Dynegy Midwest Generation, LLC

HENNEPIN POWER STATION
VILLAGE OF HENNEPIN, PUTNAM COUNTY, IL

Emergency Action Plan (EAP)

40 CFR § 257.73(a)(3)
Coal Combustion Residual (CCR) Impoundment
& Related Facilities

- East Ash Pond (NID # IL50363)

Revision Date: April 13, 2017

Qualified Professional Engineer Certification; Emergency Action Plan for the Hennepin Power Station East Ash Pond.

In accordance with 40 CFR 257.73(a)(3)(iv), the owner or operator of a CCR unit that is required to prepare a written Emergency Action Plan under 40 CFR 257.73(a)(3) must obtain a certification from a qualified professional engineer stating that the written Emergency Action Plan meets the requirements of 40 CFR 257.73(a)(3).

I, Matthew Hoy, 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 CFR 257.73(a)(3).

SIGNATURE _____ DATE 4/13/2017

ADDRESS: Stantec Consulting Services Inc.
1859 Bowles Avenue Suite 250
Fenton MO 63026-1944

TELEPHONE: (636) 343-3880

HENNEPIN POWER STATION
EMERGENCY ACTION PLAN
CCR IMPOUNDMENT & RELATED FACILITIES

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PART I – EAP NARRATIVE AND EXHIBITS

1 STATEMENT OF PURPOSE

The Hennepin Power Station (Station) is located near the Village of Hennepin in Putnam County, Illinois. The location is shown in Figure 1-1. The Station is a coal-fired electricity producing power plant owned and operated by Dynegy Midwest Generation, LLC, a subsidiary of Dynegy. This Emergency Action Plan (EAP) was prepared in accordance with 40 CFR § 257.73(a)(3) and covers the following Coal Combustion Residual (CCR) surface impoundment located at the site:

