
Dynegy Midwest Generation, LLC

BALDWIN POWER PLANT
CITY OF BALDWIN, RANDOLPH COUNTY, ILLINOIS

Emergency Action Plan (EAP)

40 C.F.R. § 257.73(a)(3); 35 Ill. Adm. Code 845.520
Coal Combustion Residual (CCR) Impoundments
& Related Facilities

- Fly Ash Pond System (NID # IL50720) (IEPA # W1578510001-01, W1578510001-02, and W1578510001-03)
- Bottom Ash Pond (NID # IL50721) (IEPA # W1578510001-06)

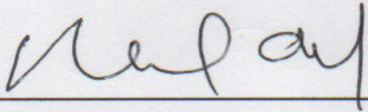
Revision Date: September 15, 2021

Qualified Professional Engineer Certification; Emergency Action Plan for the Baldwin Power Plant Fly Ash Pond System and Bottom Ash Pond

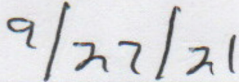
In accordance with 40 C.F.R. § 257.73(a)(3)(iv) and 35 Ill. Adm. Code 845.520(e), the owner or operator of a CCR unit that is required to prepare a written Emergency Action Plan under 40 C.F.R. § 257.73(a)(3) and 35 Ill. Adm. Code 845.520(a) must obtain a certification from a qualified professional engineer stating that the written Emergency Action Plan meets the requirements of 40 C.F.R. § 257.73(a)(3) and 35 Ill. Adm. Code 845.520.

I, Phil Morris, being a Professional Engineer in good standing in the State of Illinois, do hereby certify, to the best of my knowledge, information, and belief that:

1. the information contained in this Emergency Action Plan was prepared in accordance with the accepted practice of engineering; and
2. this Emergency Action Plan meets the requirements of 40 C.F.R. § 257.73(a)(3) and 35 Ill. Adm. Code 845.520.



Phil Morris
Senior Director, Corporate Environmental



Date



**BALDWIN POWER PLANT
EMERGENCY ACTION PLAN
CCR IMPOUNDMENTS & RELATED FACILITIES**

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**BALDWIN POWER PLANT
EMERGENCY ACTION PLAN
CCR IMPOUNDMENTS & RELATED FACILITIES**

PART I – EAP NARRATIVE AND EXHIBITS

1 STATEMENT OF PURPOSE

The Baldwin Power Plant (Baldwin) is located east of the Kaskaskia River near the City of Baldwin in Randolph County, Illinois. The location is shown in Figure 1-1. Baldwin is a coal-fired electricity producing power plant owned and operated by Dynegy Midwest Generation, LLC (DMG). This Emergency Action Plan (EAP) was prepared in accordance with 40 C.F.R. § 257.73(a)(3) and 35 Ill. Adm. Code 845.520 and covers the following Coal Combustion Residual (CCR) surface impoundments located at the site:

- Fly Ash Pond System (NID # IL 50720) (IEPA # W1578510001-01, W1578510001-02, and W1578510001-03), consisting of the following:
 - Old East Fly Ash Pond (Capped/Closed)
 - East Fly Ash Pond (Capped/Closed)
 - West Fly Ash Pond (Capped/Closed)
- Bottom Ash Pond (NID # IL50721) (IEPA # W1578510001-06)

The locations of these impoundments are shown in Figure 1-2. Section 6 of this EAP includes a description of each impoundment.

The purpose of this Emergency Action Plan (EAP) is to:

1. Safeguard the lives, as well as to reduce property damage, of citizens living within potential downstream flood inundation areas of CCR impoundments and related facilities at Baldwin.
2. Define the events or circumstances involving the CCR impoundments and related facilities at Baldwin that pose a safety hazard or emergency and how to identify those conditions.
3. Define responsible persons, their responsibilities, and notification procedures in the event of a safety emergency.
4. Provide contact information of emergency responders.
5. Identify emergency actions in the event of a potential or imminent failure of the impoundments.
6. Identify the downstream area that would be affected by failure of the impoundments.
7. Provide for effective facility surveillance, prompt notification to local Emergency Management Agencies, citizen warning and notification responses, and preparation should an emergency occur.

Information provided by DMG was utilized and relied upon in preparation of this Emergency Action Plan.



Project Location: 175605019
 Latitude: 38.204679
 Longitude: -89.855052
 Randolph County, Illinois
 Prepared by EC on 2017-03-29
 Technical Review by Ison 2017-03-30
 Independent Review by MM on 2017-03-30

Client/Project:
 Baldwin Power Station
 Emergency Action Plan

Figure No.

1-1

Title

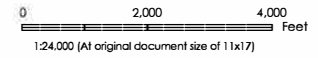
Location Map

Notes
 1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
 2. Basemap Source: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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Legend
 CCR Surface Impoundment Boundary



Stantec **DYNEGY**

Project Location: 175605019
 Latitude: 38.204579 Prepared by EC on 2017-03-29
 Longitude: -89.855052 Technical Review by IS on 2017-03-30
 Randolph County, Illinois Independent Review by MMon 2017-03-30

Client/Project: Baldwin Power Station
 Emergency Action Plan

Figure No. **1-2**

Title: **CCR Impoundments**

Notes
 1. Coordinate Sys rem: WGS 1984 Web Mercator Auxiliary Sphere
 2. Basemap Source: USDA-FSA APFO Aerial Photography Field Office, Illinois State Geological Survey
 3. Impoundment Boundaries Provided by Client (Dated 9/9/2015)

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2 COMMUNICATION

To facilitate understanding among everyone involved in implementing this EAP, four response levels are used to identify the condition of an impoundment. These are:

Response Levels:

- **Level 0:** Normal conditions and routine operations, including surveillance and initial investigation of unusual conditions and effects of storm events.
- **Level 1:** Potentially hazardous condition exists, requiring investigation and possible corrective action.
- **Level 2:** Potential failure situation is developing; possible mode of failure is being assessed; corrective measures are underway.
- **Level 3:** Failure is occurring or is imminent, public protective actions are required.

