

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	11. Report Time Period: From Date/Time: 02/16/2017 0600 PST To Date/Time: 02/16/2017 1800 PST								
	b. Total Percentage (%) of Perimeter that will be Contained or Completed: 0 %		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Strategy</th> <th style="width: 50%;">Percent (%)</th> </tr> </thead> <tbody> <tr> <td>Monitor</td> <td></td> </tr> <tr> <td>Confine</td> <td></td> </tr> <tr> <td>Point Zone Protection</td> <td></td> </tr> <tr> <td>Full Suppression</td> <td></td> </tr> </tbody> </table>		Strategy	Percent (%)	Monitor		Confine		Point Zone Protection	
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12. Prepared By: Print Name: Todd Tuggle - SITL (T) Date/Time Prepared: 02/16/2017 1730 PST		13. Approved By: Print Name: Barry Biermann - IC Signature: _____										
14. Date/Time Submitted: 02/16/2017 1752 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									

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	Northing: 4377732
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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:

Spillway flows were reduced from 100,000 cfs to 80,000 cfs causing tailrace elevations to drop throughout the afternoon to 254.05' as of 1600. Inflows rose due to precipitation in the area. Hyatt power plant water removal tactics continue to work effectively. Debris removal at the spillway base and Thermalito diversion dam continue.

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 of 254.05' at 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 with decision points established to move the balance. 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	0
E. With Injuries/Illness	0	0	0
F. Trapped/In Need of Rescue	0	0	0
G. Missing	0	0	0
H. Evacuated	0	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	0
E. With Injuries/Illness	0	0	0
F. Trapped/In Need of Rescue	0	0	0
G. Missing	0	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
I. Sheltering in Place	0		0	I. Sheltering in Place	0		0
J. In Temporary Shelters	0		0	J. In Temporary Shelters	0		0
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: Work on the emergency spillway continues 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. Contingency planning is under way with OES and DWR Flood center for potential water level increases below the Diversion Dam.</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
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<p>35. Weather Concerns (synopsis of current and predicted weather; discuss related factors that may cause concern): .DISCUSSION... Next storm arrives Friday into Saturday, but the bulk of the precipitation and stronger winds should remain to the south of the incident site. A third storm system is forecast to arrive next Monday/Tuesday. Forecast confidence is increasing that this early next week storm could be the wettest and pack the strongest winds in this series of storms. THURSDAY EVENING Sky/weather.....Mostly cloudy. A chance of showers in the evening, then showers after midnight. Chance of pcpn.....80 percent. Min temperature.....49-54. Surface winds.....East winds up to 7 mph. Pcpn amount.....0.09 inches. Snowfall amount.....0.0 INCHES. Snow level.....between 5500 to 6000 ft .FRIDAY...</p>																																					

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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 was dropped to 80,000 cfs today. 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 has dropped to 254.05' by 1600 hours, still exceeding the desired 252' at the Hyatt power plant. 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. Pumping operations continue to be successful within the power plant. 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. Fish will be tagged at the Annex facility. 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.

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:

- 1) critical resource needs identified above,
- 2) the Incident Action Plan and management objectives and targets,
- 3) anticipated results.

Explain major problems and concerns such as operational challenges, incident management problems, and social, political, economic, or environmental concerns or impacts.

DWR construction crews will continue work to remediate the emergency spillway erosion. Debris removal operations have started at the controlled spillway entrance. Crews continue to prevent major flooding of the Hyatt power plant through

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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 over the last few days have created over 30' of capacity for upcoming storms allowing staff to reduce spillway flows in support of debris pile mitigation efforts.

41. Planned Actions for Next Operational Period:

Spillway operations to continue at 80,000 cfs depending on amount of erosion observed and observed lake levels. Maintain Hyatt power plant integrity. Clear debris at Thermalito Dam. Continue to push access roads downstream on the left side of diversion pool.

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: **\$9,100,000.00**

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 ½ of box, show # of personnel associated with resource on bottom ½ of box):

48. Agency or Org		CRC	MCC	MKU	GISU	50. Ovhd	51. Tot Pers
C&L	Rsrc	0	0	0	0		
	Pers	0	0	0	0	11	11
CA	Rsrc	3	0	0	0		
	Pers	41	0	0	0	139	180
CA-CDF	Rsrc	0	1	1	0		
	Pers	0	0	20	0	59	79
PRI	Rsrc	0	0	0	1		
	Pers	0	0	0	1	0	1
52. Total Resources		3	1	1	1		271

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, CAL OES.