EAST LAKE DAM FAILURE SCENARIO

Unit 2: ICS Fundamentals Review
Instructor Notes

Objective:
To apply key Unified Command principles.

Instructions:
Ask the students to work in groups to complete the following activity:

1. Review the following:
   - Scenario
   - Maps
   - Spillway Profile: Conditions and Critical Issues
   - Current Resources
   - Guidance for Determining the Emergency Level Associated with Dam Failure
     Staffing

2. Complete the following steps:
   a. Who has a stake in the incident?
   b. Who are the assisting and cooperating agencies?
   c. Is this a Single or Unified Command managed incident?
   d. If Single Command, who is the Incident Commander and why?
   e. If Unified Command, who are the members and why?

3. Draw an Organization Chart for your Incident Command or Unified Command.

4. Identify challenges and safety issues.

5. Record your results on chart paper that can be seen by the entire class.

6. Select a spokesperson and be prepared to present in 30 minutes.

7. Emphasize that the spokesperson should be able to explain the rationale for the
group’s decisions.
Scenario:

East Lake Dam is located 10 miles northeast of Central City in Liberty County. East Lake Dam provides water to Gold Mine, Blue Water, and the Mineral County Communities of Sumpter, Danton, and Bradley. Along with water supply, East Lake Dam provides hydropower, flood control, and water quality benefits to the surrounding communities.

East Lake Dam was designed and constructed by the Columbia Valley Authority (CVA) between 1938 and 1952 and extends 3,979 feet and has a maximum height of 94 feet. The East Lake Dam consists of an earthen embankment and a concrete section that controls outflow to the power plant and water level control. This dam was built to control flooding, provide hydroelectric power, enhance recreational opportunities, and provide quality potable water to area communities. It impounds the Roaring River and is approximately one mile across. It is capable of producing 140,400 kW. At maximum elevation, the dam impounds 162,000 acre-feet of water.

Fifteen years after completion, a study of muddy flows and two sinkholes at the toe of the dam revealed the karst topography of the supporting bedrock was causing significant seepage problems in the dam’s foundation, threatening its structural integrity. Ten years after the discovery of the seepage, a concrete diaphragm wall was constructed, which runs through the earthen embankment down to the bedrock. While this solution provided temporary relief from the dam’s erosion, instrumentation embedded throughout the dam has highlighted areas where seepage was not entirely blocked and has found new paths around the diaphragm. This continued degrading of the dam’s condition convinced the United States Army Corp of Engineers (USACE) to designate the East Lake Dam as “high risk” for failure. A sudden catastrophic failure of the East Lake Dam would cause a significant loss of life and cause serious economic losses. The loss estimates for Central City, the community most at risk below East Lake Dam, are loss of life of up to 5,000 individuals and a financial impact of five billion dollars.

The inundation map shows the extent of flooding that would occur if the East Lake Dam should experience a catastrophic failure. The Turtle River, south of Central City, would
also be impacted all the way to the coast. Currently, remediation approaches are plans for a larger diaphragm using newer technologies along with a grout curtain and a lowering of the lake level by a fifth of its normal height. Warning sirens have been installed to provide early warning to the populace in the event of the dam’s failure.
The Columbia Valley Authority (CVA) is managed by a commissioner and assistant commissioner who employ four (4) full-time and five (5) part-time Dam Technicians. The Dam Technicians are responsible for the monitoring and maintenance of the water control structures located within the watershed district. The CVA has one (1) large portable pump; three (3) dump trucks; one (1) backhoe; and five (5) pickup trucks.

Central City has a population of approximately 149,000. The police department employs 183 personnel dedicated to public safety and service. The fire department is comprised of 300 firefighters operating from 12 fire stations. Level 3 Minimum Staffing is 66 personnel on duty, with ten (10) Type 1 engines; two (2) Squirts; four (4) Type 1 aerials; two (2) brush trucks; four (1) water tender; and four (4) quick response vehicle.

Dam break flooding from East Lake Dam could threaten areas that have not historically had flooding problems. Catastrophic failure of East Lake Dam could impact Liberty County and Central City. Floods from the East Lake River, Roaring River, Swatera Creek, and Turtle River could impact the communities along their banks following the failure of the East Lake Dam. If the failure occurs during a period of heavy rains, all four waterways could be impacted and flooding could occur along their banks. The following three maps show the flood zones in Liberty County and in Central City.