The 4-Step Incident Response Process is outlined in Figure 2-1. This should be used in conjunction with the Notification Flowchart (Figure 2-2) and EAP Decision Tree (Figure 2-2). Section 4 provides guidance tables for determining Response Levels and a table providing emergency actions to be taken given various situations. Table 2-1 lists the emergency responders.

Figure 2-1. Summary/Sequence of Tasks 4-Step Incident Response Process

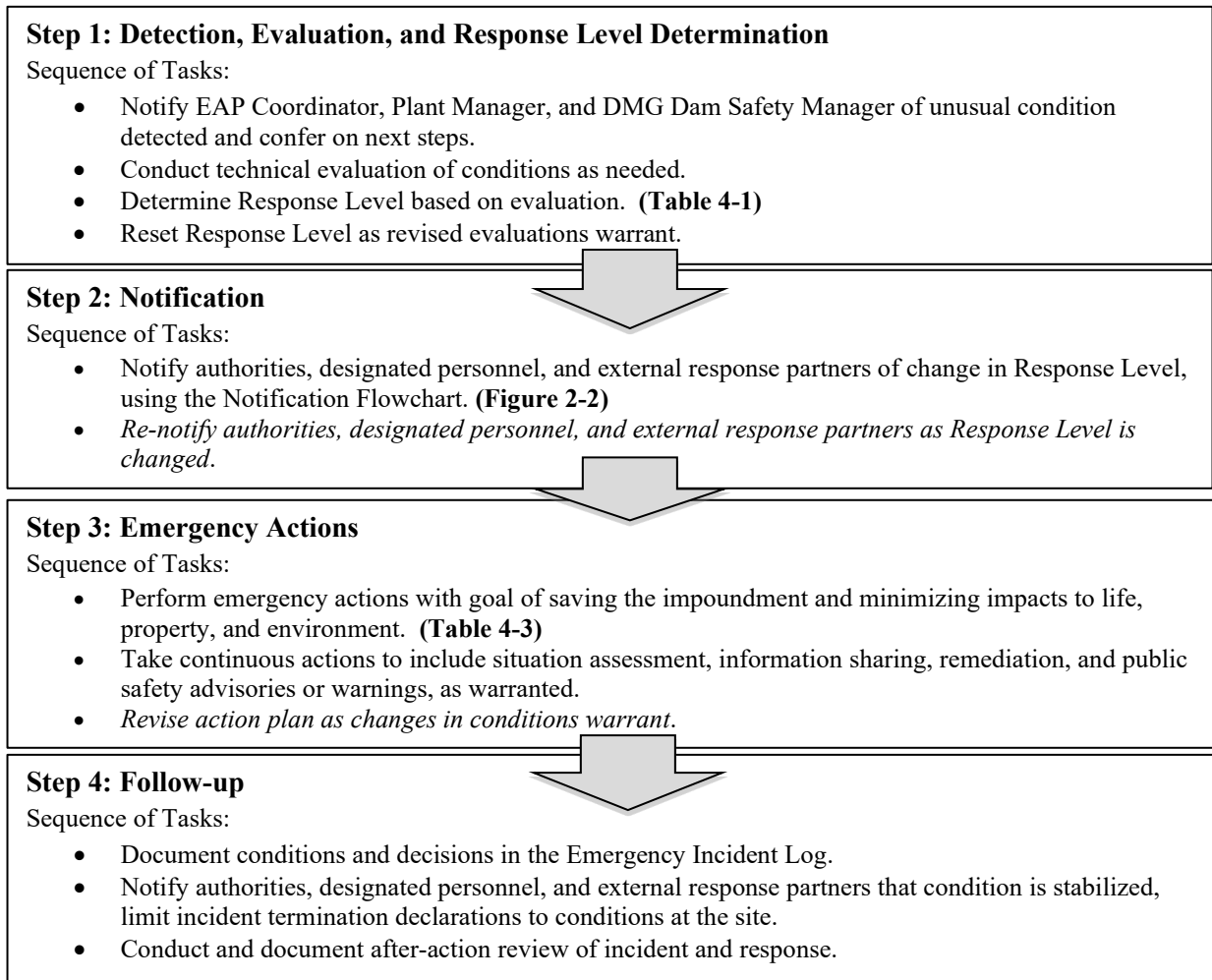


Figure 2-2. Notification Flowchart

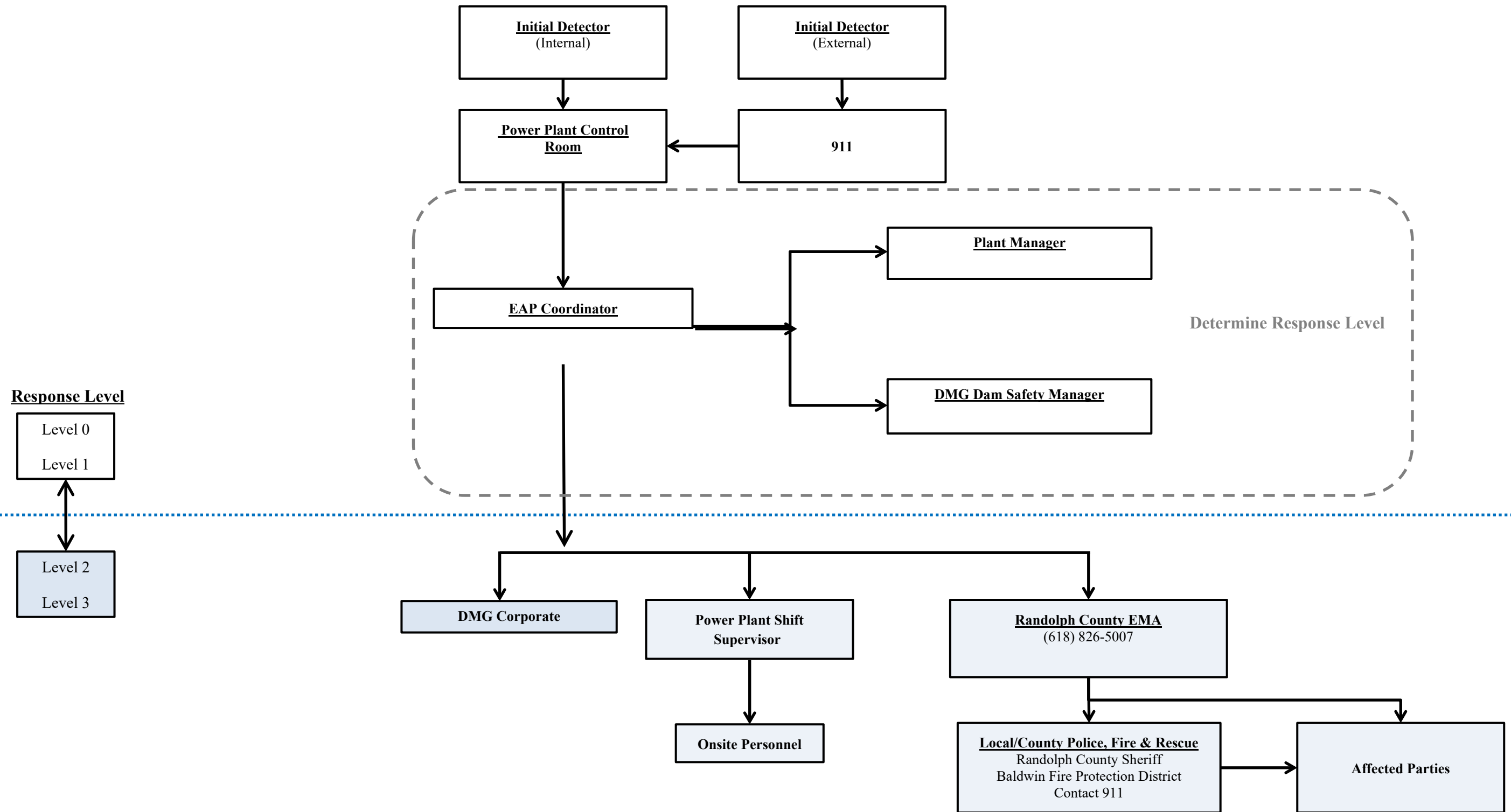


Figure 2-3. EAP Response Process Decision Tree

Note: At any given below, if failure is imminent or actively occurring **CALL 911 IMMEDIATELY** to notify emergency responders and then continue with process afterwards.