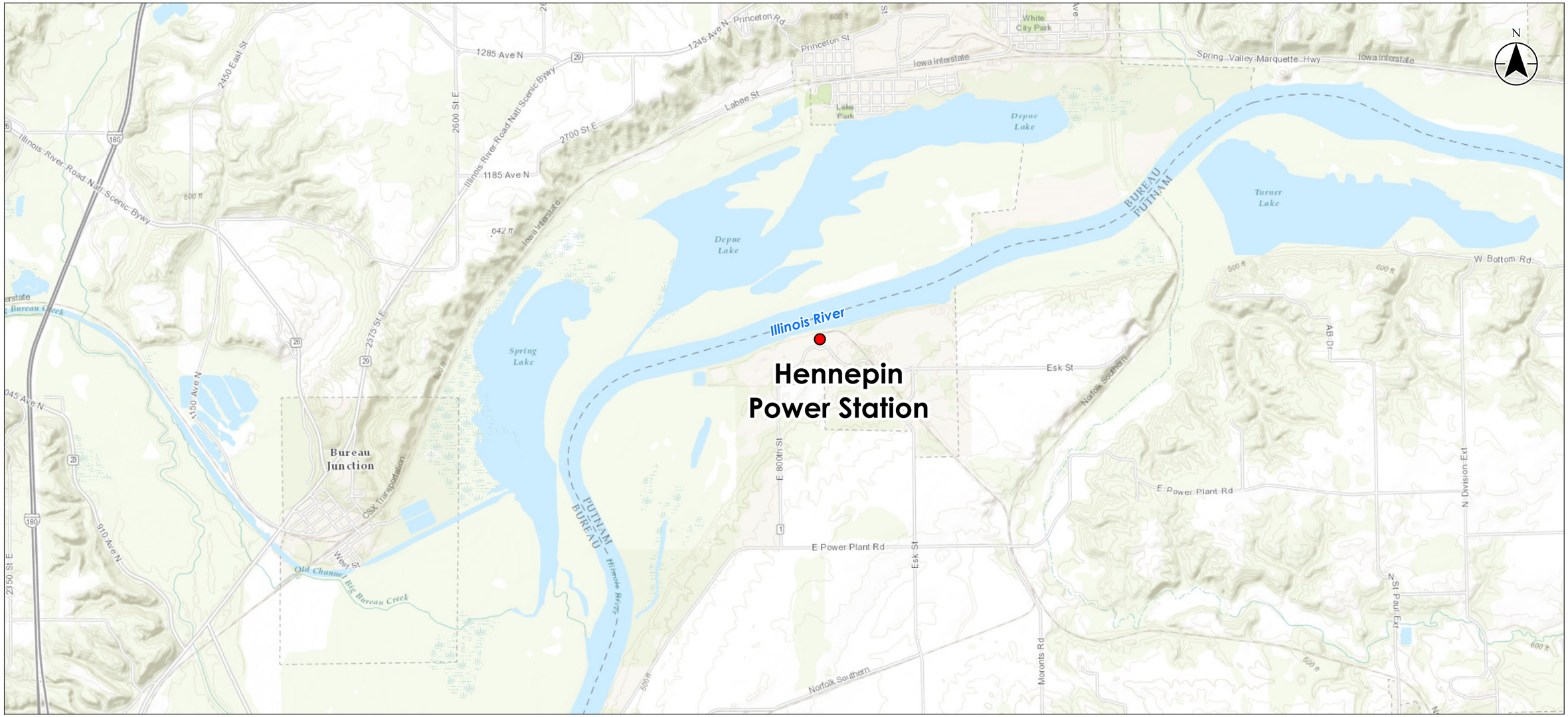
- East Ash Pond

The location of the impoundment is shown in Figure 1-2. Section 6 of this EAP includes a description of the 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 the CCR impoundment and related facilities at the Hennepin Power Station.
2. Define the events or circumstances involving the CCR impoundment and related facilities at the Hennepin Power Station that represent atypical operating conditions 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 impoundment.
6. Identify the downstream area that would be affected by failure of the impoundment.
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 Dynegy was utilized and relied upon in preparation of this report.



Notes

1. Coordinate System: NAD 1983 StatePlane Illinois West FIPS 1202 Feet
2. Aerial Source: 2015 NAIP Imagery
3. Impoundment Boundaries Provided by Client (Dated 9/9/2015)

0 6,000 Feet

1:36,000 (At original document size of 11x17)

Stantec DYNEGY

Project Location	175605019
Latitude: 41.302685	Prepared by CI on 2017-04-12
Longitude: -89.303883	Technical Review by CI on 2017-04-12
Putnam County, Illinois	Independent Review by MT on 2017-04-12

Client/Project

Hennepin Power Station
Emergency Action Plan

Figure No.

1-1

Title

Location Map

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Legend

CCR Surface Impoundment Boundary

0 1,000 Feet

1:12,000 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane Illinois West FIPS 1202 Feet
2. Aerial Source: 2015 NAIP Imagery
3. Impoundment Boundaries Provided by Client (Dated 9/9/2015)

Stantec

Project Location
Latitude: 41.302975
Longitude: -89.315035
Putnam County, Illinois

175605019
Prepared by CI on 2017-04-12
Technical Review by CI on 2017-04-12
Independent Review by MT on 2017-04-12

Client/Project

Hennepin Power Station
Emergency Action Plan

Figure No.

1-2

Title

CCR Impoundment

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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 and described in detail in Appendix D. This should be used in conjunction with the Notification Flowchart (Figure 2-2) and EAP Decision Tree (Figure 2-3). 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 contact information for the emergency responders.

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

Step 1: Detection, Evaluation, and Response Level Determination

Sequence of Tasks:

- Notify EAP Coordinator, Station Management (Director and Engineering), and Dynegy Dam Safety Manager of unusual condition detected and confer on next steps needed.
- Conduct technical evaluation of conditions as needed.
- Determine Response Level based on evaluation. **(Table 4-1)**
- Reset Response Level as revised evaluations warrant.

Step 2: Notification

Sequence of Tasks:

- Notify authorities, designated personnel, and external response partners of change in Response Level, using the Notification Flowchart. **(Figure 2-2)**
- *Re-notify authorities, designated personnel, and external response partners as Response Level is changed*.

Step 3: Emergency Actions

Sequence of Tasks:

- Perform emergency actions with goal of saving the impoundment and minimizing impacts to life, property, and environment. **(Table 4-3)**
- Take continuous actions to include situation assessment, information sharing, remediation, and public safety advisories or warnings, as warranted.
- *Revise action plan as changes in conditions warrant*.