During the month of March, Central City and other surrounding areas in the Liberty County have experienced unusually heavy rainfall. Approximately 2 weeks ago, rainfall and associated watershed runoff caused excessive auxiliary spillway flow at East Lake. Since construction of the dam, this was the first time that water had flowed through the auxiliary spillway. CVA personnel noticed late on Sunday afternoon that water was starting to seep through an area in the right side of the dam at approximately five (5) GPM and was mostly clear in appearance. Attempts to operate the slide gate on the principal spillway to initiate a water release failed. The CVA Commissioner immediately provided a situation report to the District Conservationist and Liberty County Emergency Manager.

Flood Inundation Maps of Liberty County show elevation contours and the 2, 10, 25, 50, 100, and 500 year flood zones for Central City and northern and southern Liberty County.
Also shown on the South Liberty County Map are the areas of expected flooding during a hurricane.

**North Liberty County Flood Map:**
Spillway Profile:

Conditions:

- The Liberty County Emergency Manager has requested the East Lake Dam Safety Incident Management Team.
- Additional CVA personnel have been requested to work on repairing the slide gate on the principal spillway, which will not function.
- Local law enforcement and fire department resources have been notified of the situation.
- At this time, no evacuations of residences or businesses directly below the dam have been requested.
- Liberty County’s Emergency Operation Center’s Public Information Officer is seeking permission to release a press statement about the incident.
- Current weather conditions are sunny to partly cloudy with no precipitation and temperatures in the low fifties.

Critical Issues:

- Implement required safety measures to protect responding personnel and the public.
- Immediately make a determination of what measures can be taken to release water from East Lake to reduce pressure on the earthen dam.
Current Resources:

**Columbia Valley Authority (CVA):**
- Supervisory Personnel: (1) Dam Assistant Commissioner
- Dam Maintenance Labor: (2) FTE Dam Technicians 2 person crews
- Portable Pump: (1) Large
- Backhoes: (1) wheeled backhoe/front loader
- Dump Trucks: (3) single axle dump trucks
- Pickup Trucks: (5) F150

**Liberty County:**
- County Personnel: (1) District Conservationist
- Area Personnel: (1) Soil Conservation Technician
- Area Personnel: (1) Area Engineer

**Law Enforcement:**
- Liberty County Sheriff Department: (2) patrol units with 2 deputies
- Central City Police Department: (2) patrol unit with 1 officer

**Fire Department:**
- Central City Fire Department: (2) Type 1 engines and 6 firefighter/EMTs

**Public Works:**
- Liberty County: (4) dump trucks
- (2) backhoe/front loaders
- (2) road graders
Guidance for Determining the Emergency Level Associated With Dam Failure:

Step 1: Event Detection

- Detect event
  - Assess situation
determine emergency level

Step 2: Emergency Level Determination

- Level 1
  - Unusual Event; Slowly Developing
  - Notify
    - Level 1 Lists
  - Monitor

- Level 2
  - Potential Dam Failure Situation; Rapidly Developing
  - Notify
    - Level 2 Lists
  - Save dam
    - Protective Actions

- Level 3
  - Urgent; Dam Failure Appears to be Imminent or is in Progress
  - Notify
    - Level 3 Lists
  - Save people
    - Evacuate

Step 3: Notification and Communication

Step 4: Expected Actions

Step 5: Termination and Follow-up

Termination and follow-up
This step describes the detection of an unusual or emergency event and provides information to assist the dam operator in determining the appropriate emergency level. Unusual or emergency events may be detected by:

- Observations at or near the dam by government personnel (local, State, or Federal), landowners, visitors to the dam, or the public.
- Evaluation of instrumentation data.
- Earthquakes felt or reported in the vicinity of the dam.
- Forewarning of conditions that may cause an unusual event or emergency event at the dam (for example, a severe weather or flash flood forecast).

