

**Hydroelectric Department Project Status Report  
as of January 19, 2022**

Priority	Project Manager	Project	Project No.	Description	Status	Comments	CIP
<b>10-1 HYDRO NON-PROGRAMMATIC (\$250,000) 50112-52915</b>							
01	Keane Sommers	Hydro HQ	2432	New Hydroelectric Office Design/Construction	Hold	The Energy Center program components are under development. The new maintenance facility and storage yard draft predesign by the architect is complete. The three energy/carbon concept studies are complete; forest carbon sequestration, pumped storage, and solar field. A draft Energy Management Strategy Summary has been received and is under review. Once all efforts are completed, findings will be summarized to present options and alternatives for developing the site into various levels of renewable energy generation and carbon zero footprint.	*
<b>10-2 HYDRO POWERHOUSE IMPROVEMENTS (\$1,650,000) 50112-52920</b>							
01	Nathan Droivold	Deer Creek Powerhouse	2290	Deer Creek Powerhouse Upgrades: Make upgrades necessary to sell power upon close of sale.	Planning	Deer Creek asset transfer has been initiated and various tasks are underway to prepare for the District's operation of the Deer Creek system. Ownership transition is planned to occur in April 2022.	
02	Nathan Droivold	Rollins Powerhouse	2394	Rollins Powerhouse Relay Protection Upgrade. Replace aging relay protection system to improve protection of the powerhouse relay, transformer, and generator.	Design	Design is underway and will continue in 2022. Construction is scheduled for the fall of 2022.	*
03	Nathan Droivold	Chicago Park Powerhouse	2598	Chicago Park Powerhouse RTU Replacement: Replace remote terminal unit (RTU) at Chicago Park Powerhouse to eliminate obsolete equipment and improve the District's SCADA communication network.	Planning	Hydro will develop project scope in early 2022 before requesting quotes for engineering design support and integration. Construction is planned for the Fall of 2022.	*
04	Kaylie Hague	Scotts Flat Powerhouse	2552	SFPH Fire Detection Upgrades: Install new smoke detection systems in the Scotts Flat Powerhouse that includes alarming and callout features to notify staff in case of fire while unoccupied.	Design	Hydro is reviewing the 50% design submittal for the new fire detection systems. Design will be completed in early 2022.	
05	Kaylie Hague	Combie North Powerhouse	2553	CNPH Fire Detection Upgrades: Install new smoke detection systems in the Combie North Powerhouse that includes alarming and callout features to notify staff in case of fire while unoccupied.	Design	Hydro is reviewing the 50% design submittal for the new fire detection systems. Design will be completed in early 2022.	
06	Kaylie Hague	Combie South Powerhouse	2554	CSPH Fire Detection Upgrades: Install new smoke detection systems in the Combie South Powerhouse that includes alarming and callout features to notify staff in case of fire while unoccupied.	Design	Hydro is reviewing the 50% design submittal for the new fire detection systems. Design will be completed in early 2022.	