Step 4: Follow-up

Sequence of Tasks:

- Document conditions and decisions in the Emergency Incident Log.
- Notify authorities, designated personnel, and external response partners that condition is stabilized; limit incident termination declarations to conditions at the site.
- Conduct and document after-action review of incident and response.

Figure 2-2. Notification Flowchart

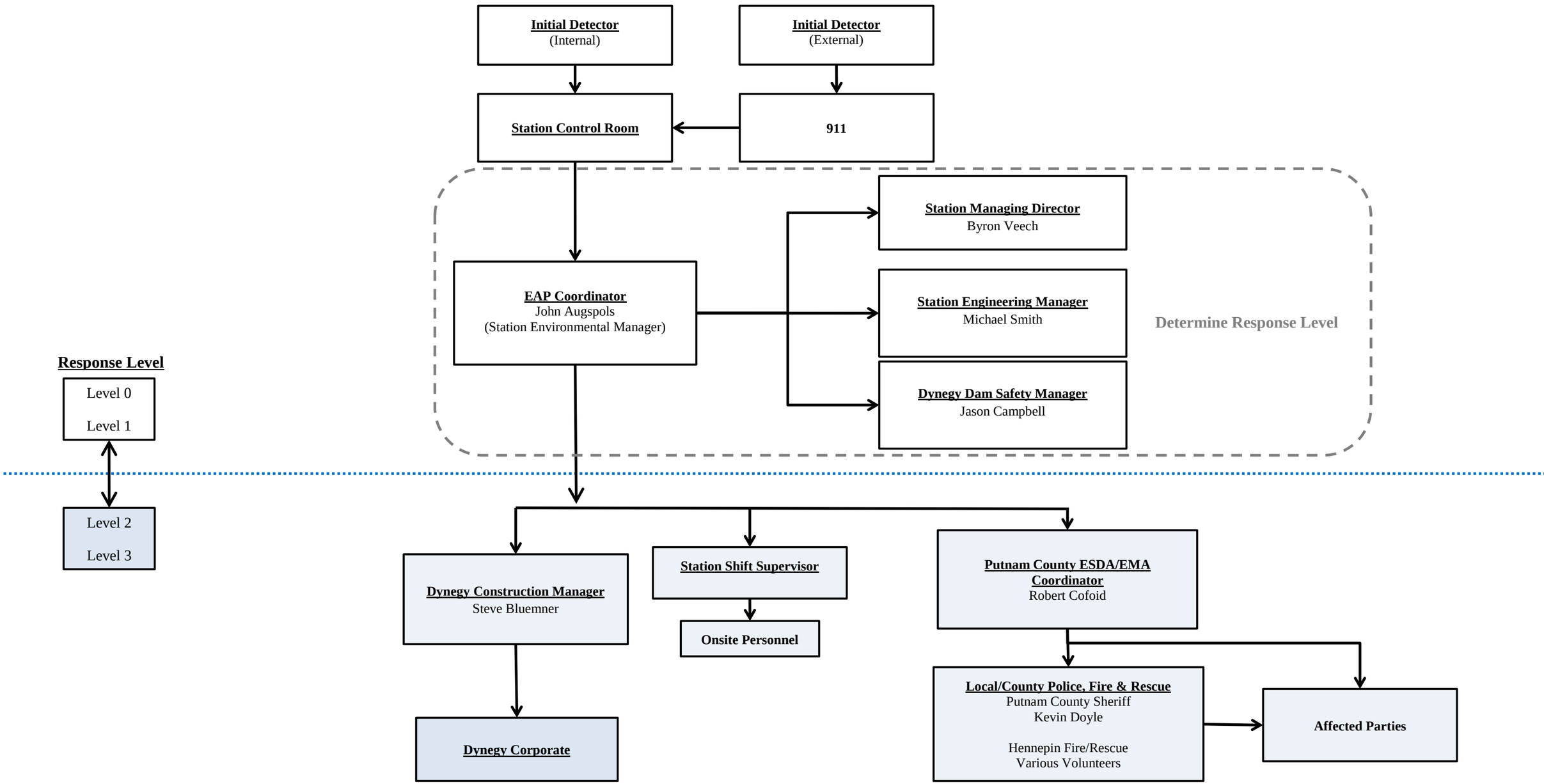

Figure 2-3. EAP Response Process Decision Tree

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.