**Step 2: Emergency Level Determination**

After an unusual or emergency event is detected or reported, the event is classified into one of the following three emergency levels:

**Emergency Level 1 - Non-emergency, unusual event, slowly developing:**
This situation is not normal but has not yet threatened the operation or structural integrity of the dam, but possibly could if it continues to develop. Columbia Valley Authority (CVA) technical representatives or State Dam Safety Officials should be contacted to investigate the situation and recommend actions to take. The condition of the dam should be closely monitored, especially during storm events, to detect any development of a potential or imminent dam failure situation. The Liberty County Emergency Management Director should be informed if it is determined that the conditions may possibly develop into a worse condition that may require emergency actions.

**Emergency Level 2 - Potential dam failure situation, rapidly developing:**
This situation may eventually lead to dam failure and flash flooding downstream, but there is not an immediate threat of dam failure. The Liberty County Emergency Management Director should be notified of this emergency situation and placed on alert. The dam operator should closely monitor the condition of the dam and periodically report the status of the situation to the Liberty County Emergency Management Director. If the dam condition worsens and failure becomes imminent, the Liberty County Emergency Management Director must be notified immediately of the change in the emergency level to evacuate the people at risk downstream. If time permits, Columbia Valley Authority (CVA) and State Dam Safety Officials should be contacted to evaluate the situation and recommend remedial actions to prevent failure of the dam. The Dam Operator should initiate remedial repairs. Time available to employ remedial actions may be hours or days.

This emergency level is also applicable when flow through the earth spillway is expected to result in flooding of downstream areas that could endanger people near the channel. Emergency services should be on alert to initiate evacuations or road closures if the flooding increases.
**Emergency Level 3 - Urgent; dam failure appears imminent or is in progress:**
This is an extremely urgent situation when a dam failure is occurring or obviously is about to occur and cannot be prevented. Flash flooding will occur downstream of the dam. This situation is also applicable when flow through the earth spillway is causing downstream flooding of people and roads. The Liberty County Emergency Management Director should be contacted immediately so emergency services can begin evacuations of all at-risk people and close roads as needed.

<table>
<thead>
<tr>
<th>EVENT</th>
<th>SITUATION</th>
<th>EMERGENCY LEVEL*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth Spillway Flow</td>
<td>Reservoir water surface elevation at auxiliary spillway crest or spillway is flowing with no active erosion</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Spillway flowing with active gully erosion</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Spillway flow that could result in flooding of people downstream if the reservoir level continues to rise</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Spillway flowing with an advancing head cut that is threatening the control section</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Spillway flow that is flooding people downstream</td>
<td>3</td>
</tr>
<tr>
<td>Embankment Overtopping</td>
<td>Reservoir level is 1 foot below the top of the dam</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Water from the reservoir is flowing over the top of the dam</td>
<td>3</td>
</tr>
<tr>
<td>Seepage</td>
<td>New seepage areas in or near the dam</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>New seepage areas with cloudy discharge or increasing flow rate</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Seepage with discharge greater than 10 gallons per minute</td>
<td>3</td>
</tr>
<tr>
<td>Sinkholes</td>
<td>Observation of new sinkhole in reservoir area or on embankment</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Rapidly enlarging sinkhole</td>
<td>3</td>
</tr>
<tr>
<td>Embankment Cracking</td>
<td>New cracks in the embankment greater than ¼-inch wide without seepage</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Cracks in the embankment with seepage</td>
<td>2</td>
</tr>
<tr>
<td>Embankment Movement</td>
<td>Visual movement/slippage of the embankment slope</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sudden or rapidly proceeding slides of the embankment slopes</td>
<td>3</td>
</tr>
<tr>
<td>Instruments</td>
<td>Instrumentation readings beyond predetermined values</td>
<td>1</td>
</tr>
<tr>
<td>Earthquake</td>
<td>Measurable earthquake felt or reported on or within 50 miles of</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>-------------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td><strong>the dam</strong></td>
<td>Earthquake resulting in visible damage to the dam or appurtenances</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Earthquake resulting in uncontrolled release of water from the dam</td>
<td>3</td>
</tr>
<tr>
<td><strong>Security</strong></td>
<td>Verified bomb threat that, if carried out, could result in damage to the dam</td>
<td>2</td>
</tr>
<tr>
<td><strong>Threat</strong></td>
<td>Detonated bomb that has resulted in damage to the dam or appurtenances</td>
<td>3</td>
</tr>
<tr>
<td>**Sabotage/</td>
<td>Damage to dam or appurtenance with no impacts to the functioning of the dam</td>
<td>1</td>
</tr>
<tr>
<td><strong>Vandalism</strong></td>
<td>Modification to the dam or appurtenances that could adversely impact the functioning of the dam</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Damage to dam or appurtenances that has resulted in seepage flow</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Damage to dam or appurtenances that has resulted in uncontrolled water release</td>
<td>3</td>
</tr>
</tbody>
</table>

