

Incident Status Summary (ICS-209)

Incident: **Spillway - DWR Assist**

1. Incident Name: Spillway - DWR Assist		2. Incident Number: CA-CDF-000114	
3. Report Version (check one box): Initial <input checked="" type="checkbox"/> Update Final	4. Incident Commander(s) & Agency or Organization: Lawson/Whitlock/Honea	5. Incident Management Organization: Type 1 Team <input checked="" type="checkbox"/> Unified Command	6. Incident Start Date/Time: Date: 02/07/2017 Time: 1400 PST
7. Current Incident Size or Area Involved (use unit label – e.g., “Acres”, “Square Miles”): 4002 Acres	8a. Percent (%) Contained or Completed: 0 %	9. Incident Type: Other B. Incident Description: Oroville Dam compromised spillway C. Cause: Unknown D. Fire Suppression Strategy:	10. Incident Complexity Level: <input checked="" type="checkbox"/> Single <input type="checkbox"/> Complex CALFIRE Incident Management Team 3 assigned in Unified Command with Department of Water Resources and Butte County Sheriffs Office.
	b. Total Percentage (%) of Perimeter that will be Contained or Completed: 0 %		
12. Prepared By: Print Name: Todd Tuggle - SITL (T) Date/Time Prepared: 02/15/2017 1730 PST		13. Approved By: Print Name: Barry Biermann - IC Signature: _____	
14. Date/Time Submitted: 02/15/2017 1741 PST		15. Primary Location, Organization, or Agency Sent To: California Department of Forestry/ CALFIRE	
16. State: CA	17. County / Parish / Borough: Butte		18. City: Oroville
19. Unit or Other: Oroville Field Division	20. Incident Jurisdiction: DWR	21. Incident Location Ownership (if different than jurisdiction):	
22. Latitude/Longitude: Latitude: 39° 32' 22" Longitude: 121° 29' 49"	23. US National Grid Reference: Grid Zone: x-Coordinate: y-Coordinate:		24. Legal Description: Principal Meridian: Mt. Diablo Township: 19N Range: 4E Section: 2 1/4 Sec: of 1/4 Sec: NW
25. Short Location or Area Description (list all affected areas or a reference point): Oroville Dam Spillway, Feather River, and Thermalito diversion pool.			26. UTM Coordinates: Zone: 10 Easting: 629160

Incident Status Summary (ICS-209)

Incident: **Spillway - DWR Assist**

	Northing: 4377732
--	--------------------------

27. Note any geospatial data available (indicate data format, content, and collection time information and labels):

28. Observed Fire Behavior or Significant Events for the Time Period Reported (describe fire behavior using accepted terminology. For non-fire incidents, describe significant events related to the materials or other causal agents):

Narrative:

The cofferdam project was cancelled today due to potential impacts on flow rates from Hyatt Power Plant. Progress made along the emergency spillway erosion area.

29. Primary Fuel Model, Materials, or Hazards Involved (hazardous chemicals, fuel types, infectious agents, radiation, etc):

Narrative:

Water, concrete, soil/dirt, trees, debris are the main hazards to the spillways and downstream infrastructure.

30. Damage Assessment Information (summarize damage and/or restriction of use or availability to residential or commercial property, natural resources, critical infrastructure and key resources, etc):

The main spillway debris continues to impede uniform downstream flow creating elevated tailrace levels causing potential flooding of the Hyatt power plant. The power plant, if severely damaged, has the potential to create severe human, cultural, environmental and economic impacts. Work is being done to reinforce the emergency spillway in an effort to mitigate the potential of a breach if water were to overtop in the future. The Feather River Fish Hatchery moved most aquatic assets to safe areas. California State Parks closed trails around the spillways and portions of the lake where necessary.

A. Structural Summary	B. # Threatened (up to 72 hrs)	C. # Damaged	D. # Destroyed
E. Single Residences	0	0	0
F. Multiple Residences	0	0	0
G. Mixed Commercial / Residential	0	0	0
H. Nonresidential Commercial Property	0	0	0
I. Other Minor Structures	0	0	0

31. Public Status Summary:

C. Indicate the Number of Civilians (Public) Below:

	Previous Report Total	A. # this Reporting Period	B. Total # to-date
D. Fatalities	0		0
E. With Injuries/Illness	0		0
F. Trapped/In Need of Rescue	0		0
G. Missing	0		0
H. Evacuated	0		0
I. Sheltering in Place	0		0
J. In Temporary Shelters	0		0