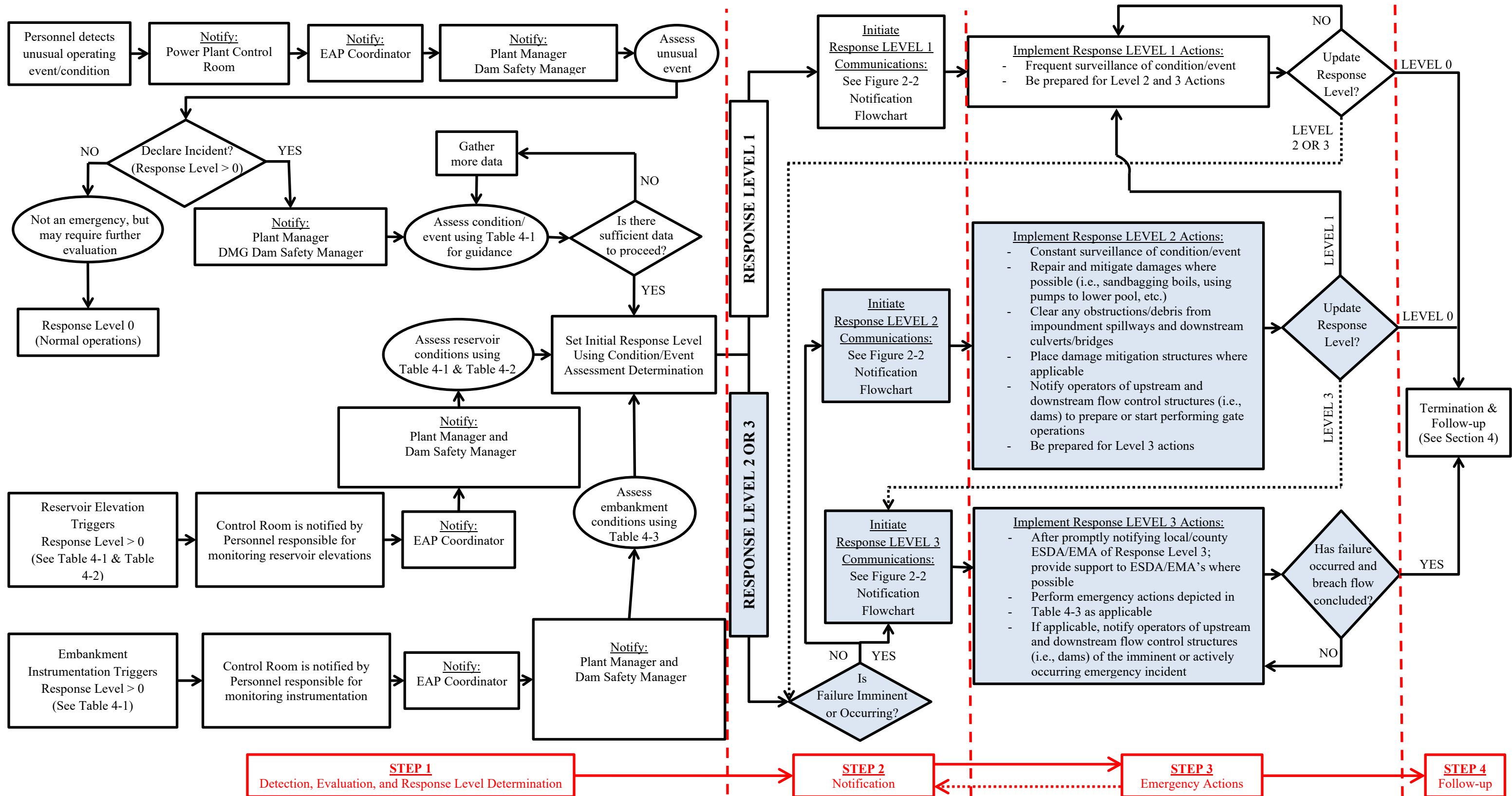


Table 2-1. EAP Emergency Responders

Position	Phone #
Internal Contacts	
Baldwin Power Plant	
Plant Manager	(618) 785-2294
Environmental Manager (EAP Coordinator)	(618) 225-7309
Control Room	(618) 785-3200
DMG Corporate Operations	
Dam Safety Manager	(618) 792-8488
External Contacts	
Local / County ESDA/EMA, Police, & Fire	
Randolph County EMA	(618) 826-5007
Randolph County Sheriff Department	911, (618) 826-5484
Baldwin Fire Protection District	911, (618) 785-2520
State Emergency Management Agencies & Organizations	
IDNR-OWR Dam Safety Section Manager	(217) 782-4427
Kaskaskia River State Fish and Wildlife Area	(618) 785-2555
Illinois Conservation Police	(877) 236-7529
Illinois State Police	911

3 EAP ROLES AND RESPONSIBILITIES

Table 3-1 provides a summary of the EAP roles during an emergency event.

Table 3-1. Summary of EAP Roles

Entity	Role Description
DMG Emergency Response Team (ERT)	<p>ERT: DMG personnel responsible for EAP implementation, distribution, updates/maintenance, and training activities. The <u>ERT</u> is comprised of the following roles:</p> <ol style="list-style-type: none"> 1. DMG Corporate: DMG corporate entity, committee, team, position, or personnel with relevant responsibility for a given generating power plant. 2. Plant Manager: Personnel responsible for day-to-day operation and management of the Power Plant. 3. Dam Safety Manager: Personnel that is most knowledgeable about the design and technical operation of facilities at a given power plant. 4. EAP Coordinator: Personnel responsible for implementing the EAP and associated activities <p style="text-align: center;"><u>Emergency Event – EAP Responsibilities</u></p> <ol style="list-style-type: none"> 1. Respond to emergencies at the Power Plant. 2. Verify and assess emergency conditions. 3. Notify and coordinate as appropriate with participating emergency services disaster agencies or emergency management agencies (ESDA/EMA’s), emergency responders, regulatory agencies, and all other entities involved or affected by this EAP. 4. Take corrective action at the Power Plant. 5. Declare termination of emergencies at the Power Plant.
Randolph County EMA	<ol style="list-style-type: none"> 1. Receive Response Level reports from <u>DMG Corporate</u> through <u>EAP Coordinator</u>. 2. Coordinate emergency response activities with local authorities: police, fire, and rescue, etc. 3. Coordinate notification of public as necessary through established channels, which may include door-to-door contact. 4. Coordinate notification activities to affected parties within inundation areas. 5. Evaluate risk to areas beyond the inundation areas, communicate needs to <u>DMG Corporate</u> and/or <u>EAP Coordinator</u>, and coordinate aid as appropriate. 6. Responsible for declaring termination of an emergency condition off-site upon receiving notification of an emergency status termination from <u>DMG Corporate</u>. 7. If necessary, coordinate with <u>State ESDA/EMA</u>.