* **Emergency Level 1:** Non-emergency unusual event, slowly developing
  **Emergency Level 2:** Potential dam failure situation, rapidly developing
  **Emergency Level 3:** Urgent; dam failure appears imminent or is in progress
EAST LAKE DAM FAILURE SCENARIO

Unit 3: Initial Actions for Unified Command
Instructor Notes

Objective:
To organize groups into Incident Management Groups; review and complete ICS Form 201, Incident Briefing; and identify issues related to the simulated incident.

Instructions:
Ask the students to work in groups to complete the following activity:
1. Review the scenario and additional resources.
2. Given a partially completed ICS Form 201 and the scenario information, complete the missing elements on the ICS Form 201.
3. Determine what Command and General positions will be staffed and depict on an organizational chart and be prepared to describe and explain.
4. Using the initial objectives from the ICS Form 201, develop incident objectives for the next Operational Period.
5. Document your objectives and organization on chart paper. Make sure your objectives are SMART!
6. Select a spokesperson and be prepared to describe and explain the rationale for your objectives and organization in 30 minutes.

INCIDENT BRIEFING (ICS FORM 201)

Partially Completed ICS Form 201 for Student Activity - Refer to ICS_300_AAM_ELDFS_ICS_Form_201.pdf

Note: There is not a completed ICS Form 201 for instructor reference for this scenario.
Scenario:

It is now approximately 0700 on Monday morning. On Sunday afternoon, technicians with the Columbia Valley Authority (CVA) begin assessing the damage to the dam and attempting to open the slide gate on the principal spillway. Officials from the Natural Resources Conservation Service (NRCS) are involved currently in an advisory capacity.

CVA crews began the task of pumping out water from the lake to allow repairs to be made to the slide gate. The pumping process began just after 2100 on Sunday with the reservoir level approximately 12 feet below the top of the dam. The CVA Assistant Commissioner stated that a 10-inch pump was brought in that has the ability to pump 3,500 gallons of water per minute. Two other similar pumps are to be brought in by the end of the day on Monday to further assist with water removal.

Weather reports from the National Weather Service indicate that a weather system may move through the area on Thursday that could produce 1-2 inches of rainfall. Current temperatures remain in the low to mid 50s during the day with nighttime lows in the high forties. Currently, there is no precipitation.

The Governor has inquired through State Emergency Management if the National Guard will be needed should the dam fail.

At approximately 1300 on Monday, the water flow from the leak in the dam that was discovered on Sunday afternoon has now increased in flow. The two (2) additional pumps have been located and are about three (3) hours from being delivered. Dam technicians have still been unable to open the non-functioning spillway release. Discussions between the CVA Assistant Commissioner and the Central City Fire Chief have taken place regarding whether the Central City Fire Department Dive Team may be able to assist with the opening of the slide gate on the principal spillway structure.

State Route 52 is south-southwest of the dam and spillway. There is an older (wood pilings) bridge on State Route 52 that crosses the river through which the water from the spillway flows. The extra-heavy runoff from the auxiliary spillway two weeks ago resulted in significant erosion in the downstream release channel and caused considerable erosion on the embankment of the State Route 52 bridge. With the principal spillway continuing to keep a large volume of running water in the creek, the embankment slopes are saturated and beginning to be unstable. Some slides on the slope are occurring. Columbia Department of Transportation officials have inspected the damage and are very concerned that unless action is taken soon, the roadway and bridge could be in danger of being severely damaged. State Route 52 is a major roadway in the county.