32. Responder Status Summary:

C. Indicate the Number of Responders Below:

	Previous Report Total	A. # this Reporting Period	B. Total # to-date
D. Fatalities	0		0
E. With Injuries/Illness	0		0
F. Trapped/In Need of Rescue	0		0
G. Missing	0		0
H. Evacuated	0		0
I. Sheltering in Place	0		0
J. In Temporary Shelters	0		0

Incident Status Summary (ICS-209)

Incident: Spillway - DWR Assist

	Previous Report Total	A. # this Reporting Period	B. Total # to-date		Previous Report Total	A. # this Reporting Period	B. Total # to-date
K. Have Received Mass Immunizations	0		0	K. Have Received Mass Immunizations	0		0
L. Require Immunizations	0		0	L. Require Immunizations	0		0
M. In Quarantine	0		0	M. In Quarantine	0		0
N. Total # Civilians (Public) Affected:	0		0	N. Total # Responders Affected:	0		0

<p>33. Life, Safety, and Health Status/Threat Remarks: All work on the emergency spillway has continued due to Oroville Lake receding from the emergency spillover height. DWR staff continues to discharge water through the main spillway, causing erosion to the hillside as expected. Lake elevation levels are trending downward from maximum recorded height. Potential future threat continues for the Hyatt power plant. Disruption of the Hyatt power plant will have massive implications to human, cultural, legal and economic factors. Among the many impacts, the loss of drinking water is the most pertinent.</p>	<p>34. Life, Safety, and Health Threat Management:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 85%;"></th> <th style="width: 15%;">Active?</th> </tr> </thead> <tbody> <tr><td>A. No Likely Threat</td><td></td></tr> <tr><td>B. Potential Future Threat</td><td style="text-align: center;">X</td></tr> <tr><td>C. Mass Notifications in Progress</td><td></td></tr> <tr><td>D. Mass Notifications Completed</td><td></td></tr> <tr><td>E. No Evacuation(s) Imminent</td><td></td></tr> <tr><td>F. Planning for Evacuation</td><td></td></tr> <tr><td>G. Planning for Shelter-in-Place</td><td></td></tr> <tr><td>H. Evacuation(s) in Progress</td><td></td></tr> <tr><td>I. Shelter-in-Place in Progress</td><td></td></tr> <tr><td>J. Repopulation in Progress</td><td></td></tr> <tr><td>K. Mass Immunization in Progress</td><td></td></tr> <tr><td>L. Mass Immunization Complete</td><td></td></tr> <tr><td>M. Quarantine in Progress</td><td></td></tr> <tr><td>N. Area Restriction in Effect</td><td></td></tr> <tr><td>O. Road Closure</td><td style="text-align: center;">X</td></tr> <tr><td>P. Trail Closure</td><td style="text-align: center;">X</td></tr> <tr><td>Q. Area Closure</td><td style="text-align: center;">X</td></tr> </tbody> </table>		Active?	A. No Likely Threat		B. Potential Future Threat	X	C. Mass Notifications in Progress		D. Mass Notifications Completed		E. No Evacuation(s) Imminent		F. Planning for Evacuation		G. Planning for Shelter-in-Place		H. Evacuation(s) in Progress		I. Shelter-in-Place in Progress		J. Repopulation in Progress		K. Mass Immunization in Progress		L. Mass Immunization Complete		M. Quarantine in Progress		N. Area Restriction in Effect		O. Road Closure	X	P. Trail Closure	X	Q. Area Closure	X
	Active?																																				
A. No Likely Threat																																					
B. Potential Future Threat	X																																				
C. Mass Notifications in Progress																																					
D. Mass Notifications Completed																																					
E. No Evacuation(s) Imminent																																					
F. Planning for Evacuation																																					
G. Planning for Shelter-in-Place																																					
H. Evacuation(s) in Progress																																					
I. Shelter-in-Place in Progress																																					
J. Repopulation in Progress																																					
K. Mass Immunization in Progress																																					
L. Mass Immunization Complete																																					
M. Quarantine in Progress																																					
N. Area Restriction in Effect																																					
O. Road Closure	X																																				
P. Trail Closure	X																																				
Q. Area Closure	X																																				
<p>35. Weather Concerns (synopsis of current and predicted weather; discuss related factors that may cause concern): The first in a series of storm systems is still expected to arrive late Wednesday into Thursday. With this storm, we can expect 2 to 3 inches of rain over the Feather River Basin and breezy winds. A second storm arrives Friday into Saturday, but the bulk of the precipitation should remain to the south. A third storm system is forecast to arrive next Monday/Tuesday. Forecast confidence is increasing that this storm early next week could be the warmest, wettest and pack the strongest winds. Highs on Thursday are expected to be between 58-63 degrees with Northwest winds up to 7 mph. Precipitation amounts over the Feather River basin should be between 2-3 inches with 6-12 inches above 5500 feet.</p>																																					