Randolph County Police, Fire and Rescue, and Emergency Services	<ol style="list-style-type: none"> 1. Receive alert status reports from the <u>ERT</u> or the <u>Randolph County ESDA/EMA</u>. 2. If necessary, notify affected parties and general public within inundation areas (see Section 7). 3. Render assistance to Randolph County ESDA/EMA, as necessary. 4. Render assistance to <u>DMG Corporate</u> and <u>Power Plant Management</u>, as necessary.

4 EAP RESPONSE

The 4-Step Incident Response Process is shown in Figure 2-1. The Decision Tree shown in Figure 2-3 provides a flowchart for the various elements of the response process. Upon reaching Step 4 of the response process (termination and follow-up), the EAP Coordinator is responsible for notifying the ESDA/EMA's that the condition of the dam/impoundment has been stabilized. The purpose of this section is to provide specific information that can be used during a response. This information is provided in the following tables:

- Table 4-1 provides guidance for determining the response level.
- Table 4-2 provides impoundment pool level trigger elevations.
- Table 4-3 lists emergency actions to be taken depending on the situation.

Table 4-1. Guidance for Determining the Response Level

Event	Situation	Response Level
Spillway flow (See Table 4-2 for relevant elevations)	Primary spillway flow is not causing active erosion and impoundment water surface elevation is below auxiliary spillway crest elevation (if equipped).	Level 0
	Impoundment water surface elevation is at or above auxiliary spillway crest elevation (if equipped). No active erosion caused by spillway flow.	Level 1
	Spillway flow actively causing minor erosion that is not threatening the control section or dam/impoundment stability.	Level 2
	Spillway flow that could result in flooding of people downstream if the reservoir level continues to rise.	Level 2
	Abnormal operation of the spillway system due to blockage or damage that could lead to flooding.	Level 2
	Spillway flow actively eroding the soil around the spillway that is threatening the control section (e.g., undermining) or dam/impoundment stability.	Level 3
	Spillway flow that is flooding people downstream.	Level 3
Embankment overtopping (See Table 4-2 for relevant elevations)	Impoundment water surface elevation at or below typical normal pool fluctuation elevation.	Level 0
	Impoundment water surface elevation above typical normal pool fluctuation elevation.	Level 1
	Impoundment water surface elevation above high normal pool fluctuation elevation.	Level 2
	Impoundment water surface elevation at or above embankment crest elevation.	Level 3
Seepage	New seepage areas in or near the dam/impoundment with clear flow.	Level 1
	New seepage areas with cloudy discharge or increasing flow rate.	Level 2
	Heavy seepage with active erosion, muddy flow, and/or sand boils.	Level 3
Sinkholes	Observation of new sinkhole in impoundment area or on embankment.	Level 2
	Rapidly enlarging sinkhole and/or whirlpool in the impoundment.	Level 3