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<b>10-2 HYDRO POWERHOUSE IMPROVEMENTS (\$1,650,000) 50112-52920</b>							
07	Adrian Schneider	Chicago Park Powerhouse	2164	Chicago Park Powerhouse Fire Suppression System Upgrades. Upgrade of existing CO2 system (piping, alarms, sensors) to protect Generator. Includes installation of new Clean Agent suppression system for control room and the addition of a fire detection system for electrical cable trays.	Post-Construction	As-builts received by NID and being reviewed internally by Hydro for accuracy and completeness. New safety procedures are being developed and will be implemented prior to putting the new fire suppression system into service.	
08	Nathan Droivold	Chicago Park Powerhouse	2402	Chicago Park Powerhouse Instrumentation Upgrade. Install instrumentation that will enable operators to monitor flow, temperature, and pressure of vital powerhouse components.	Post-Construction	Construction is now complete and the new cooling water system is in service. Hydro has received project as-builts and commissioning files. Drawings will be verified prior to closeout.	
09	Nathan Droivold	Rollins Powerhouse	2351	Rollins Powerhouse Oil Circuit Breaker Replacement. Replace the existing oil circuit breaker (OCB) at the Rollins PH with a more environmentally acceptable vacuum circuit breaker.	Post-Construction	New breaker was installed successfully and is in service. Hydro is awaiting project as-builts for integration into main drawing set.	
10	Nathan Droivold	Rollins Powerhouse	2393	Rollins Powerhouse Balance of Plant. Install an expandable balance of plant to monitor critical plant systems such as excess vibration of the turbine and generator, temperature, and flow.	Post-Construction	Installation and testing of new balance of plant programmable logic controller and vibration system is complete. Hydro has received final project deliverables and will conduct operator training for new system in January.	
11	Nathan Droivold	Chicago Park Powerhouse	2383	Chicago Park Powerhouse Rewind: Replace deteriorated generator windings.	Planning	Hydro will begin project scoping in 2022 according to the findings of the Chicago Park PH condition assessment report completed in 2021.	*
12	Adrian Schneider	Combie Reservoir/Combie South Powerhouse	6943	Combie South Access Road. Develop approx. 3,000 ft. from south abutment.	Design	NID Right of Way responding with revised offer submitted to Arroyo January, 2022. Construction is planned for Spring 2022.	*
13	Thomas Kluge	Combie North Powerhouse	2581	Combie North Powerhouse Capacitor Bank Upgrade: Design and replace existing capacitor bank at Combie North Powerhouse to improve the reliability and efficiency of power generation of the facility.	Design	Hydro will work with an engineering consultant to develop project specifications and request quotes to manufacture a new capacitor bank in early 2022.	*
14	Nathan Droivold	Dutch Flat #2 Powerhouse	2544	Dutch Flat #2 Powerhouse Cooling Water System Upgrade. Install new instrumentation that will enable operators to monitor flow, temperature, and pressure of vital powerhouse components.	Planning	Hydro will solicit proposals to complete the design of a new cooling water system. Installation is planned for 2022.	*
15	Thomas Kluge	Dutch Flat #2 Powerhouse	2483	Dutch Flat #2 Powerhouse Backup Generator: All costs associated with the installation of new backup generator at Dutch Flat #2 Powerhouse.	Design	Design is underway. A bill of materials has been developed and procurement is underway. Installation planned for Fall of 2022 during annual plant outage.	

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<b>10-2 HYDRO POWERHOUSE IMPROVEMENTS (\$1,650,000) 50112-52920</b>							
16	Nathan Droivold	Chicago Park Powerhouse	2353	Chicago Park Powerhouse Turbine Overhaul. Replace worn turbine and appurtenances.	Planning	Hydro has received the condition assessment report detailing the existing condition of equipment and systems in the Chicago Park PH to make recommendations for future repair or replacement. The project scope will be developed based on the recommendations presented in this report in 2022.	*
17	Nathan Droivold	Chicago Park Powerhouse	2362	Chicago Park Powerhouse Transformer Replacement. Procure and install a new main transformer at the Chicago Park Powerhouse.	Planning	Hydro has received the condition assessment report detailing the existing condition of equipment and systems in the Chicago Park PH to make recommendations for future repair or replacement. The project scope will be developed based on the recommendations presented in this report in 2022.	*
18	Nathan Droivold	Rollins Powerhouse	2392	Rollins Governor Replacement. Replace worn governor and appurtenances.	Hold	Hydro to begin project scoping later in 2021. Installation is scheduled for 2022.	*
19	Nathan Droivold	Bowman Intertie	2354	Bowman Interties SF6 Breaker Replacement. Replace the existing Bowman Inter-tie SF6 breaker with a more environmentally friendly vacuum circuit breaker.	Hold	Hydro will replace the existing SF6 breaker with a vacuum circuit breaker after completion of the oil circuit breaker replacement at Rollins PH (FATR# 2351).	
20	Nathan Droivold	Dutch Flat #2 Powerhouse	2240	Dutch Flat #2 Powerhouse Fire Suppression System Upgrades. Designing, installing and commissioning a new CO2 fire suppression system for the Dutch Flat #2 Powerhouse.	Hold	Hydro has received a draft basis of design report from its consultant for a new fire suppression system at the Dutch Flat #2 Powerhouse. Hydro has reviewed and provided comments for revisions to the document. A final draft of the basis of design report is expected during Q1 2022.	*
21	Nathan Droivold	Rollins Powerhouse	2379	Rollins Powerhouse Fire Protection System. Provide fire protection system for Rollins Powerhouse (design, installation and commissioning).	Hold	Hydro to begin project scoping in 2021. Installation is scheduled for 2022.	
22	Nathan Droivold	Deer Creek Powerhouse	2342	Deer Creek Powerhouse Controls and Automation Upgrades. Install programmable logic controller and automate the Deer Creek Powerhouse.	Hold	Hydro to begin project scoping in 2021 with construction scheduled to start in 2022. Project schedule assumes NID will takeover PG&E facilities in 2021.	
23	Nathan Droivold	Deer Creek Powerhouse	2395	Deer Creek Powerhouse Exciter Replacement. Replace exciter and appurtenances.	Hold	Hydro to begin project scoping in 2021 with construction scheduled to start in 2022. Project schedule assumes NID will takeover PG&E facilities in 2021.	
24	Nathan Droivold	Deer Creek Powerhouse	2343	Deer Creek Powerhouse Generator Breaker Replacement. Replace the existing generator breaker with a generator breaker and cabinet to mitigate an arc flash safety hazard at the Deer Creek Powerhouse and improve reliability.	Hold	Hydro to begin project scoping in 2021 with construction scheduled to start in 2022. Project schedule assumes NID will takeover PG&E facilities in 2021.	