<p>36. Projected Incident Activity, Potential, Movement, Escalation, or Spread and influencing factors during the next operational period and in 12-, 24-, 48-, and 72-hour time frames:</p>	<p>12 hours: Flow from spillway to be at 100,000 cfs to avoid flow over emergency spillway and create capacity for pending storms. Crews will be back filling emergency spillway to mitigate impacts from erosion. Hyatt power plant personnel will continue to execute ongoing efforts to remove water from the base of the plant.</p> <p>24 hours: Flow from spillway to be at 100,000 cfs to avoid flow over emergency spillway. Crews will be back filling emergency spillway to mitigate impacts from erosion. Hyatt power plant personnel will continue to execute ongoing efforts to remove water from the base of the plant. PG&E and DWR crews are removing and moving lines in the area adjacent to the spillway.</p> <p>48 hours: Flow from spillway to be at 100,000 cfs to avoid flow over emergency spillway. Crews will be back filling emergency spillway to mitigate impacts from erosion. Hyatt power plant personnel will continue to execute ongoing efforts to remove water from the base of the plant. PG&E and DWR crews are removing and moving</p>
---	--

Incident Status Summary (ICS-209)

Incident: Spillway - DWR Assist

	lines in the area adjacent to the spillway.
72 hours:	Flow from spillway to be at 100,000 cfs to avoid flow over emergency spillway. Crews will be back filling emergency spillway to mitigate impacts from erosion. Hyatt power plant personnel will continue to execute ongoing efforts to remove water from the base of the plant. PG&E and DWR crews are removing and moving lines in the area adjacent to the spillway.
	Anticipated after 72 hours: TBD
37. Strategic Objectives (define planned end-state for incident): Fill void below emergency spillway created by erosion with rock bags and concrete. Remove debris from below spillway. Debris removal at the Thermalito dam. Remove the high voltage power lines. Perform minor road maintenance.	
38. Current Incident Threat Summary and Risk Information in 12-, 24-, 48-, and 72-hour timeframes and beyond. Summarize primary incident threats to life, property, communities and community stability, residences, health care facilities, other critical infrastructure and key resources, commercial facilities, natural and environmental resources, cultural resources, and continuity of operations and/or business. Identify corresponding incident-related potential economic or cascading impacts:	
12 hours:	<p>Lake levels fell another 5 feet since the early morning hours to 876.15', nearly 25' below the spillway height at 901'. DWR drone flights continue to be active and vital to construction efforts. Data from Engineering and imagery ensure proper implementation of the Emergency Spillway Erosion Plan. The Plan depicts predetermined repair priorities identified by need. Every effort is being made to have repairs completed if the emergency spillway were to overtop again. The top of the main spillway is at 817'. The flow remained at 100,000 cfs today. California National Guard components provided aerial imagery intel this afternoon to assist in real time surveillance of the Oroville dam complex. The 2 downhill roads from the emergency spillway have been significantly eroded with one being washed out. Due to the continued erosion to the main spillway, monitoring continues by DWR geology/engineering departments. Continued erosion threatens DWR power lines. The tailrace elevation reached 254.85' at 1700 hours, exceeding the desired 252'. A plan was developed to construct an Earthen cofferdam in an effort to reduce tailrace elevation, however, the plan was canceled because of potential flow interruptions out of the power plant. If the Hyatt power plant were to be damaged, it would greatly affect the watershed in the Oroville (population 13,300) Yuba City (population 58,400), Marysville (population 12,600) areas. Income from agriculture and timber production supported by the Feather River exceeds 1.3 billion. Barges and cranes are being mobilized to remove debris in the tailrace. Power plant flooding is being mitigated by sandbagging and pumps placed around stoplog slots. Uprooted trees remain lodged in the Thermalito Diversion Dam. Contractors are assessing how to remove blockage, which has been difficult due to weight limitations of Thermalito dam crossing. The Feather River Hatchery staff reports show that turbidity levels are down considering the sediment flow and fish are healthy and feeding. The Hatchery has lost power but running on a standalone generator. The intake and supply lines to the hatchery are not working to capacity, possibly due to sediment. 1 million Endangered Steelhead trout eggs, still in hatchery pools, are being supplemented with de-chlorinated hydrant water in a closed loop system since they can't be moved safely. 2 million endangered spring run Chinook Salmon and 3 million fall run Chinook salmon were moved to the Thermalito Annex facility away from the river. 3 million out of 6 million fall run Chinook salmon remain at the hatchery due to the annex being at capacity. If conditions worsen or turbidity levels rise, a decision will be made to release the 3 million remaining Chinook salmon into the river to increase chances for survival. Hatchery staff, pathologists and veterinarians continue to remain on site to monitor fish health. California State Parks is working with local cultural groups that potentially were effected by the use of the emergency spillway and update them on current conditions. There were several cultural impacts identified that could be affected, consultation is being done and plans designed to minimize impacts and potential damage are in place. The trail system directly affected by the damaged spillway include the Brad Freeman and Dan Beebe Trails and have been closed, along with a portion of Oroville Lake directly above the spillways. Ranger staff are providing roving patrols due to a</p>

