

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.
	8b. Total Percentage (%) of Perimeter that will be Contained or Completed: 0 %		
12. Prepared By: Print Name: Josh Black - SITL (T) Date/Time Prepared: 02/15/2017 0545 PST		13. Approved By: Print Name: Barry Biermann - IC Signature: _____	
14. Date/Time Submitted: 02/15/2017 0547 PST		15. Primary Location, Organization, or Agency Sent To: California Department of Forestry/CAL FIRE	
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 Northing: 4377732	
27. Note any geospatial data available (indicate data format, content, and collection time information and labels):			

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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:

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 has 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
K. Have Received Mass Immunizations	0		0
L. Require Immunizations	0		0
M. In Quarantine	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
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	Previous Report Total	A. # this Reporting Period	B. Total # to-date		Previous Report Total	A. # this Reporting Period	B. Total # to-date
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. The mandatory evacuation orders have been lifted and replaced with an evacuation warning.</p> <p>35. Weather Concerns (synopsis of current and predicted weather; discuss related factors that may cause concern): The storm system has slowed and dry weather expected through Wednesday day. Wet pattern returns after midnight Wednesday. The heavy rains will surface early Thursday morning, bringing rainfall totals up to 2.5 inches throughout the day on Thursday. Gusty winds will also develop on Thursday with peak gusts up to 27 mph. Temperatures expected will be around 62 to 67 degrees.</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 style="text-align: center;">X</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	X	O. Road Closure	X	P. Trail Closure	X	Q. Area Closure	X
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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:	
12 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. The cofferdam project will continue through the day, while Hyatt power plant personnel execute ongoing efforts to remove water from the base of the plant.
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. The cofferdam project will continue, while Hyatt power plant personnel execute ongoing efforts to remove water from the base of the plant.
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. The cofferdam project will continue, while Hyatt power plant personnel execute ongoing efforts to remove water from the base of the plant.
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. The cofferdam project will continue, while Hyatt power plant personnel execute ongoing efforts to remove water from the

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base of the plant.
Anticipated after 72 hours: TBD
37. Strategic Objectives (define planned end-state for incident): Build cofferdam across the tailrace. Fill void created by erosion with rock bags. Remove debris from spillway control structure. Remove log at gate 6. 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: Lake levels fell to 881.15' at 0500hrs and the emergency spillway, which sits at 901', is no longer being utilized. 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. The 2 downhill roads from the emergency spillway have been significantly eroded with one being washed out. 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 dam crossing. Due to the continued erosion to the main spillway, monitoring continues by DWR geology/engineering departments. Continued erosion threatens DWR power lines. The Hyatt Power Plant was reaching potential flooding threshold, with the tailrace elevation reaching 254' exceeding the desired 252'. Downstream dam gates were opened to correct the issue and height of the tailrace has since returned to 253.67'. A plan was developed to construct an Earthen cofferdam in an effort to reduce tailrace elevation. 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. 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 cant 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 large number of contacts in the closed area. Impacts to the park include soil erosion, water turbidity downstream, and tree and vegetation removal.

12 hours:

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24 hours: Same as above.			
48 hours: Same as above.			
72 hours: Same as above.			
Anticipated after 72 hours: Same as above.			
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:			
12 hours: N/A			
24 hours: N/A			
48 hours: N/A			
72 hours: N/A			
Anticipated after 72 hours: N/A			
40. Strategic Discussion: Explain the relation of overall strategy, constraints, and current available information to: <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 and construct the cofferdam at the base of the spillway. The cofferdam project meets the objective of 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. Flows of 100,000 cfs are lowering levels in the Oroville Reservoir to create capacity for upcoming storms.</p>			
41. Planned Actions for Next Operational Period: Spillway operations to continue at 100,000 cfs depending on amount of erosion observed. Construction of cofferdam. Maintain Hyatt power plant integrity. Clear debris at Themalito Dam.			
42. Projected Final Incident Size/Area (use unit label – e.g., "Acres", "Square Miles"):			
43. Anticipated Incident Containment or Completion Date: 02/28/2017			
44. Projected Significant Resource Demobilization Start Date:			
45. Estimated Incident Costs to Date: \$6,900,000.00			
46. Projected Final Incident Cost Estimate:			
47. Remarks (or continuation of any blocks above – list block number in notation):			
49. Resources (summarize resources by category, kind, and/or type; show # of resources on top 1/2 of box, show # of personnel associated with resource on bottom 1/2 of box):			
48. Agency or Org		50. Ovhd	51. Tot Pers
C&L	Rsrc		
	Pers	20	20
CA	Rsrc		
	Pers	139	139
CA-CDF	Rsrc		
	Pers	39	39
52. Total Resources			198

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53. Additional Cooperating and Assisting Organizations Not Listed Above:

Butte County OES, Caltrans, CAL FIRE, PG&E, CHP, California State Parks, Butte County Sheriff, Oroville Police Department, Oroville Fire Department, Butte County Public Works, Fish & Wildlife