Table 4-1. Guidance for Determining the Response Level

Event	Situation	Response Level
Embankment cracking	New cracks in the embankment greater than ¼ inch wide without seepage.	Level 1
	Any crack in the embankment with seepage.	Level 2
	Enlarging cracks with muddy seepage.	Level 3
Embankment movement	Visual signs of movement/slippage of the embankment slope.	Level 1
	Detectable active movement/slippage of the embankment slope or other related effects (tension cracking, bulges/heaves, etc.) that could threaten the integrity of the embankment.	Level 2
	Sudden or rapidly proceeding slides of the embankment slopes.	Level 3
Embankment Monitoring Equipment (piezometers, inclinometers, surface displacement mounts, etc.)	Instrumentation readings beyond historic normal.	Level 1
	Instrumentation readings indicate the embankment is susceptible to failure.	Level 2
	Instrumentation readings indicate embankment is at threshold of failure or is currently failing.	Level 3
Earthquake or another event	Measurable earthquake felt or reported on or within 100 miles of the impoundment.	Level 1
	Earthquake or other event resulting in visible damage to the impoundment or appurtenances.	Level 2
	Earthquake or other event resulting in uncontrolled release of water or materials from the impoundment.	Level 3
Security threat	Verified bomb threat or other physical threat that, if carried out, could result in damage to the impoundment.	Level 2
	Detonated bomb or other physical damage that has resulted in damage to the impoundment or appurtenances.	Level 3
Sabotage/ vandalism	Damage to impoundment or appurtenance with no impact to the functioning of the impoundment.	Level 1
	Modification to the impoundment or appurtenances that could adversely impact the functioning of the impoundment. This would include unauthorized operation of spillway facilities.	Level 2
	Damage to impoundment or appurtenances that has resulted in seepage flow.	Level 2
	Damage to impoundment or appurtenances that has resulted in uncontrolled water release.	Level 3

Table 4-2. Impoundment Trigger Elevations

Impoundment	Embankment Crest Elevation	Auxiliary Spillway Crest Elevation	Normal Pool Fluctuation	
			Typical	High
Fly Ash Pond System				
Old East Fly Ash Pond	460.0 ft. ⁽¹⁾	N/A	N/A	N/A
East Fly Ash Pond	456.5 ft.	N/A	N/A	N/A
West Fly Ash Pond	456.5 ft. – 445.0 ft.	N/A	N/A	N/A
Bottom Ash Pond	420.0 ft. ⁽¹⁾	418.0 ft. ⁽¹⁾	415.8 ft.	417.6 ft.

Notes:

1) 2015 Aerial Topographic Survey, Weaver Consultants

N/A = Not Applicable

Table 4-3. Step 3: Emergency Actions

Condition	Description of Condition	Action to be Taken
High Water Level/ Large Spillway Release	Not applicable to capped impoundments. See Table 4-1 and Table 4-2 for elevations and triggering water levels associated with the impoundments and spillways covered by this EAP.	<ol style="list-style-type: none"> 1. Assess cause of increased reservoir stage, especially during fair weather conditions. 2. Determine Response Level. 3. Make proper notifications as outlined in the Figure 2-2 Notification Flowchart. 4. Perform additional tasks as determined through consultation with the ERT. 5. Make notifications if condition worsens such that downstream flooding is imminent. <ul style="list-style-type: none"> Response Level 0: require enhanced surveillance 3 times per day Response Level 1: contact internal chain of command and external response partners as necessary; inspect impoundment minimum 1 time per hour Response Level 2: contact internal chain of command; notify ESDA/EMA's and notify external response partners. ESDA/EMA's notify affected parties. Response Level 3: contact internal chain of command; notify ESDA/EMA's and notify external response partners. ESDA/EMA's notify affected parties of emergency incident.
Seepage	Localized new seepage or boil(s) observed along downstream face / toe of earthen embankment with muddy discharge and increasing but controllable discharge of water.	<ol style="list-style-type: none"> 1. Measure and record feature dimensions, approximate flow rate, and relative location to existing surface features. Take photos. Document location on a site plan and in inspection notes. 2. Determine Response Level. 3. Make proper notifications as outlined in the Figure 2-2 Notification Flowchart. 4. ERT (with Dam Safety Manager as lead) to determine mitigation actions. The following actions may apply: <ol style="list-style-type: none"> a) Place a ring of sandbags with a weir at the top towards the natural drainage path to monitor flow rate. If boil becomes too large to sandbag, place a blanket filter over the area using non-woven filter fabric and pea gravel. Attempt to contain flow in such a manner