Incident Status Summary (ICS-209)

Incident: **Spillway - DWR Assist**

<p style="text-align: center;">large number of contacts in the closed area. Impacts to the park include soil erosion, water turbidity downstream, and tree and vegetation removal.</p>								
<p>24 hours: Same as above.</p>								
<p>48 hours: Same as above.</p>								
<p>72 hours: Same as above.</p>								
<p>Anticipated after 72 hours: Same as above.</p>								
<p>39. Critical Resource Needs in 12-, 24-, 48-, and 72-hour timeframes and beyond to meet critical incident objectives. List resource category, kind, and/or type, and amount needed, in priority order:</p>								
<p>12 hours: N/A</p>								
<p>24 hours: N/A</p>								
<p>48 hours: N/A</p>								
<p>72 hours: N/A</p>								
<p>Anticipated after 72 hours: N/A</p>								
<p>40. Strategic Discussion: Explain the relation of overall strategy, constraints, and current available information to:</p> <ol style="list-style-type: none"> 1) critical resource needs identified above, 2) the Incident Action Plan and management objectives and targets, 3) anticipated results. <p>Explain major problems and concerns such as operational challenges, incident management problems, and social, political, economic, or environmental concerns or impacts.</p> <p>DWR construction crews will continue work to remediate the emergency spillway erosion. Crews continue to prevent major flooding of the Hyatt power plant through sandbagging and water removal. Maintaining operational integrity of the Hyatt power plant, which serves drinking water to a significant population in California, farmers throughout the valley, and sustains ecological resources, remains a key priority of DWR crews. Flows of 100,000 cfs are lowering levels in the Oroville Reservoir to create capacity for upcoming storms. Cell phone coverage along the spillway and power plant has hampered communication efforts among crews.</p>								
<p>41. Planned Actions for Next Operational Period:</p> <p>Spillway operations to continue at 100,000 cfs depending on amount of erosion observed. Maintain Hyatt power plant integrity. Clear debris at Thermalito Dam.</p>								
<p>42. Projected Final Incident Size/Area (use unit label – e.g., “Acres”, “Square Miles”):</p>								
<p>43. Anticipated Incident Containment or Completion Date: 02/28/2017</p>								
<p>44. Projected Significant Resource Demobilization Start Date:</p>								
<p>45. Estimated Incident Costs to Date: \$8,200,000.00</p>								
<p>46. Projected Final Incident Cost Estimate:</p>								
<p>47. Remarks (or continuation of any blocks above – list block number in notation):</p> <p>Additional personnel arrived and were captured in the 209 for this operational period.</p>								
<p>49. Resources (summarize resources by category, kind, and/or type; show # of resources on top ½ of box, show # of personnel associated with resource on bottom ½ of box):</p>								
48.		CRC	MCC	MKU	GISU	50.	51.	
Agency or Org						Ovhd	Tot Pers	
C&L	Rsrc	0	0	0	0			

Incident Status Summary (ICS-209)

Incident: **Spillway - DWR Assist**

C&L	Pers	0	0	0	0	19	19
CA	Rsrc	3	0	0	0		
	Pers	41	0	0	0	139	180
CA-CDF	Rsrc	0	1	1	0		
	Pers	0	5	15	0	57	77
PRI	Rsrc	0	0	0	1		
	Pers	0	0	0	1	0	1
52. Total Resources		3	1	1	1		277

53. Additional Cooperating and Assisting Organizations Not Listed Above:
Butte County OES, Caltrans, PG&E, CHP, California State Parks, Oroville Police Department, Oroville Fire Department, California Fish & Wildlife, Army Corps of Engineers, Federal Energy Regulatory Commission, Oroville Hospital, Red Cross, California Conservation Corps, California National Guard, Bureau of Indian Affairs