Meeting Agenda

NV Energy Reid Gardner Station Mesa Ponds M5 and M7 and Raw Water Ponds Emergency Action Plans

Prepared by:	Michael Rojo, NV Energy Supervisor, Environmental Services
Meeting date/Time:	April 11, 2019. 9:00am – 11:00am
Location:	Reid Gardner Station. 501 Wally Kay Way, Moapa, NV 89025
Invited Attendees:	NV Energy – Phil Andrews, Wayne Deleeuw, Tony Garcia, Steve Hansen, Michael Rojo and Mike Vatana Moapa Valley Fire District – Steve Neel City of North Las Vegas – Solome Barton

1. Introductions
2. Safety Minute
3. Purpose of Meeting
4. Overview of Emergency Action Plan (EAP)
5. Emergency Action Plan – Incident Scenarios
6. Emergency Action Plan – Incident Notification Procedures
7. Emergency Action Plan – Incident Response Procedures
8. Pond M5 and M7 and Raw Water Ponds Site Tour

Reid Gardner Station Emergency Action Plan (EAP) Ponds M5 and M7 and Raw Water Ponds– Annual Meeting April 11, 2019

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DATE: 4/11/2019

LOCATION: Reid Gardner Station

ATTENDANCE RECORD

	NAME (Type or print clearly)	SIGNATURE	Organization
1.	Solomé Barton		City of North Las Vegas OEM
2.	Stephanie Rennick		NV Energy
3.	Tony D Garcia	Tony D Garcia	NV Energy
4.	Phillip Andrews		NV Energy
5.	Jonathan Taylor		NV Energy
6.	Stephen Reel		MVFD
7.	Michael Rojo		NV Energy
8.	Wayne DeLeeuw		NV Energy
9.	Steve Hansen		NV Energy
10.			
11.			
12.			
13.			
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15.			
16.			
17.			

Reid Gardner Station Emergency Action Plan (EAP) - Ponds M5, M7 and Raw Water Ponds

Annual Meeting April 10, 2019

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Safety Minute –
Teton River Dam Failure June 5, 1976

- Bureau of Reclamation earthen Dam 12 miles NE of Rexburg in SE Idaho
- Controversial, rushed approval.
- Areas of high permeability, rock fissures, and seismic concerns identified during the planning, engineering and construction process
- Construction started February 1972
- Started filling dam November 1975

Safety Minute –
Teton River Dam Failure June 5, 1976

6/5/1976 0730

6/5/1976 0930

6/5/1976 noon

- Mode of failure was water erosion at the base of the dam and seepage within the dam face
- Failure release of 80 billion gallons of water
- 100,000 acres of farm and ranch land were inundated
- 11 people killed
- $1 billion in estimated damages