Several nearby homeowners are starting to ask questions about the situation, and small groups of people are gathering close to the dam to observe the work that is taking place.
Additional Resources:

**Columbia Valley Authority (CVA):**
- Supervisory Personnel
  - (1) Dam Commissioner
  - (1) Dam Assistant Commissioner
- Dam Maintenance Labor
  - (4) FTE Dam Technicians 2 person crews
  - (5) PTE Dam Technicians 2 person crews
- Portable Pump
  - (3) diesel powered heavy duty trash pumps
- Backhoes
  - (1) wheeled backhoe/front loader
- Dump Trucks
  - (3) single axle dump trucks
- Pickup Trucks
  - (5) F150
- Wood Timber for Shoring
  - (1) 12’ x 15’ trailer with heavy wood timber
- Fuel Truck
  - (1) fuel truck with operator

**State of Columbia Department of Environmental Quality (DEQ):**
- State personnel
  - (1) State Dan Safety Officer

**Liberty County:**
- County Personnel
  - (1) District Conservationist
  - (1) Soil Conservation Technician
  - (1) Engineering Specialist
- Area Personnel
  - (1) Area Engineer

**Law Enforcement:**
- Liberty County Sheriff Department
  - (2) patrol units with 2 deputies
- Central City Police Department
  - (2) patrol unit with 1 officer
- Columbia State Police
  - (2) patrol units with 2 State Troopers

**Fire Department:**
- Central City Fire Department
  - (2) Type 1 engines and 6 firefighter/EMTs
  - (2) Type 1 engines and 8 firefighters/EMTs
  - (1) 4-person Dive Team

**Public Works:**
- Liberty County
  - (4) dump trucks
  - (2) wheeled backhoe/frontend loaders
  - (2) road graders
  - (1) crane with pile driver
State Department of Transportation:
- Road Supervisor (1) with pickup truck
- Maintenance Workers (4) 2-person crews
- Programmable Road Signs (2) mobile programmable road signs
- Dump Trucks (8) single axle dump trucks
- Backhoe (2) wheeled backhoe/frontend loaders
- Excavator (1) tracked hydraulic excavator w/transport
- Bulldozer (2) bulldozers (e.g., JD 650)

Emergency Medical Services:
- Liberty County Rescue Squad (2) Type 2 ambulances with 4 paramedics

Local Resources Alerted:
- American Red Cross
- Salvation Army
- Central City High School
EAST LAKE DAM FAILURE SCENARIO

Unit 4: Implementing an Operational Planning Process
Instructor Notes

Objective:
To select tactics and conduct safety analysis for the next Operational Period resulting in the completion of ICS Forms 215 and 215A. Students may use the tactics meeting agenda as a template when conducting their group discussions.

Instructions:
Ask the students to work in groups to complete the following activity:
1. Review the following in your handouts:
   • Scenario Update
   • Strategies / Tactics
   • Updated Incident Objectives
   • Current Resources
   • Partially completed ICS Form 215
   • Blank ICS Form 215A
2. Complete the ICS Form 215 using the available information.
   Point out that the Operational Planning Worksheet (ICS Form 215) has the information needed to complete tactical direction for the incident.
3. Based on the tactics selected on the ICS Form 215, complete the Safety Analysis (ICS Form 215A).
4. Be prepared to present in 60 minutes.
Scenario Update:

It is now 0900 on Tuesday morning. Technicians with the Columbia Valley Authority (CVA) were only able to get one additional pump into service late Monday night. They plan to continue working to bring the third pump into service during the day on Tuesday.

Weather conditions continue to be favorable. However, the National Weather Service is still predicting that additional rainfall of 1-2 inches is expected Thursday afternoon or Thursday night.

There is another water containment structure in Liberty County known as Little East Lake that is located approximately 1.5 miles northeast of Central City. Little East Lake is 5 acres in size and construction was completed in 1954. The lake is owned and managed by the State of Columbia Game and Fish Commission and its primary purpose is recreation. The spillway from the lake drains into East Lake River.

The State of Columbia Fish and Game Commission released a considerable amount of water during the heavy rainfall two weeks ago to reduce the pressure on the lake’s dam. This release of water apparently may have contributed to the recent damage that was noticed at the sewage treatment plant operated by the Central City. Central City Department of Public Works’ Sewage Treatment Commission has indicated that two of the plant’s lagoons are starting to leak through their dikes, with runoff going into Roaring River. They are requesting technical assistance from the State of Columbia Department of Environmental Quality (DEQ) to properly assess the problem.