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<b>10-3 HYDRO DAM &amp; WATER IMPROVEMENTS (\$1,295,000) 50112-52921</b>							
01	Dar Chen	Scotts Flat Spillway	2094	Scotts Flat Spillway Repair & Upgrades	Design	The final model testing has been completed and the test report is being prepared. The District plans to retain an independent, third-party consultant to evaluate Alternatives No. 2 (joint repairs and slab overlay) and No. 3 (total replacement with new chute and vertical walls) to help the District select an alternative. DOSD and FERC required witness testing of the final model, which is expected to occur in February 2022, and the final alternatives report including the preferred solution is expected in March 2022.	*
02	Dar Chen	Sawmill Dam	2596	Sawmill Dam Outlet Pipe Rehabilitation: Investigate and survey the conditions of the outlet pipe for Sawmill Dam. Complete a design to repair, modify, or replace the existing pipe, and then implement the preferred solution.	Planning	The District is seeking a consultant to survey the wall thicknesses of the 21-in-diameter steel plate pipe to evaluate its current condition.	
03	Dar Chen	Scotts Flat Dam	2595	Scotts Flat Dam Wave Erosion Protection: Design and install new erosion protection at/near the crest of the upstream face of Scotts Flat Dam to protect the dam from wave action during a probable maximum flood (PMF) event.	Planning	To minimize wave erosion during the PMF, the District plans to 1) add riprap on the upstream face from the spillway crest level to the dam crest, and 2) install concrete K-rail on the crest road toward the upstream edge.	*
04	Dar Chen	Jackson Lake Dam	2597	Jackson Lake Dam Toe Slope Protection: Investigate stability of the downstream toe slopes near the outlet end of Jackson Lake Dam. Complete a design to repair and mitigate the issue, and then implement the preferred solution.	Planning	Project planning has begun. District is identifying concepts for the potential solution and is identifying needs for project support. Project is expected to be completed in 2022.	*
05	Adrian Schneider	French Dam	2360/2007	French Dam Upgrades. Replace the damaged sections of the concrete lining on the upstream dam face to minimize leakage, modify the spillway training walls to prevent over topping, and construct a gaging station on the dam outlet to measure flow.	Post-Construction	Notice of Completion dated December 1, 2021. Project completed and contractor demobilized. As-builts are being reviewed and will be submitted, environmental permitting reports were submitted and completed and environmental permits closed at end of year 2021. Final FERC report to be completed by end of January 2022.	
06	Dar Chen	Bowman North Dam	2359	Bowman North Upstream Lining Repair. Replace damaged sections of the lining on the upstream dam face of the Bowman North and South Dams to minimize leakage through the dams.	Post-Construction	Repair of the left abutment plinth slab has been completed by NID and a construction report is due to FERC by January of 2022.	*
07	Dar Chen	Combie/Van Giessen Dam	201402	Combie Dam Stabilization. Improve abutment protection against scouring, and water supply upgrades.	Hold	The final alternatives report has been received and a preferred solution has been selected. Construction is planned for 2025-2026.	