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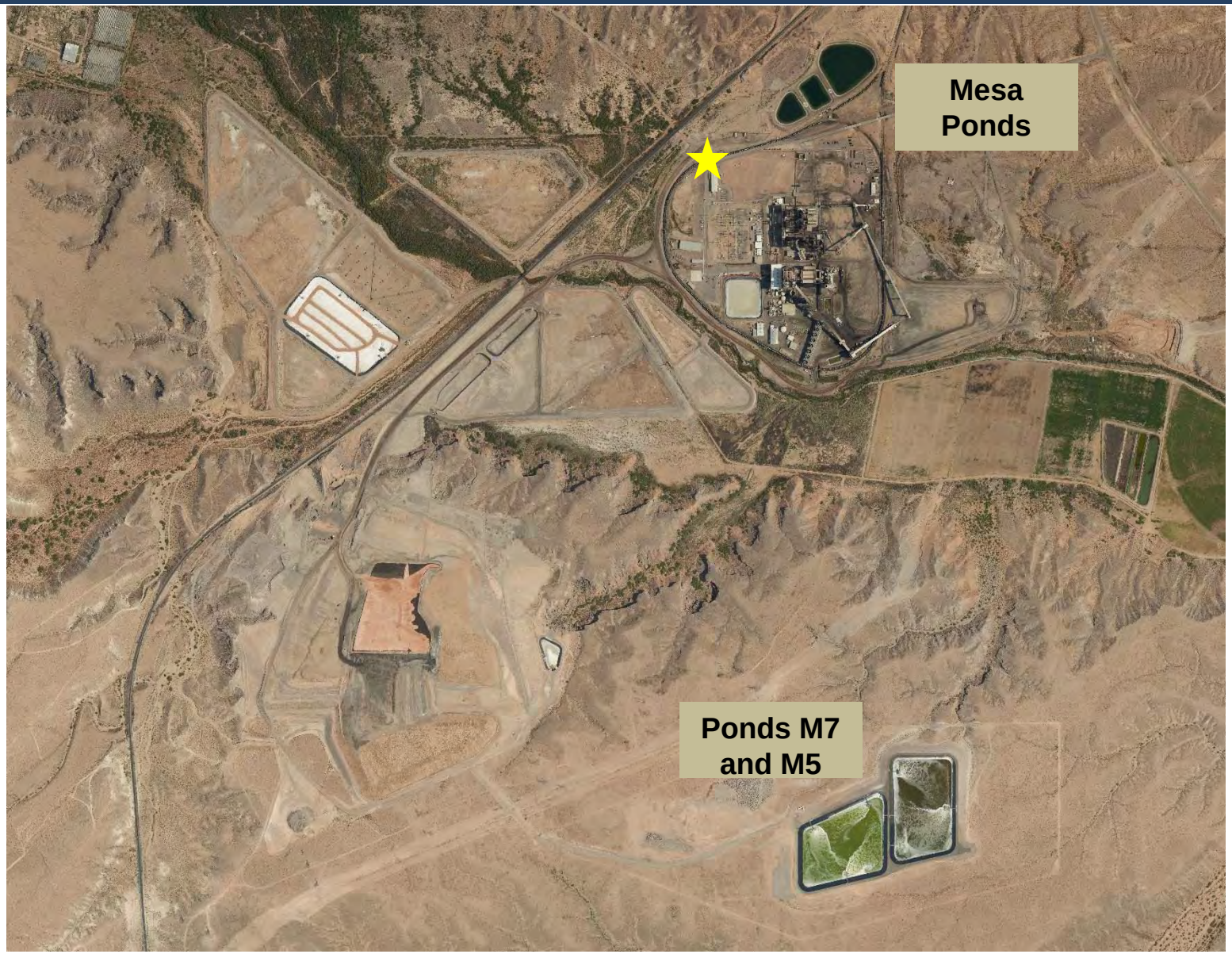