Table 4-3. Step 3: Emergency Actions

Condition	Description of Condition	Action to be Taken
		<p>(without performing any excavations) that flow rates can be measured. Stockpile gravel and sand fill for later use, if necessary.</p> <p>b) Inspect the embankment and collect piezometer, water level and seepage flow data daily unless otherwise instructed by the Dam Safety Manager. Record any changes of conditions. Carefully observe embankment for signs of depressions, seepage, sinkholes, cracking or movement.</p> <p>c) Maintain continuous monitoring of feature. Record measured flow rate and any changes of condition, including presence or absence of muddy discharge.</p> <p>5. Make notifications as outlined in the lower portion of the Notification Flowchart (Figure 2-2) if condition worsens such that failure is imminent.</p>
Sabotage and Miscellaneous Other Issues	Criminal action with significant damage to embankment or structures where significant repairs are required, and the integrity of the facility is compromised—condition appears stable with time.	<ol style="list-style-type: none"> 1. Contact law enforcement authorities and restrict all access (except emergency responders) to impoundment. Restrict traffic on embankment crest to essential emergency operations only. 2. Determine Response Level. 3. Make internal notifications as outlined in the upper portion of the Notification Flowchart (Figure 2-2). 4. In conjunction with the Dam Safety Manager, assess extent of damage and visually inspect entire embankment and ancillary structures for additional less obvious damage. Based on inspection results, confirm if extent of damage to various components of the impoundment warrants a revised Response Level and additional notifications. 5. Perform additional tasks as directed by the ERT. 6. Make notifications if conditions worsen.
Embankment Deformation	<p>Cracks: New longitudinal (along the embankment) or transverse (across the embankment) cracks more than 6 inches deep or more than 3 inches wide or increasing with time. New concave cracks on or near the embankment crest associated with slope movement.</p>	<ol style="list-style-type: none"> 1. Measure and record feature dimensions, approximate flow rate, and relative location to existing surface features. Take photos. Document location on a site plan and in inspection notes. 2. Restrict traffic on embankment crest to essential emergency operations only. 3. Determine Response Level. 4. Make notifications as outlined in the Figure 2-2 Notification Flowchart. 5. ERT (with Dam Safety Manager as lead) to determine mitigation actions. The following actions may apply: <ol style="list-style-type: none"> a) Place buttress fill against base of slope immediately below surface feature. Stockpile additional fill. b) Place sandbags as necessary around crack area to divert any storm water runoff from flowing into crack(s). 6. As directed by the Dam Safety Manager, additional inspection and monitoring of the dam may be required. Items may include inspect the dam on a schedule determined by the Dam Safety Managers; collect piezometer and water level data; and record any changes of condition. Carefully observe dam for signs of depressions, seepage, sinkholes, cracking or movement. 7. Make notifications as outlined in the Figure 2-2 Notification Flowchart if conditions worsen such that failure is imminent.
Embankment Deformation (cont.)	<p>Slides / Erosion: Deep slide / erosion (greater than 2 feet</p>	<ol style="list-style-type: none"> 1. Measure and record feature dimensions, approximate flow rate, and relative location to existing surface features. Take photos. Document location on a site plan and in inspection report.

Table 4-3. Step 3: Emergency Actions

Condition	Description of Condition	Action to be Taken
	<p>deep) on the embankment that may also extend beyond the embankment toe but does not encroach onto the embankment crest and appears stable with time.</p>	<ol style="list-style-type: none"> 2. Restrict traffic on embankment crest to essential emergency operations only. 3. Determine the Response Level. 4. Make notifications as outlined in the Figure 2-2 Notification Flowchart. 5. ERT (with Dam Safety Manager as lead) to determine mitigation actions. Additional actions may include the following items. <ol style="list-style-type: none"> a) Place sandbags as necessary around slide area to divert any storm water runoff from flowing into slide(s). b) Increase inspections of the dam; collect piezometer and water level data; and record any changes of condition. During inspections, carefully observe dam for signs of depressions, seepage, sinkholes, cracking or movement. 6. Make notifications as outlined in the Figure 2-2 Notification Flowchart if conditions worsen such that failure is imminent.
	<p>Sinkholes: Small depression observed on the embankment or within 50 feet of the embankment toe that is less than 5 feet deep and 30 feet wide or which is increasing with time.</p>	<ol style="list-style-type: none"> 1. Slowly open drain gates to lower pool elevation. 2. Measure and record feature dimensions, approximate flow rate, and relative location to existing surface features. Take photos. Document location on a site plan and in inspection notes. 3. Restrict traffic on embankment crest to essential emergency operations only. 4. Determine Response Level. 5. Make notifications as outlined in the Figure 2-2 Notification Flowchart. 6. ERT (with Dam Safety Manager as lead) to determine mitigation actions. Additional actions may include the following items: <ol style="list-style-type: none"> a) Backfill the depression with relatively clean earth fill (free of organic materials) generally even with surrounding grade and slightly mounded (6 to 12 inches higher) in the center to shed storm water away from the depression. Stockpile additional fill. b) Increase inspections of the dam; collect piezometer and water level data daily unless otherwise instructed by Dam Safety Manager; and record any changes of condition. Carefully observe dam for signs of depressions, seepage, sinkholes, cracking or movement. 7. Make notifications as outlined in the Figure 2-2 Notification Flowchart if conditions worsen such that failure is imminent.
<p>Gate Malfunction or Failure</p>	<p>Sluice gate damaged structurally (sabotage, debris, etc.) with uncontrolled release of water at a constant volume. Condition appears stable.</p>	<ol style="list-style-type: none"> 1. Close any other gates, if open. 2. Determine Response Level. 3. Make notifications as outlined in the Figure 2-2 Notification Flowchart. 4. Obtain instructions from the Dam Safety Manager to determine if there are other methods to stop or slow down the flow of water. 5. If conditions worsen such that failure is imminent, make notifications as outlined in the lower portion of the Figure 2-2 Notification Flowchart.

5 PREPAREDNESS

The intent of this section is to provide information that will be utilized during a response. Established emergency supplies and locations, suppliers, and equipment are provided in Table 5-1.

Table 5-2 is a partial list of area suppliers for many of the items typically needed during an emergency response.

A coordination meeting shall be conducted annually between representatives of DMG, and local emergency responders. This meeting may be in the form of a face-to-face meeting, tabletop exercise, or additional training regarding the EAP.