At approximately 1030, CVA Commissioner Joe Randle reports that the leak in the dam has not slowed and that the Central City Dive Team was not successful in their efforts to hook a chain to the frozen slide gate and winch it open. Although the pumps are not removing enough water to lower the level sufficiently to open the slide gate, the decision is made to keep the pumps working.

At approximately 1430, the water flow significantly increases. The flow from the leak is now estimated to be at 15 GPM and is cloudy in appearance.

Several television stations have sent crews to the area to interview responders and neighboring property owners about the issue.

Incident Objectives:

Incident objectives include:

- Implement required safety measures to protect responding personnel and the public.
- Implement evacuation and temporary shelter plan to provide housing for all displaced residents in case of flooding.
- Evacuate and relocate retirement home residents before the onset of flooding.
- Prevent breach of dikes surrounding sewage treatment lagoons.
- Provide timely and accurate information to the public through the Joint Information Center (JIC).
Strategies/Tactics:
Happy Valley Assisted Living Facility is located southeast of East Lake. The facility has an Emergency Action Plan (EAP) that states that all residents will be relocated to their sister facility in Murry Hill. The plan calls for the use of private buses for ambulatory residents and the use of a private ambulance service to move non-ambulatory patients. In certain cases, the EAP states that assistance will be requested from the Fire Department and local school district.

The American Red Cross has established a shelter at the Central City High School. In collaboration with the Salvation Army and local churches, they will manage the shelter and provide food and other essentials for displaced residents.

The Central City Sewage Commission will monitor and work to protect the dikes on the town’s sewage treatment lagoons. Columbia Department of Transportation officials will continue to monitor and improve the structural integrity of the roadway and bridge on State Route 52.

Current Resources:

Columbia Valley Authority (CVA):

| Supervisory Personnel | (1) Dam Commissioner |
| Dam Maintenance Labor crews | (1) Dam Assistant Commissioner |
| (4) FTE Dam Technicians 2 person crews |
| (5) PTE Dam Technicians 2 person crews |
| Portable Pump | (3) diesel powered heavy duty trash pumps |
| Backhoes | (1) wheeled backhoe/front loader |
| Dump Trucks | (3) single axle dump trucks |
| Pickup Trucks | (5) F150 |
| Wood Timber for Shoring timber | (1) 12’ x 15’ trailer with heavy wood timber |
| Fuel Truck | (1) fuel truck with operator |

State of Columbia DQ:

| State personnel | (1) State Dan Safety Officer |

Liberty County:

| County Personnel | (1) District Conservationist |
| (2) Soil Conservation Technician |
| (2) Engineering Specialist |

| Area Personnel | (1) Area Engineer |
Law Enforcement:
Liberty County Sheriff Department (2) patrol units with 2 deputies
Central City Police Department (2) patrol unit with 1 officer
Columbia State Police (2) patrol units with 2 State Troopers

Fire Department:
Central City Fire Department (2) Type 1 engines and 6 firefighter/EMTs
(2) Type 1 engines and 8 firefighters/EMTs
(1) 4-person Dive Team

Public Works:
Liberty County (4) dump trucks
(2) wheeled backhoe/frontend loaders
(2) road graders
(1) crane with pile driver

State Department of Transportation:
Road Supervisor (1) with pickup truck
Maintenance Workers (4) 2-person crews
Programmable Road Signs (2) mobile programmable road signs
Dump Trucks (8) single axle dump trucks
Backhoe (2) wheeled backhoe/frontend loaders
Excavator w/transport (1) tracked hydraulic excavator
Bulldozer (2) bulldozers (e.g., JD 650)

Emergency Medical Services:
Liberty County Rescue Squad (2) Type 2 ambulances with 4 paramedics

Local Resources Alerted:
American Red Cross
Salvation Army
Magnolia High School

INCIDENT ACTION PLAN SAFETY ANALYSIS (ICS FORM 215A)

Partially Completed ICS Form 215:
Refer to ICS_300_AAM_ELDLS_ICS_Form_215.pdf

Blank ICS Form 215A:
Refer to ICS_300_AAM_ELDLS_ICS_Form_215A.pdf
Objective:
To complete the planning cycle by developing a written IAP, developing the Operations Briefing agenda, and conducting an Operations Briefing for a simulated incident.

This activity is divided into two components. In Part 1, students will prepare an Incident Action Plan (IAP). In Part 2, students will develop the Operations Briefing agenda and then outbrief the IAP (developed in Part 1) in an Operations Briefing.