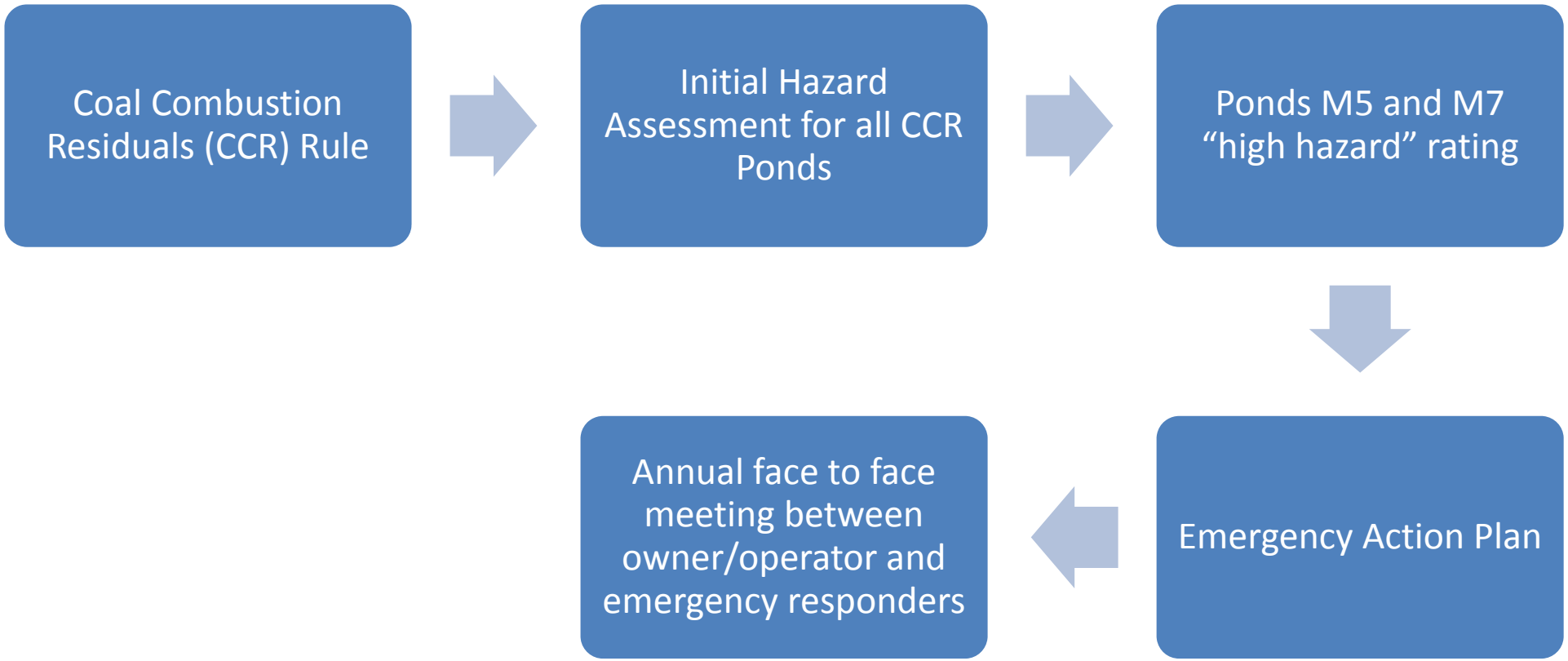
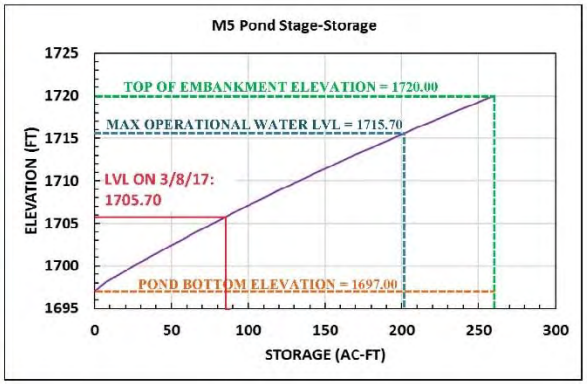
Site Orientation – Reid Gardner Station