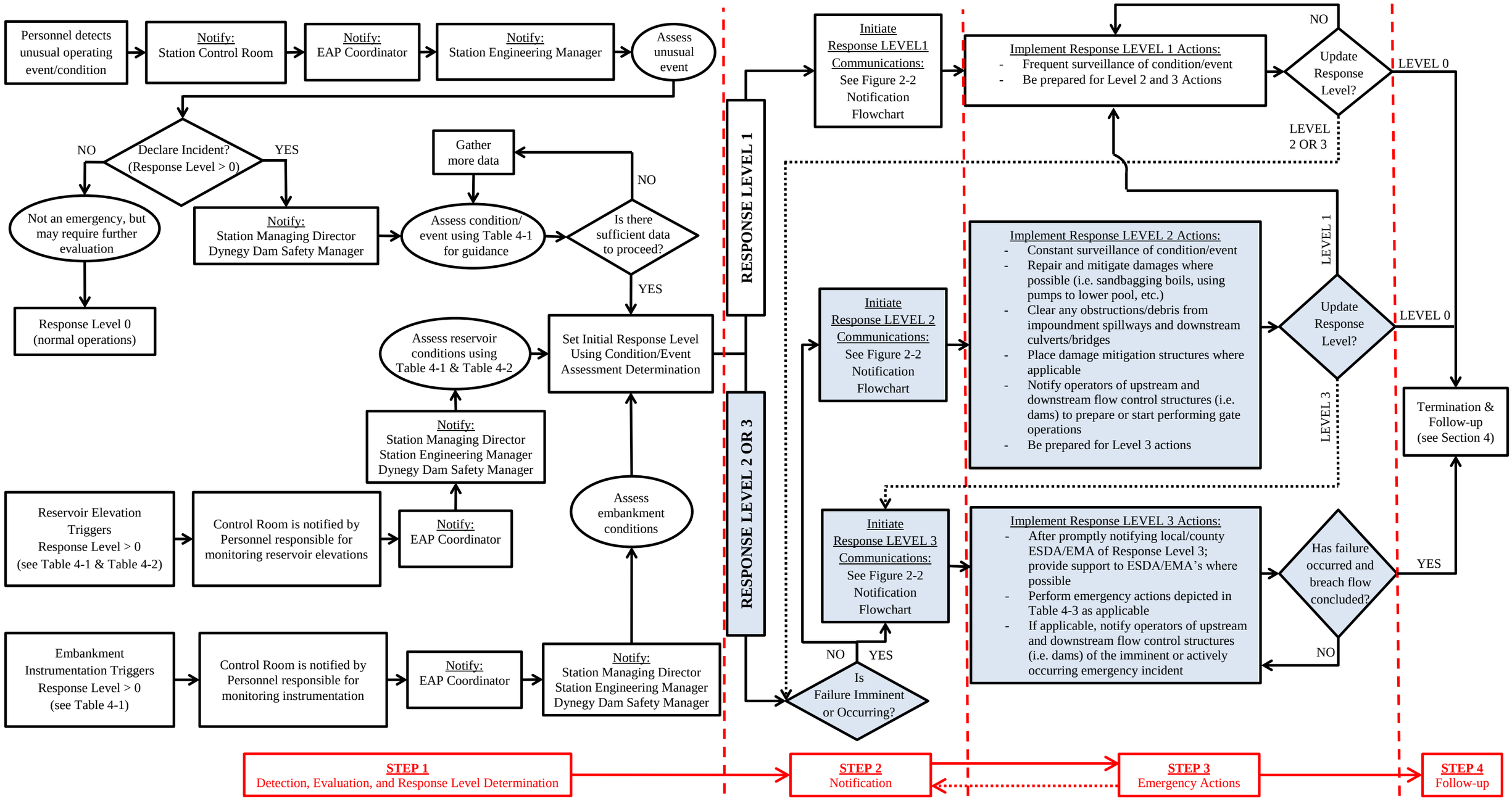

Table 2-1. EAP Emergency Responders

Position / Entity	Contact Information		
Internal Contacts			
Hennepin Power Station	**Contact**		
Managing Director	Byron Veech		
Environmental Manager (EAP Coordinator)/Alternate	John Augspols/Scott Johnson		(815) 236-4936
Engineering Manager	Michael Smith		
Control Room			(815) 339-9215
Dynegy Corporate Operations	**Contact**		
Dam Safety Manager	Jason Campbell		(618) 792-8488
Construction Manager	Steve Bluemner		
External Contacts			
Local/County ESDA/EMA, Police, & Fire	**Contact**	**Phone #**	**Alternate Phone #**
Putnam County 911 Emergency Communication Center	Andrew Jackson	911	(815) 882-2635
Putnam County – ESDA/EMA	Robert Cofoid	(815) 925-3073	(815) 252-2873
Putnam County –Sheriff Dept.	Kevin Doyle	(815) 925-7015	
Village of Hennepin – Fire Dept.	Daryel Peterson	(815) 925-7225	
State Emergency Management Agencies & Organizations	**Contact**	**Phone #**	**Alternate Phone #**
Illinois Conservation Police	Robert Finn	(815) 587-5136	
Donnelley State Fish and Wildlife Area	Mike Resetich	(815) 447-2353	

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
Dynegy Emergency Response Team (ERT)	**ERT:** Dynegy personnel responsible for EAP implementation, distribution, updates/maintenance, and training activities. The *ERT* is comprised of the following roles; 1. **Dynegy Corporate:** Dynegy corporate entity, committee, team, or position with relevant responsibility for a given generating station. 2. **Station Management:** Personnel responsible for day-to-day operation and management of the Station. 3. **Dam Safety Manager:** Personnel that is most knowledgeable about the design and technical operation of facilities at a given Station. 4. **EAP Coordinator:** Personnel responsible for implementing the EAP and associated activities **Emergency Event – EAP Responsibilities** 1. Respond to emergencies at the Station. 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 Station. 5. Declare termination of emergencies at the Station.
Putnam County ESDA/EMA	1. Receive Response Level reports from *Dynegy Corporate* through *EAP Coordinator*. 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 the *Dynegy Corporate* and/or *EAP Coordinator*, 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 the *Dynegy Corporate*. 7. If necessary, coordinate with *State ESDA/EMA*.
