Communication (Stage 2 and 3)
 - Responsible Individual will notify
 - Richmond Power and Light
 - Indiana Municipal Power Agency
 - Wayne County Emergency Management Coordinator
 - Indiana Department of Environmental Management
 - Wayne County Emergency Management Coordinator will notify
 - Richmond Police Department
 - Wayne County Fire and EMS

EAP Review

- Step 4 – Expected Action (Stage 1)
 - Responsible Individual will initiate surveillance

EAP Review

- Step 4 – Expected Action (Stages 2 and 3)
 - Responsible Individual will initiate surveillance
 - Richmond Police and Wayne County Fire and EMS will
 - Notify residences and businesses
 - Stage 3 only, Richmond Police and Wayne County Fire and EMS will
 - Close South 5th Street
 - Monitor Liberty Avenue



EAP Review

- Step 5 – Termination and Follow Up
 - Stage 1 conditions can be terminated by the Responsible Individual once Stage 1 conditions are no longer met
 - Stage 2 and 3 conditions are to be terminated by the Wayne County Emergency Management Coordinator
 - Follow-up will include discussions of the incident to determine EAP strengths and weaknesses

Table Top Exercise

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Table Top Exercise

- Provides a situation that could happen
- Discuss actions that need to be taken
- Play the roles as you would in an actual emergency

Table Top Exercise

Scenario 1

- Yesterday when you arrived work (8 AM) it was raining. Today at lunch (noon) it is still raining. The Wilmington, Ohio rain gage shows that 3.3 inches of rain have fallen.
- What needs to be done, according to the EAP? Discuss and roleplay before moving to the next slide.

Table Top Exercise

Scenario 1 continued

- Greater than 24 hours of rainfall triggers an emergency condition. A rainfall exceeding 7.26 inches in 24 hours or less creates a Stage 2 Condition. Since the rainfall is lower than this, a Stage 1 Emergency Condition occurs.
- All participants should have implemented Stage 1 activities.

Table Top Exercise

Scenario 2

- Yesterday when you left work (5 PM) it was raining. Today at lunch (noon) it is still raining. The Wilmington, Ohio rain gage shows that 7.50 inches of rain have fallen.
- What needs to be done, according to the EAP? Discuss and roleplay before moving to the next slide.

Table Top Exercise

Scenario 2 continued

- Less than 24 hours of rainfall does not automatically trigger an emergency condition. Since the rainfall was greater than 7.26 inches, however, a Stage 2 Emergency Condition occurs.
- All participants should have implemented Stage 2 activities.

Table Top Exercise

Scenario 3

- A lot of rain fell last week and then it stopped for 3 days; water levels built up in the Impoundment, however. It has since been raining steadily for greater than 2 days. The total accumulated rainfall at the Wilmington, Ohio rain gage shows that 4.30 inches of rain have fallen. Water levels in the Impoundment are now beginning to overtop the north embankments.
- What needs to be done, according to the EAP? Discuss and roleplay before moving to the next slide.

Table Top Exercise

Scenario 3 continued

- The rainfall was greater than 24 hours but less than 7.26 inches, which would normally trigger a Stage 1 Emergency Condition. However, the overtopping of the north embankment automatically triggers Stage 3.
- All participants should have implemented Stage 3 activities.

Table Top Exercise

Scenario 4

- Routine Impoundment inspections revealed a slow seep on the embankment. The discharge is clear and is not increasing.
- What needs to be done, according to the EAP? Discuss and roleplay before moving to the next slide.

Table Top Exercise

Scenario 4 continued

- A seep with discharge that is not cloudy and not increasing in flow rate triggers a Stage 1 Emergency Condition.
- All participants should have implemented Stage 1 activities.

Table Top Exercise

Scenario 5

- A Routine Impoundment inspection shows a small slide in the western embankment. The next inspection shows that, the slide is slightly larger.
- What needs to be done, according to the EAP? Discuss and roleplay before moving to the next slide.

Table Top Exercise

Scenario 5 continued

- This would be considered visual movement of the embankment slope (not sudden or rapidly progressing) and would be classified as a Stage 1 Emergency Condition.
- All participants should have implemented Stage 1 activities.

Conclusion

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Conclusion

- Be aware that the Whitewater Valley Power Station Surface Impoundment has an Emergency Action Plan with required actions.
- Note that the EAP does not imply that the Impoundment is unsafe or will fail.
- Above all, during an emergency event BE SAFE!!!

Conclusion

THANK YOU FOR ATTENDING