Table 5-1. Emergency Supplies and Equipment

Item	On-site (Yes/No/Occasionally)	Remarks
Flashlights	Yes	Contact Shift Supervisor(s) for location and availability.
Generator	Yes	Contact Shift Supervisor(s) for location and availability.
Extension Cords	Yes	Contact Shift Supervisor(s) for location and availability.
Fire extinguishers	Yes	Contact Shift Supervisor(s) for location and availability.
Floodlights	Yes	3 Sets of Portable Emergency Lights
Backhoe	Yes	Contact Shift Supervisor(s) for location and availability.
Dozer	Yes	1 – D9, 2 – D10’s, and 1- D5
Large Equipment (Rental – including excavating equipment, pumps, lighting)	Occasionally	Contact Shift Supervisor(s) for location and availability.
Grader	Yes	Contact Shift Supervisor(s) for location and availability.
Scraper	Yes	2 – 637’s and 1 – 657
End Loader	Yes	1 large 980G and 1 small ITE 18B
Dump Truck	Yes	Contact Shift Supervisor(s) for location and availability.
Pump and Hoses	Yes	Small 2” Trash Pumps
Sandbags and Sand	No	Contact Shift Supervisor(s) for location and availability.
Fill (Stone, aggregate, sand)	Yes	Gravel is available onsite.
Concrete/grout	No	
Geotextile Filter Fabric	Yes	Contact Shift Supervisor(s) for location and availability.
Plastic Sheeting	No	
Rope	Yes	Contact Shift Supervisor(s) for location and availability.
Personal Flotation Devices	Yes	Contact Shift Supervisor(s) for location and availability.

Table 5-2. Supplier Addresses

Supply / Rental Item(s)	Supplier Contact Information	Distance from Site (miles)	Address
Sandbags	NYP Corp.	41	1416 North Broadway, St. Louis, MO. 63102 800-331-2445 800-524-1052 (emergency)
Gravel, Sand, & Riprap	Columbia Quarry Co.	19	5440 Quarry Dr., Waterloo, IL 62298 (618) 939-8833
	Martin Marietta Aggregates	20	7849 Bluff Rd., Prairie Du Rocher, IL 62277 (919) 781-4550
Concrete, Cement, Sand, Grout	Roger's Redi Mix Inc	12	826 W. 2 nd St., Sparta, IL 62286 (618) 443-4100
Portable Pumps, Rental Equipment	Sunbelt Rentals	45	13084 Gravois Rd., St. Louis, MO 63127 (636) 651-3757
	United Rentals	43	2629 Chouteau Ave., St. Louis, MO 63103 (314) 389-4030
	Rain for Rent	48	3711 Horseshoe Lake Rd., Pontoon Beach, IL 62040 (618) 931-0901
	Water Movers Equipment Rental	42	1800 S. 3 rd Street, St. Louis, MO 63104 (636) 717-2220
General Hardware & Supply	Cotton's Ace Hardware of Red Bud	9	1350 S. Main St., Red Bud, IL 62278 (618) 282-6800
	R.P. Lumber Company	21	942 S. Market St., Waterloo, IL 62298 (618) 939-3436

6 FACILITY / IMPOUNDMENT DESCRIPTION

The entirety of the Ash Pond System is located on a tract of land southeast of Baldwin. It is bounded on the west by Conservation Road and the Kaskaskia River; the north by the Cooling Lake, which forms the Kaskaskia River State Fish and Wildlife Area; the south by a rail line and Illinois Highway 154 (W. Myrtle Street); and the east by the rail line to the plant. The impoundments are described as follows and illustrated in Figure 1-2. Note all dimensions are approximate. Table 6-1 contains additional geometric details for each impoundment along with citations for the sources of information.

- **Fly Ash Pond System:** The East Fly Ash Pond, the Old East Fly Ash Pond and the West Fly Ash Pond are three interconnected Coal Combustion Residuals (CCR) cells within one impoundment, the Baldwin Fly Ash Pond System. The Baldwin Fly Ash Pond System was closed by leaving CCR in place and constructing a final cover system. The boundaries of these impoundments encompass a total area of approximately 235 acres.
- **Bottom Ash Pond:** This impoundment is formed in a natural low area bounded to the north by the cooling pond, the east by the Old East Fly Ash Pond, and the south by East Fly Ash Pond. An embankment along its west side with an elevation of about 420.0-feet encloses an area of about 288 acres in size. There are some portions of the pond still actively receiving waste, but it is mostly a vegetated area. The Bottom Ash Pond has a pool area of about 12.7 acres, but these areas have inconsistent elevations due to internal divider dikes. The Bottom Ash Pond discharges to the southwest to the Secondary Pond.

Table 6-1. Power Plant Impoundment Characteristics

Feature/Parameter	Fly Ash Pond System			Bottom Ash Pond
	Old East Fly Ash Pond	East Fly Ash Pond	West Fly Ash Pond	
Maximum Embankment Height	55 ft.	55 ft.	55 ft.	~20 ft. ⁽¹⁾
Length of Dam	~4300 ft. ⁽¹⁾	~3200 ft. ⁽¹⁾	~2600 ft. ⁽¹⁾	~450 ft. ⁽¹⁾
Crest Width	N/A	N/A	N/A	15 ft.
Crest Elevation	456.5 ft.	456.5 ft.	456.5 ft.	420.0 ft. ⁽¹⁾
Reservoir Area at Top of Dam	N/A	N/A	N/A	287.9 acres
Storage Capacity at Top of Dam	N/A	N/A	N/A	5900 acre-ft.
Primary Spillway Type	Stormwater let-down structures are now the spillways	Stormwater let-down structures are now the spillways	Stormwater let-down structures are now the spillways	30-Inch HDPE Drop Inlet
Primary Spillway Crest Elevation	N/A	N/A	N/A	415.8 ft.
Storage Capacity at Primary Spillway Elevation	N/A	N/A	N/A	~1700 acre-ft.
Reservoir Area at Normal Water Surface Elevation	N/A	N/A	N/A	~12.7 acres ⁽¹⁾
Auxiliary Spillway Type	N/A	N/A	N/A	Riprap Flume Overflow
Auxiliary Spillway Crest Elevation	N/A	N/A	N/A	417.6 ft.