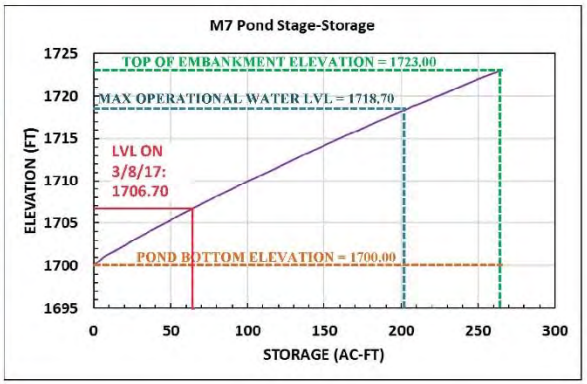


Regulatory Requirement



Ponds M5 and M7





Legend
- Effluent Discharge Pipeline
- Effluent Pipeline Valve Station
- Mixer
- Observation Point
- Pond Effluent Discharge Point

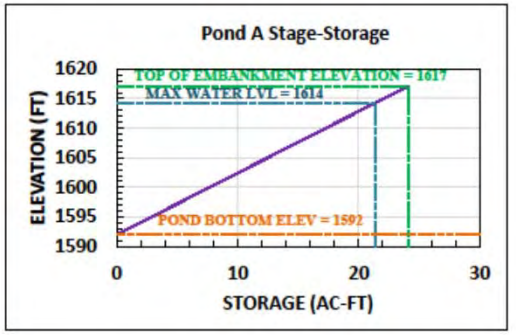
Note: all elevations reference NAVD 1988 vertical datum

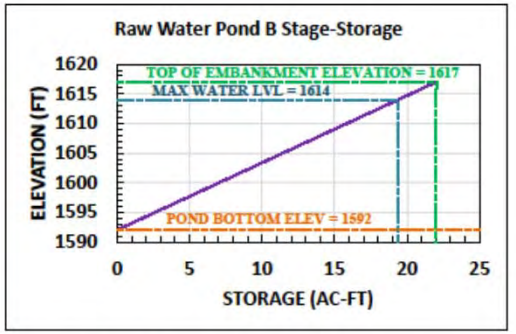
Figure 4-2
Dam Facilities Map
Mesa Ponds M5 and M7
Dam Facilities and Hydraulic Information
Emergency Action Plan
Reid Gardner Station
Moapa, Nevada