Instructions for Part 1:
Ask the students to work in groups to complete the following activity:

1. Prepare an Incident Action Plan, using (at a minimum) ICS Forms 202, 203, 204(s), 205, 206, 207, and 208.
2. Be prepared to finish in 45 minutes.

Instructions for Part 2:
Ask the students to work in groups to complete the following activity:

1. Outline the agenda for the Operations Briefing.
2. Select a spokesperson to present your IAP as a concise 5- to 10-minute Operations Briefing. Be prepared to present in 15 minutes.
3. Provide students with blank copies of the ICS Forms located in the Appendix.
Part 1: Evaluation of IAP Required ICS Forms:

Use the following as a checklist.

**Incident Objectives (ICS Form 202)**

- Provides incident name ________ and uses date and 24-hour format for Operations Period.
- Provides clear, concise SMART statements of objectives in priority order
- Provides clear command emphasis (tactical priorities or weather forecast).
  Example: Be aware of a specific danger/hazard.
- Provides general situational awareness like weather forecast, incident conditions, and/or general safety message approved by the Safety Officer and in alignment with the Safety Message/Plan (ICS Form 208). Checked if Site Safety Plan is required and plan location provided.
- Identifies/checks all accompanying IAP attachments. Crosscheck documents are all checked and present.
- Confirm prepared by signature and approved by IC signature.

**Organization Assignment List (ICS Form 203)**

- Provides incident name ________ and uses date and 24-hour format for Operations Period.
- Confirm Incident Command and Command Staff are listed as appropriate for the incident operational period.
- Confirm Agency/Organization Representatives are listed as appropriate for the incident operational period.
- Confirm Planning Section Staff are listed as appropriate for the incident operational period.
- Confirm Logistics Section/Support Branch/Service Branch Staff are listed as appropriate for the incident operational period.
- Confirm Operations Section/Branch/Air Operations Branch Staff are listed as appropriate for the incident operational period.
- Confirm Finance/Administration Staff are listed as appropriate for the incident operational period.
- Confirm prepared by signature.

**Unit Assignment List (ICS Form 204(s))**

- Provides incident name ________ and uses date and 24-hour format for Operations Period.
- Provides Branch, Davison, Group and Staging Area as appropriate for the incident operational period.
- Identifies assigned resources as appropriate for the incident operational period.
Identifies Operations personnel names and contact information to include unit identifier, leader’s name, and total number of assigned persons. Must include leader in the total.

Provides special notes or directions specific to assigned resource like drop off/pick up location, special equipment/supplies needed, resource briefings, and transportation needs.

Provides a work assignment through tactical objectives to be achieved.

Provides special instructions appropriate for the incident operational period. Keyed in on any safety problems or specific precautions to be exercised.

Provides specific communications information.

Confirm prepared by signature and approved by IC signature.

Communications List (ICS Forms 205 or 205A)

Provides incident name ________ and uses date and 24-hour format for Operations Period.

Provides communications methods assigned to personnel by their assigned ICS position as appropriate for the incident operational period.

Confirm prepared by signature.

Medical Plan (ICS Form 206)

Provides incident name ________ and uses date and 24-hour format for Operations Period.

Provides information on Medical Aid Stations.

Provides information on air and ground EMS transportation.

Provides information on hospitals that could serve this incident.

Provides any special emergency instructions for use by incident personnel to include procedures for how to report medical emergencies.

Confirm prepared by signature and approved by Safety Officer signature.
Incident Organization Chart (ICS Form 207)

- Provides incident name ________ and uses date and 24-hour format for Operations Period.
- Completed incident organization chart consistent with the provided Organization Assignment List (ICS Form 203).
- Confirm prepared by signature.

Safety Message/Plan (ICS Form 208)

- Provides incident name ________ and uses date and 24-hour format for Operations Period.
- Provides a clear, concise safety message that is consistent with the key command emphasis/decisions/directions found on the Incident Objectives (ICS Form 202).
- Includes known safety hazards and specific precautions to be observed and consistent with the Unit Assignment List (ICS Form 204(s)).
- Check if Site Safety Plan is required and plan location provided.
- Confirm prepared by signature.
Part 2: Evaluation of Operations Briefing Agenda and Briefing:

Use the following as a checklist to review each group’s completed Operations Briefing Agenda and provide constructive feedback on each group’s Operations Briefing presentation (concise 5 to 10 minute) of their IAP. Refer students to Handout 5-1: Preparing for the Planning Meeting and Handout 5-2 Sample Planning Meeting Agenda.