Notes:

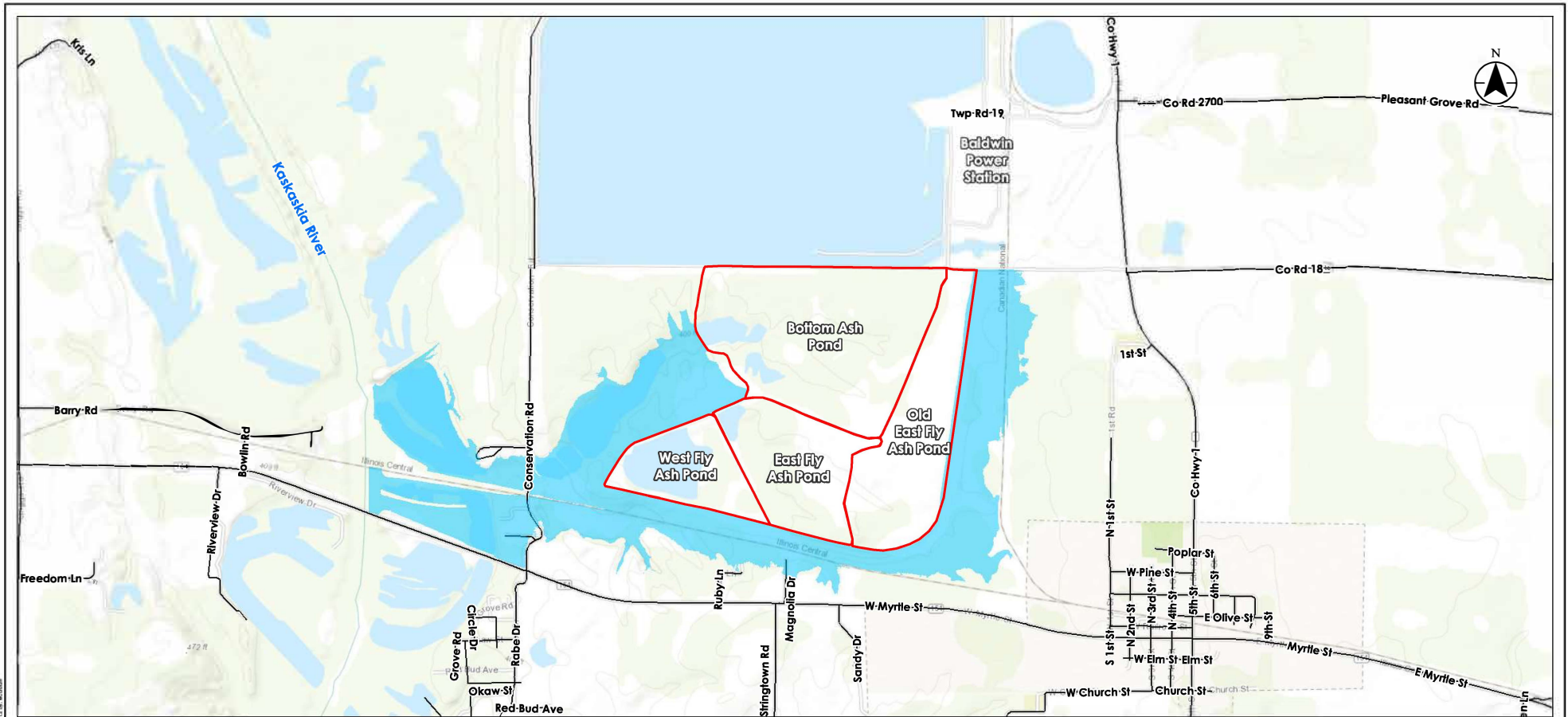
- 1) 2015 Aerial Topographic Survey, Weaver Consultants

7 BREACH INUNDATION MAP AND POTENTIAL IMPACTS

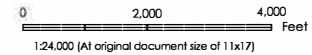
An inundation map for potential breach scenarios for the Fly Ash Pond System and Bottom Ash Pond is provided in Figure 7-1. It is the Randolph County EMA's responsibility to keep a current list of affected parties/properties to contact in the case of emergencies that result in Response Level 2 or 3. This list should encompass all properties within and adjacent to the probable inundation extents shown in the provided map.

Stantec developed inundation mapping for the Ash Pond System as a part of the "Initial Hazard Classification Assessments" for the Bottom Ash Pond, Fly Ash Pond System (East and Old East), and West Ash Pond dated October 2016. The methodology used to identify potential inundation extents due to a potential breach of the various ponds in the Ash Pond System consisted of hydrologic and hydraulic modeling of several possible breach scenarios. Inundation limits were plotted using the best available topographic mapping for the site, which consisted of LiDAR topographic data obtained from the Illinois Height Modernization Program supplemented with topographic survey data of the ash pond facilities.

Approximate inundation area is illustrated in Figure 7-1.



- Legend**
- CCR Surface Impoundment Boundary
 - Expected Breach Inundation Area



Project Location: Baldwin, Randolph County, Illinois
 Latitude: 38.204379
 Longitude: -89.855052
 Prepared by EC on 2017-03-29
 Technical Review by IS on 2017-03-30
 Independent Review by MM on 2017-03-30

Client/Project: Baldwin Power Station
 Emergency Action Plan

Figure No.: 7-1

Title: Inundation Map
 Old East Fly Ash Pond, East Fly Ash Pond,
 West Fly Ash Pond, Bottom Ash Pond

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Basemap Source: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
3. Impoundment Boundaries Provided by Client (Dated 9/9/2015)

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