Village of Hennepin Police, Fire, and Rescue	1. Receive alert status reports from the *ERT* or the *County ESDA/EMA*. 2. If necessary, notify affected parties and general public within inundation areas (see Section 7). 3. Render assistance to Putnam County ESDA/EMA, as necessary. 4. Render assistance to *Dynegy Corporate* and *Station Management*, as necessary.
Putnam County Police, Fire and Rescue, and Emergency Services	1. Receive alert status reports from the *ERT* or the *County ESDA/EMA*. 2. If necessary, notify affected parties within the inundation area. 3. Provide mutual aid to other affected areas, if requested and able.

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. Additional details about the EAP response process can be found in Appendix D. 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.	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
	New cracks in the embankment greater than ¼ inch wide without seepage.	Level 1

Table 4-1. Guidance for Determining the Response Level

Event	Situation	Response Level
Embankment cracking	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 other 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 [1]	Auxiliary Spillway Crest Elevation	Normal Pool Fluctuation	
			Typical	High
East Ash Pond	494.0 ft.	Not Applicable	490.4 ft.	492.2

Notes:
1 2015 Hennepin Topography, prepared by Weaver Consultants Group, December 2015

Table 4-3. Step 3: Emergency Actions

Condition	Description of Condition	Action to be Taken
High Water Level/ Large Spillway Release	See Table 4-1 and Table 4-2 for elevations and triggering water levels associated with the impoundments and spillways covered by this EAP.	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. **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.	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 Engineer as lead) to determine mitigation actions. The following actions may apply: a) Place a ring of sand bags with a weir at the top towards the natural drainage path to monitor flow rate. If boil becomes too large to sand bag, place a blanket filter over the area using non-woven filter fabric and pea gravel. Attempt to contain flow in such a manner (without performing any excavations) that flow rates can be measured. Stockpile gravel and sand fill for later use, if necessary. b) Inspect the embankment and collect piezometer, water level and seepage flow data daily unless otherwise instructed by the Engineer. Record any changes of conditions. Carefully observe embankment for signs of depressions, seepage, sinkholes, cracking or movement. c) Maintain continuous monitoring of feature. Record measured flow rate and any changes of condition, including presence or absence of muddy discharge.