- **Planning Section Chief** – “Introduction” Brings briefing to order, covers ground rules, and refers to agenda.
- **Incident Commander/Unified Command** – Provides opening remarks.
- **Situation Unit Leader** and any needed **Technical Specialists** covers current situation, weather, and incident Projections
- **Planning Section Chief** - Covers Incident Objectives and priorities for the group.
- **Operations Section Chief** - Provides overview of the current operations and the proposed operations plan. This includes strategies, tactics/ work assignments, resource commitments, Operations Section organization, facilities, using the Operational Planning Worksheet (ICS Form 215).
- **Logistics Section Chief** - Validates that Communications, Medical, Transportation Unit, and Supply Units concur with and capable of supporting the proposed plan.
- **Finance/Administration Section Chief** - Indicates fiscal constraints and verifies the proposed plan fits with financial constraints.
- **Public Information Officer** - Provides public information plan and methodologies to meet objectives and verifies that public information outreach meets objectives.
- **Liaison Officer** - Confirms interagency issues are being addressed.
- **Other Staff** or **Technical Specialists** as needed.
- **Safety Officer** - Provides Safety Plan/Site Safety Plan using wall-sized Incident Action Plan Safety Analysis (ICS Form 215A) discusses hazards/risks, and mitigation measures employed to mitigate and manage risks.
- **Planning Section Chief** - Final confirmation and support by polling Command and General Staff members to solicit their final input and commitment to the proposed plan.
- **Incident Commander/Unified Command** - Approves the AIP as presented and committed to by Command and General Staff.
- **Incident Commander/Unified Command** - Provides any final or closing comments.
- **Planning Section Chief** - Identifies assignments and deadlines to appropriate Incident Management Team members for developing IAP components for the next operational period.
- **Planning Section Chief** - Provides schedule for upcoming meetings and briefings and adjourns the meeting.
Your Notes:
EAST LAKE DAM FAILURE SCENARIO

Unit 6: Incident Resource Management

Instructor Notes

Objective:
To describe how resources are ordered and to identify the challenges and strategies for managing resources during an incident.

Instructions:
Ask the students to work in groups to complete the following activity, given your scenario:

1. Review the Operational Planning Worksheet (ICS Form 215) and Safety Analysis (ICS Form 215A) completed in the previous unit.
2. Describe how resources will be ordered (single point or multipoint) for this incident, from what sources resources will be acquired, and how long they will need to be deployed.
3. Identify the top challenges and strategies for managing resources during this incident.
4. Describe the method for evaluating resource effectiveness.
5. Select a spokesperson and be prepared to present your work in 30 minutes.
Your Notes:
EAST LAKE DAM FAILURE SCENARIO

Unit 7: Demobilization, Transfer of Command, Closeout, & Transition to Recovery

Instructor Notes

Objective:
To identify demobilization considerations, given the threaded scenario.

Instructions:
Ask the students to work in groups to complete the following activity:

1. Review the information you developed in the previous activities, the scenario update and the 5 elements of a Demobilization Plan.
2. Write 5 considerations for demobilization for your scenario on an easel chart.
3. Based on your scenario, are there any unique demobilization release priorities?
4. Select a spokesperson and be prepared to present your work in 15 minutes.
Scenario Update:
It has been two weeks since the initial incident occurred and the slide gate has been repaired so that it can be opened to lower the water level. The pressure on the dam has been relieved but the water level is sufficient to support the community water requirements. Further inspections and testing are underway to determine the best method of repairing the weakened dam structure. Home and business owners have been allowed to return.

New Incident Objectives:

- Implement required safety measures to protect responding personnel and the public.
- Develop a plan to turn the dam back over to the Central City and the Columbia Valley Authority (CVA) with the consideration of continued assistance from State of Columbia Department of Environmental Quality.
- Maintain monitoring of the leak.
- Develop and implement a Demobilization Plan to ensure that surplus personnel and equipment are released in a timely manner.