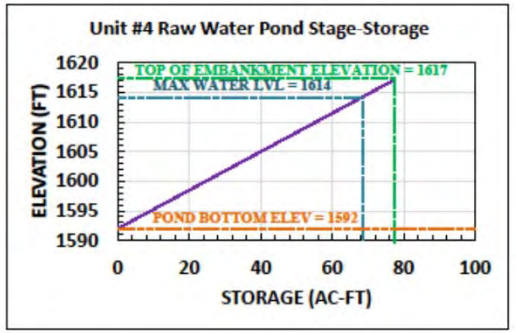
Raw Water Ponds

Note: All elevations reference NAVD 1988 vertical datum

Figure 4-2
Dam Facilities Map
Raw Water Ponds
Dam Facilities and Hydraulic Information
Emergency Action Plan
Reid Gardner Station
Moapa, Nevada

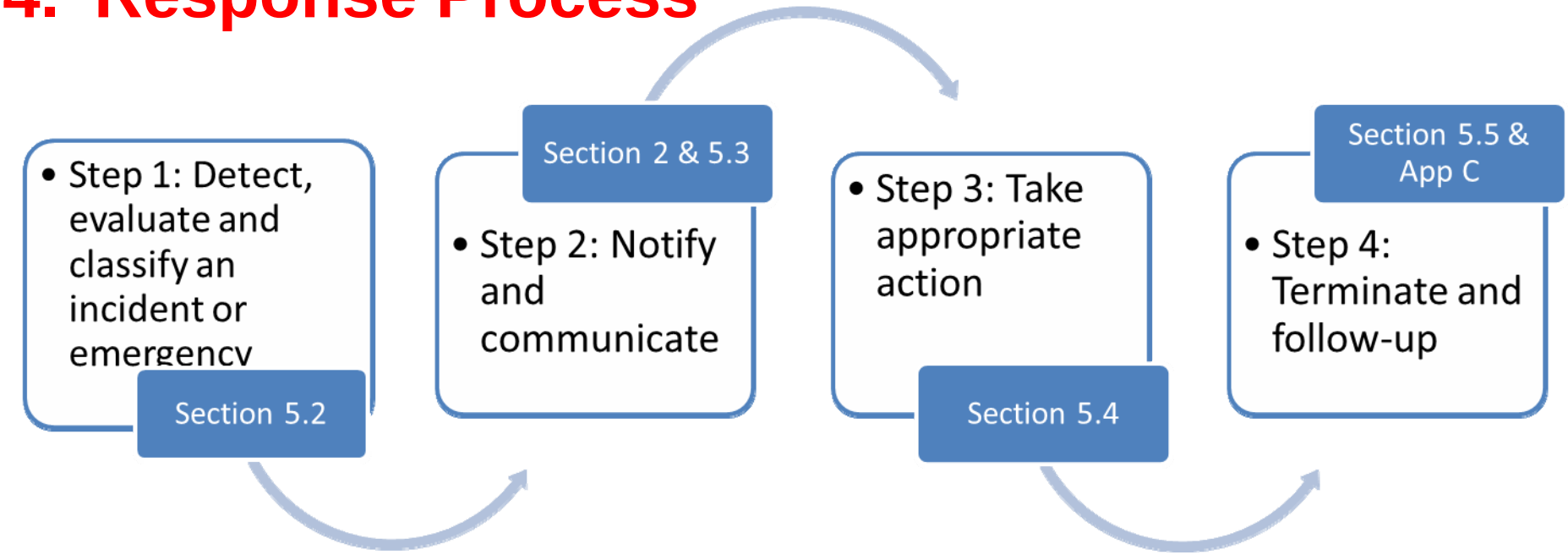






Emergency Action Plan Overview

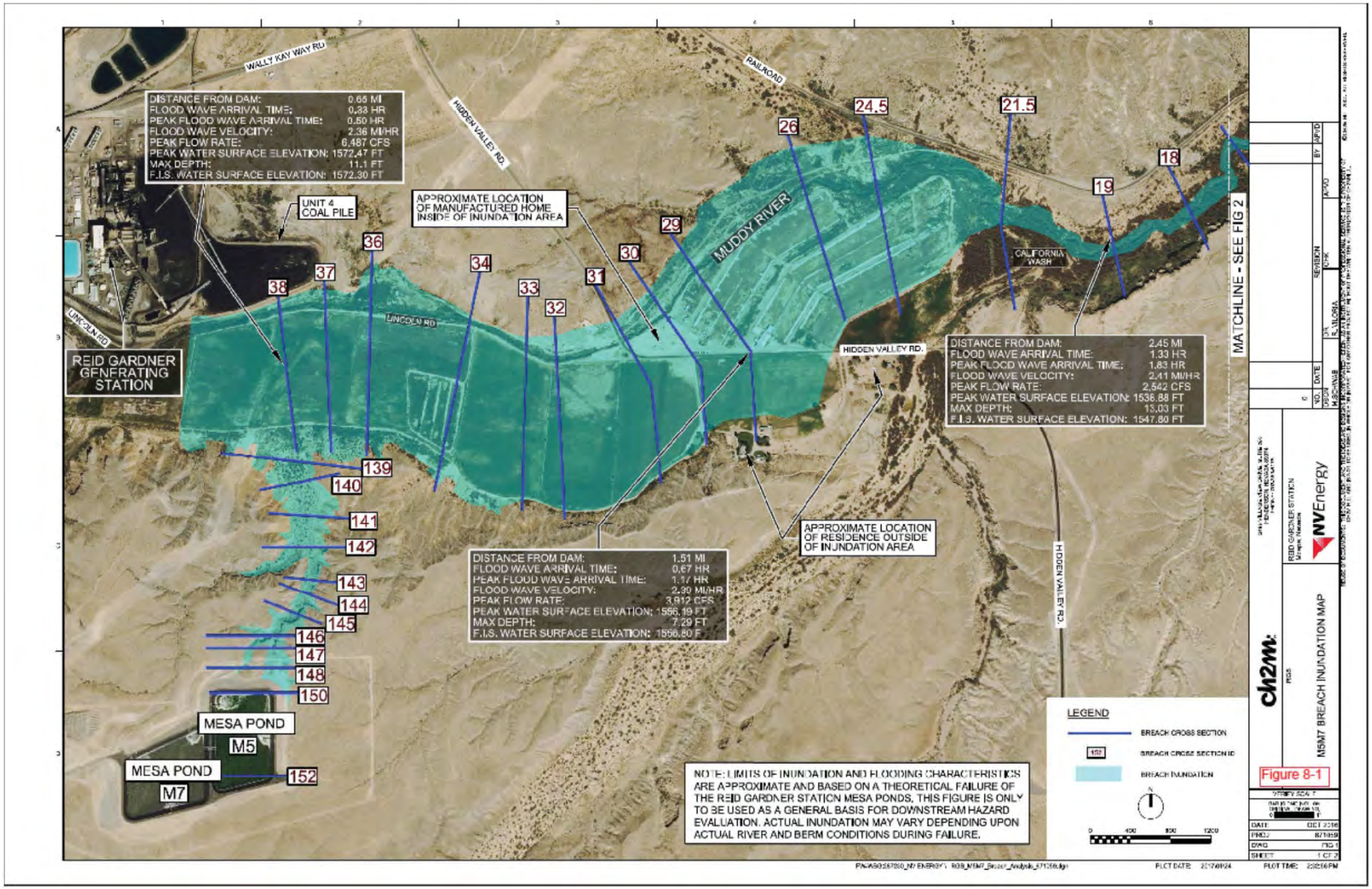
1. Pond Description
2. Responsibilities under the EAP
3. Preparedness
4. **Response Process**