Table 4-3. Step 3: Emergency Actions

Condition	Description of Condition	Action to be Taken
		5. Make notifications as outlined in the lower portion of the Notification Flowchart (Figure 2-2) if condition worsens such that failure is imminent.
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.	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	**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.	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: a) Place buttress fill against base of slope immediately below surface feature. Stock pile additional fill. b) Place sand bags 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 engineers; 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.)	**Slides / Erosion:** Deep slide / erosion (greater than 2 feet 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.	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. 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. a) Place sand bags 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.

Table 4-3. Step 3: Emergency Actions

Condition	Description of Condition	Action to be Taken
		6. Make notifications as outlined in the Figure 2-2 Notification Flowchart if conditions worsen such that failure is imminent.
	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.	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 Engineer as lead) to determine mitigation actions. Additional actions may include the following items: 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 in order to shed storm water away from the depression. Stock pile additional fill. b) Increase inspections of the dam; collect piezometer and water level data daily unless otherwise instructed by engineer; 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.
Gate Malfunction or Failure	Sluice gate damaged structurally (sabotage, debris, etc.) with uncontrolled release of water at a constant volume. Condition appears stable.	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 Engineer 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. Supplier contact information is listed in Table 5-2.

A coordination meeting shall be conducted annually between representatives of Dynegy Midwest Generation, LLC 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	Typically at Hennepin Power Station maintenance facility, contact shift supervisor location(s).
Generator		
Extension Cords		
Fire extinguishers		
Floodlights		
Backhoe	Yes	Contact shift supervisor for location(s). For rental equipment contact: • Gensini Excavating, Inc. (815) 925-7050 • Central Illinois Equipment Sales, Inc. (815) 687-7022
Dozer	No	Old one may be available on site, contact shift supervisor for location(s). For rental equipment contact: • Gensini Excavating, Inc. (815) 925-7050 • Central Illinois Equipment Sales, Inc. (815) 687-7022
Large Equipment (Rental – including excavating equipment, pumps, lighting)	Occasionally	Portable lighting, backhoe and bobcat available on-site. Contact shift supervisor for availability and location(s). For rental equipment contact: • Gensini Excavating, Inc. (815) 925-7050 • Central Illinois Equipment Sales, Inc. (815) 687-7022
Dump Truck	No	Old one may be available on site, contact shift supervisor for location(s). For rental equipment contact: • Gensini Excavating, Inc. (815) 925-7050 • Illinois Truck & Equipment (815) 941-1900
Pump and Hoses	Yes	3” and 2” trash pumps available. Contact shift supervisor for location(s). For additional pumps/hoses contact: • United Rentals (815) 223-7962
Sandbags and Sand	Occasionally	Contact shift supervisor for location(s). For additional materials contact: • Home Depot (815) 224-2968 • Menards (815) 224-5621 • Tri-Con Material (815) 872-3206
Fill (Stone, aggregate, sand)	Yes	Quarry next door and some fill on-site. Contact shift supervisor for location(s). For additional materials contact: • Tri-Con Material (815) 872-3206 • Western Sand & Gravel Co. (815) 664-2341
Concrete/grout	No	To obtain materials contact: • Western Sand & Gravel Co. (815) 664-2341
Geotextile Filter Fabric	No	To obtain materials contact: • Home Depot (815) 224-2968 • Menards (815) 224-5621
Plastic Sheeting	No	To obtain materials contact: • Home Depot (815) 224-2968 • Menards (815) 224-5621
Rope	Yes	Contact shift supervisor for location(s).
Personal Flotation Devices	Yes	Contact shift supervisor for location(s).