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<b>10-4 HYDRO LOWER DIVISION WATER IMPROVEMENTS 50112-52922</b>							
01	Nathan Droivold	Chicago Park Forebay/Canal	2511	Chicago Park Forebay/Canal Liner Replacement. Repair segments of the Chicago Park Canal where existing shotcrete liner needs replacement.	Hold	Hydro received a report from Engineering reviewing the findings of the September site visit and damage assessment with Hydro. Hydro and Engineering will hold scoping discussions and start the development of a design report with an alternatives analysis in Q1 2021.	
02	Nathan Droivold	Chicago Park Powerhouse	2551	Chicago Park Powerhouse Tailrace Repair: evaluate and address erosion concerns of the tailrace foundation.	Hold	Hydro received a report from Engineering reviewing the findings of the September site visit and damage assessment with Hydro. Hydro will hold scoping discussions and start the development of a design report with an alternatives analysis in Q1 2021.	
03	Nathan Droivold	Dutch Flat Canal	2545	Dutch Flat Canal Liner Replacement. Repair segments of the Dutch Flat Canal where existing shotcrete liner needs replacement.	Hold	Hydro will solicit a condition assessment of the existing liner system in 2021 in order to plan for future repairs.	
<b>10-5 HYDRO UPPER DIVISION WATER IMPROVEMENTS (\$950,000) 50112-52923</b>							
01	Doug Roderick	Bowman-Spaulding Canal	2339	Rucker Creek Spill Gate Replacement. Replace existing radial gate at Rucker Creek Diversion with an overshot gate to improve personnel safety and operational performance.	Design	Engineering is working with Hydro to develop specifications for the new gate and a preliminary construction plan. Engineering has contacted gate manufacturer's for quotes and estimate of lead times. Engineering made a site visit during the June annual outage to collect measurements inside of the canal while dry. FERC review of project design will be required prior to construction.	*
02	Phil Nedved	Bowman-Spaulding Canal	2404	Fall Creek Flume Upgrades. Make structural enhancements to improve the reliability of the Fall Creek Flume.	Design	Project materials are in manufacturing and are expected to be delivered in early 2022. Construction is planned for June 2022 during the annual BS Canal outage.	*
03	Phil Nedved	Fall Creek Diversion	2576	Fall Creek Diversion Improvements. Make structural enhancements to improve the reliability of the Fall Creek Diversion Flume.	Planning	Hydro has obtained a quote for necessary project materials that will be purchased in early 2022. Construction is planned for June 2022 during the annual BS Canal outage.	*
04	Dar Chen	Bowman-Spaulding Canal	2525	Texas Creek Flume Repairs. Repairs along the Bowman-Spaulding Canal below the Texas Creek Diversion.	Post-Construction	The protection construction has been completed and a construction report is due to FERC by January of 2022.	
05	Nathan Droivold	Bowman-Spaulding Canal	2600	Boxcar Spill Canal Lining Repair: Repair deteriorated shotcrete liner of the Bowman-Spaulding canal.	Planning	Damaged area will be assessed and surveyed in 2022 to plan for future repairs.	*

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<b>10-5 HYDRO UPPER DIVISION WATER IMPROVEMENTS (\$950,000) 50112-52923</b>							
06	Kaylie Hague	Wilson Creek Diversion	2546	Wilson Creek Diversion Rehabilitation. Repair and modify the Wilson Creek Diversion Dam structure to ensure diverted flows are measurable and accurate.	Design	Engineering prepared a preliminary design for a temporary solution to improve flow measurement and diversion. Hydro has submitted the design to USFS for approval. The design is currently in the permitting process.	
07	Nathan Droivold	Bowman-Spaulding Canal	2599	Christmas Tree Spill Gate Replacement: Replace existing radial gate at Christmas Tree Spill with an overshot gate to improve personnel safety and operational performance.	Hold	Hydro will begin the project after completion of the Rucker Creek Spill Gate Replacement Project (FATR# 2339) so that standards can be developed for system consistency.	*
<b>10-6 HYDRO SCADA/COMMUNICATION UPGRADES (\$350,000) 50112-52924</b>							
01	Keane Sommers	Hydro HQ	2405	Hydro Office Radio Tower	Planning	Final draft of the line of site report and survey findings is being reviewed by District staff.	*
<b>RAW WATER SYSTEM IMPROVEMENTS 10151-52910</b>							
00	Dar Chen	Loma Rica Dam	2529	Loma Rica Dam Repairs	Hold	The seismic retrofit alternatives study has been completed. An internal draft project documentation memo has been sent from the Dam Safety Engineer to the Mangers of Hydroelectric and Water Operations and the future District PM for Design. Project will be placed on hold until its design phase, which is planned to start in 2025.	