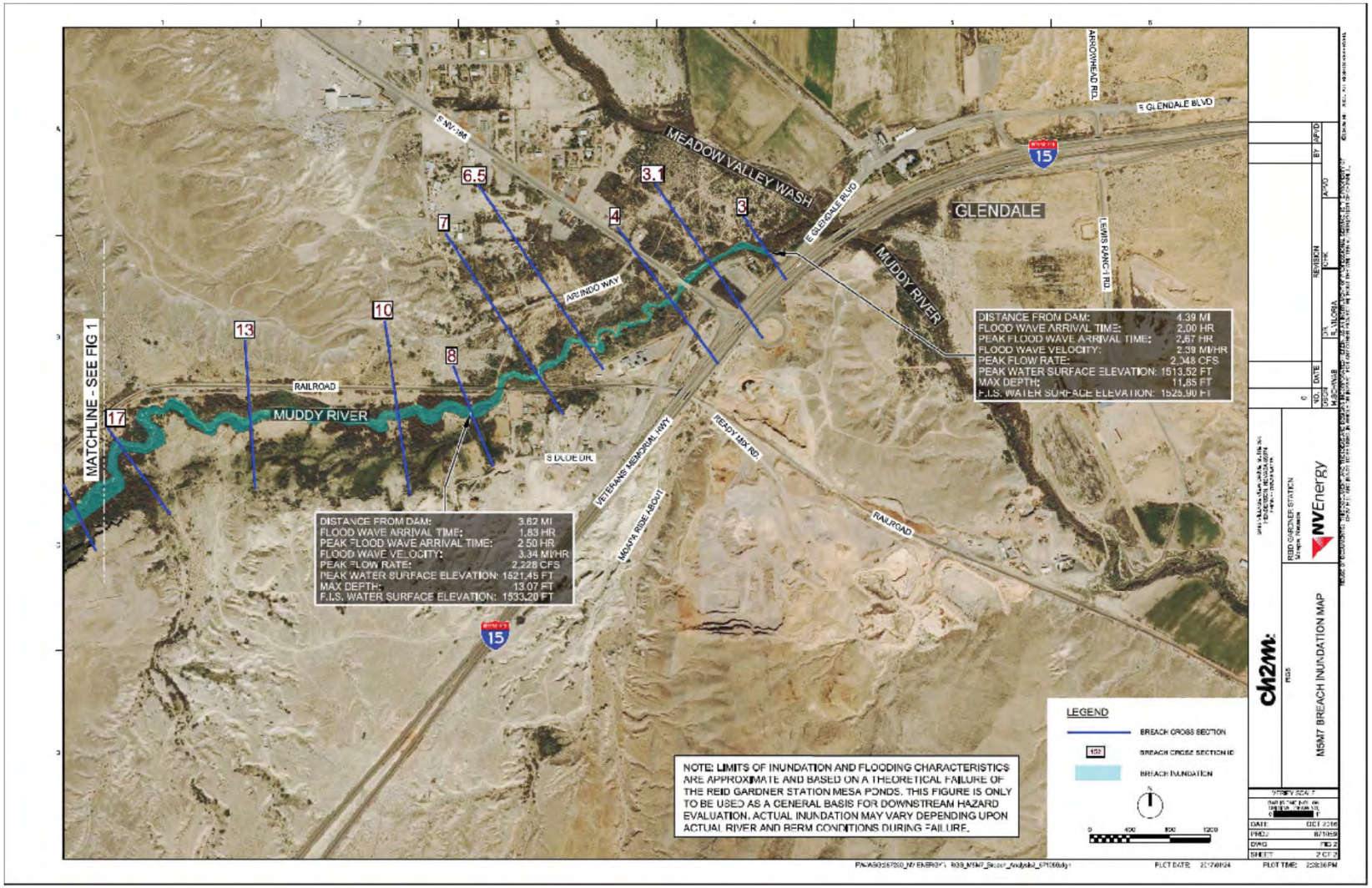
Incident Scenarios

Scenario	Conditions	Response
Non-Failure ✓	• water level > operational level, • minor seepage, cracking, sinkholes	• Engage internal experts for evaluation, monitoring and response
Potential Failure ✓	• Increasing discharge from seepage, cracks, • Water releasing from damaged structures, damaged piping • Verified security threats that if carried out could result in damage to the ponds	• Engage emergency responders for preparation and coordination • Engage dam-safety experts to evaluate actions to prevent failure or reduce impacts
Imminent Failure ✓	• Erosion of crest by large overtopping waves, water level overtopping top of berm • Rapidly progressing seeps, sinkholes, slides of embankment slopes	• immediately initiate evacuations • Make emergency notifications • Engage dam-safety experts to evaluate actions to delay failure or reduce impacts