Table 5-2. Supplier Addresses

Supplier	Distance from Site (miles)	Address
Gensini Excavating, Inc.	7	8100 Deer Drive, Hennepin IL
Grassers True Value	15	404 W Main Street, McNabb, IL
R.P Lumber Company	18	1315 N Main Street, Princeton, IL
Menards	17	5353 Mahoney Drive, Peru, IL
Home Depot	17	4242 Venture Drive, Peru, IL
Tri-Con Material	3	13559 Prairie Industrial Pkwy, Hennepin, IL
Western Sand & Gravel Company	11	400 Old N Road, Spring Valley, IL
Central Illinois Equipment Sales, Inc	5	1254 Old Hwy 26, Hennepin, IL
United Rentals	15	2901 Peoria Street, Peru, IL
Illinois Truck and Equipment	60	320 Briscoe Drive, Morris, IL

6 FACILITY/IMPOUNDMENT DESCRIPTION

The impoundment included in this EAP is described as follows and illustrated in Figure 1-2. Table 6-1 contains additional geometric details for the impoundment.

Hennepin Power Station is located in Hennepin, Illinois along the east bank of the Illinois River in Putnam County approximately 100 miles southwest of Chicago.

The East Ash Pond is located east of the Hennepin Power Station. As described in a dam assessment report prepared for the Environmental Protection Agency in 2011, East Ash Pond was originally constructed by reshaping an area that was an existing gravel pit to form the current surface impoundment. The gravel pit at the time of construction was described to be equal to or greater than the maximum elevation proposed for the impoundment. The pond functions as a sedimentation basin for coal combustion wastes, including bottom ash, fly ash, miscellaneous station low volume waste, and coal pile runoff streams which are piped from the plant and discharged into the impoundment. Flow through East Ash Pond is discharged into the Leachate Pond to the northeast through an 18 inch diameter reinforced concrete pipe outlet structure.

Table 6-1. Station Impoundment Characteristics

Feature/Parameter	East Ash Pond
Maximum Embankment Height[2]	32 ft.
Length of Dam[1]	950 ft.
Crest Width[1]	25 ft.
Crest Elevation[1]	494.0 ft.
Reservoir Area at Top of Dam[1]	9.9 acres
Storage Capacity at Top of Dam[1]	49.7 acre-ft.
Primary Spillway Type[2]	18 in. dia. RCP
Primary Spillway Crest Elevation[1]	489.9 ft.
Storage Capacity at Primary Spillway Elevation[1]	23.4 acre-ft.
Reservoir Area at Normal Water Surface Elevation[1]	3.9 acres
Auxiliary Spillway Type	N/A
Auxiliary Spillway Crest Elevation	N/A

Notes:
1 2015 Hennepin Topography, prepared by Weaver Consultants Group, December 2015
2 USEPA Round 10 Dam Assessment Report, Hennepin Power Station, December 2012

7 BREACH INUNDATION MAP AND POTENTIAL IMPACTS

An inundation map for East Ash Pond potential breach scenarios is provided in this section. It is the Putnam County ESDA/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 maps.

The methodology used to identify probable inundation extents for potential breach scenarios varied as a function of the impoundment size, location, surrounding topography, and surrounding structures/facilities/waterbodies.

The inundation extents for East Ash Pond were determined by visual inspection using available topography and the failure description outlined in the Illinois DNR Dam Safety Emergency Response Procedure report, dated November 2005. This methodology was chosen as failure of the East Ash Pond would only result in water transfer to a secondary cell to the east, as all other sides are landlocked and essentially constructed at grade. If failure of this secondary cell also occurred, water would flow into the Illinois River. Although no structures would be impacted by such a failure, significant environmental impacts to the River and areas outside of utility owned property could occur.

The approximate inundation area is illustrated in Figure 7-1.

Legend

- Expected Breach Inundation Area
- CCR Surface Impoundment Boundary

0 500 Feet

1:5,000 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane Illinois West FIPS 1202 Feet
2. Aerial Source: 2015 NAIP Imagery
3. Impoundment Boundaries Provided by Client (Dated 9/9/2015)

Stantec DYNEGY

Project Location	175605019
Latitude: 41.302685	Prepared by CI on 2017-04-03
Longitude: -89.303883	Technical Review by CI on 2017-04-03
Putnam County, Illinois	Independent Review by MT on 2017-04-03

Client/Project

Hennepin Power Station
Emergency Action Plan

Figure No.

7-1

Title

Inundation Map
East Ash Pond