Pond M5 and M7 Inundation Map



Pond M5 and M7 Inundation Map

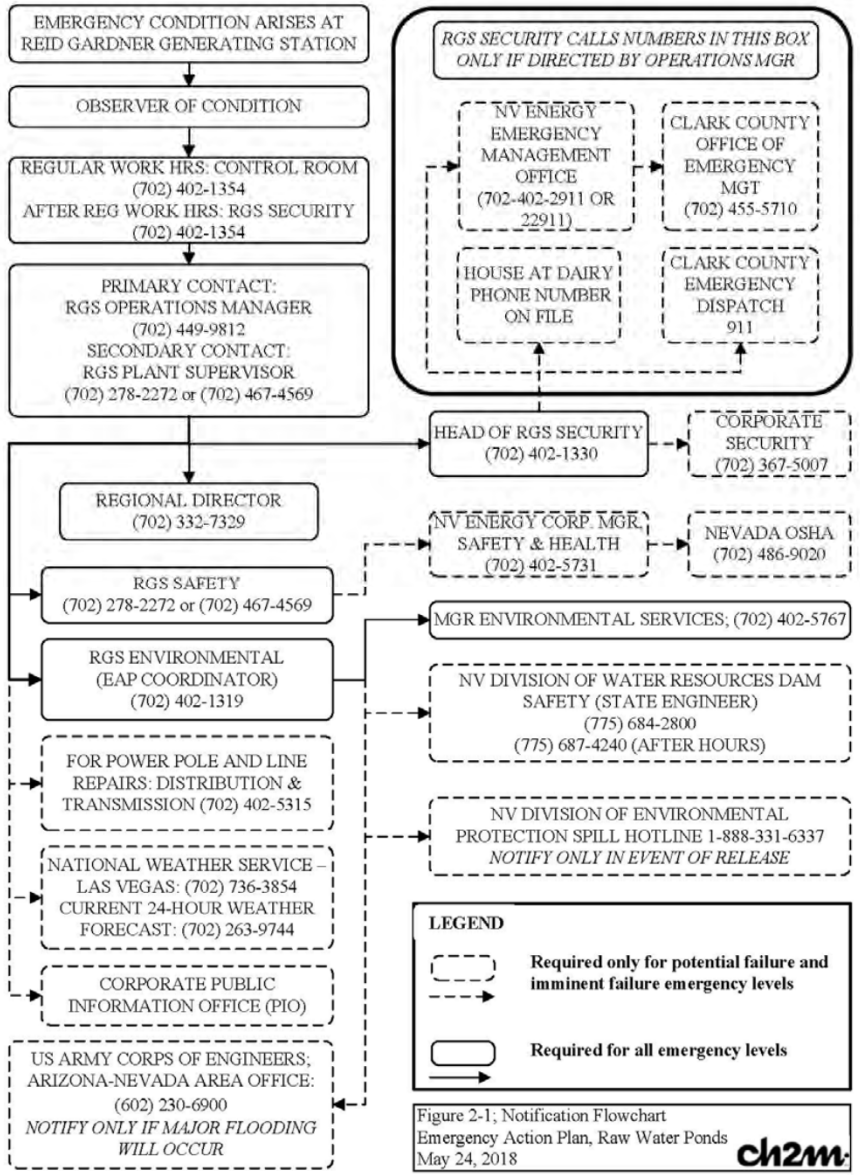


“Sunny Day” Dam Breach Analysis Results

36 mins	• time for leading edge of flood wave to reach the private residence where Hidden Valley Rd crosses the Muddy River
4,000 cfs	• Max flow at the private residence
5 ft.	• Max water elevation in dairy fields
1-2 ft.	• Max water elevation at private residence
2 miles	• distance it takes to contain potential flood in the Muddy River banks.

Emergency Notifications

Based on the level of the emergency, notify parties using the notification flow chart in Section 2 of EAP



Emergency Actions

Take emergency action

- prevent or delay dam failure
- mitigate impacts if failure cannot be avoided.

Depending on the indicators and potential level of failure, actions may include:

- monitoring berm conditions, control water levels and incoming flows, reinforce/repair berms, placing traffic controls, initiating evacuation, employing methods to divert flow post failure.

Select Roles and Responsibilities

Incident Commander	EAP Coordinator	Dam Safety Engineer	Emergency Management Authorities
• Ensures full response process is implemented during an event • decides when to terminate an event	• assist Incident Commander during emergencies • provide training • update documents	• consult during emergencies • conduct annual inspections • assist with updating EAP	• issue public warnings • perform evacuations • coordinate outside agency response

Questions?

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