

**Hydroelectric Department Project Status Report  
as of May 15, 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.	Design	NID is working with a consultant to design a new microwave link from KLOVE tower to the Chicago Park Powerhouse to create a new SCADA data link necessary for the operation of Deer Creek Powerhouse. A new gaging station, YB-31A, is under construction at the upstream transition point of PG&E to NID ownership on the South Yuba Canal and will be completed in May.	
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	The 30% design package has been reviewed and the next phase of design is expected to be submitted in May. Project has been delayed due to supply chain issues causing significant issues in obtaining necessary project materials. Coordination with PG&E has been on hold. Construction is now scheduled for 2023.	*
03	Nathan Droivold	Chicago Park Powerhouse	2383	Chicago Park Powerhouse Rewind: Replace deteriorated generator windings.	Planning	Hydro has released a request for proposal document to solicit consultant support to complete Phase 1 of the project, which consists of developing a detailed project scope. Proposals will be reviewed in June. This effort may include conducting necessary tests and inspections of equipment to determine its condition. Phase 1 will layout the schedule and other planning activities ahead of starting detailed design in Phase 2 during 2023.	*
04	Nathan Droivold	Chicago Park Powerhouse	2353	Chicago Park Powerhouse Turbine Overhaul. Replace worn turbine and appurtenances.	Planning	Hydro is preparing a request for proposal document to solicit consultant support to complete Phase 1 of the project, which consists of developing a detailed project scope. This effort may include conducting necessary tests and inspections of equipment to determine its condition. Phase 1 will layout the schedule and other planning activities ahead of starting detailed design in Phase 2 during 2023.	*

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05	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 released a request for proposal document to solicit consultant support to complete Phase 1 of the project, which consists of developing a detailed project scope. Proposals will be reviewed in June. This effort may include conducting necessary tests and inspections of equipment to determine its condition. Phase 1 will layout the schedule and other planning activities ahead of starting detailed design in Phase 2 during 2023.	*
06	Tonia Tabucchi Herrera	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	NID has started to develop the scope of the project and will request engineering design and integration support from a consultant. Construction is planned for the Fall of 2022. Project scoping meeting scheduled for April 20, 2022.	*
07	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 is working with an engineering consultant to design a new capacitor bank for the Combie North Powerhouse. Once the design is complete, Hydro will order necessary project materials and will plan an outage for construction later in 2022.	*
08	Adrian Schneider	Combie Reservoir/Combie South Powerhouse	6943	Combie South Access Road. Develop approx. 3,000 ft. from south abutment.	Design	Meeting with Arroyo on May 6, 2022 included clarification and discussion of NID's offer for easement. NID to finalize offer for easement. Construction planned for 2022.	*
09	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	NID is awaiting the 90% design submittal for the new fire detection systems to submit to the District's insurance provider for review and approval. Design will be completed during the first half of 2022.	
10	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	NID is awaiting the 90% design submittal for the new fire detection systems to submit to the District's insurance provider for review and approval. Design will be completed during the first half of 2022.	
11	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	NID is awaiting the 90% design submittal for the new fire detection systems to submit to the District's insurance provider for review and approval. Design will be completed during the first half of 2022.	

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<b>10-2 HYDRO POWERHOUSE IMPROVEMENTS (\$1,650,000*) 50112-52920</b>							
12	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 for accuracy and completeness. A draft Fire Response Plan will be finalized upon input from Hydro. A facility-wide, comprehensive Fire Response and Procedures Plan is being developed by Engineering and will be reviewed by HYDRO that will include the Response Plan. The Procedures plan will include yearly inspections, training, maintenance of fire suppressions systems, and will include a Description of System Operation (DOSO). The plan will be implemented prior to putting the new fire suppression system into service, which is anticipated by June 2022.	
13	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.	
14	Doug Hobbs	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	NID will solicit proposals to complete the design and integration of a new cooling water system in 2022. Construction is planned for 2023.	*
15	Tonia Tabucchi Herrera	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 in progress. A bill of materials has been developed. RFQ have been sent to 2 suppliers. A 3rd is being contacted. 1 supplier has reported a lead time of 300 working days. Installation planned for Fall of 2022 during annual plant outage; however, may be delayed due to lead-time of materials.	
16	Nathan Droivold	Rollins Powerhouse	2392	Rollins Governor Replacement. Replace worn governor and appurtenances.	Hold	Hydro to begin project scoping in 2023.	*
17	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).	
18	Adrian Schneider	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	Project on hold pending the completion of the Chicago Park Powerhouse Fire Suppression System Upgrade Project (FATR# 2164). Hydro is transferring the project to Engineering.	*
19	Nathan Droivold	Rollins Powerhouse	2379	Rollins Powerhouse Fire Protection System. Provide fire protection system for Rollins Powerhouse (design, installation and commissioning).	Hold	Project on hold pending the completion of the Chicago Park Powerhouse Fire Suppression System Upgrade Project (FATR# 2164).	

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<b>10-2 HYDRO POWERHOUSE IMPROVEMENTS (\$1,650,000*) 50112-52920</b>							
20	Nathan Droivold	Deer Creek Powerhouse	2342	Deer Creek Powerhouse Controls and Automation Upgrades. Install programmable logic controller and automate the Deer Creek Powerhouse.	Hold	Project placed on hold.	
21	Nathan Droivold	Deer Creek Powerhouse	2395	Deer Creek Powerhouse Exciter Replacement. Replace exciter and appurtenances.	Hold	Project placed on hold.	
22	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	Project placed on hold.	
<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	After technical discussions with DSOD on 5/05/2022, the District has decided to select Alternatives 3 (total replacement with new chute and vertical walls) for the next phase design, mainly because the other considered alternatives will expose only a small portion of the weak subgrade that cannot ensure adequacy of the foundation. After the alternatives report is finalized, the District needs to negotiate with HDR about the approach, scope, and schedule for the design.	*
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	Pro Pipe has been invited to propose a smart-pigging inspection/survey inside the 21" riveted steel plate pipe. After reviewing Pro Pipe's proposal, Dam Safety needs to meet with Hydro Maintenance and Operations to prepare the pipe for the inspection/survey.	*
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	As DSOD recommends against using concrete K-rails, the District has changed to using riprap for both slope protection and the short wave dike at the upstream edge of the dam crest. AECOM has been asked to evaluate the wave action and adequacy of the riprap. DSOD dam alteration permit application is required for these riprap additions. Hydroelectric plans to defer the construction so that the necessary change in the wave protection scheme due low PMF freeboard can be made at the same time.	*

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<b>10-3 HYDRO DAM &amp; WATER IMPROVEMENTS (\$1,295,000) 50112-52921</b>							
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	The District has reached consensus with FERC and DSOD to use Geoweb for protection of the channel banks immediately downstream of the dam. A 30% design is scheduled to be completed in May 2022, then Regulatory Compliance will obtain the necessary environmental permits, which might take several months to over a year. The protection construction has been re-scheduled for 2023.	*
05	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.	
<b>10-4 HYDRO LOWER DIVISION WATER IMPROVEMENTS 50112-52922</b>							
01	Doug Hobbs	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	Project placed on hold.	
02	Doug Hobbs	Chicago Park Powerhouse	2551	Chicago Park Powerhouse Tailrace Repair: evaluate and address erosion concerns of the tailrace foundation.	Hold	Project placed on hold.	
03	Doug Hobbs	Dutch Flat Canal	2545	Dutch Flat Canal Liner Replacement. Repair segments of the Dutch Flat Canal where existing shotcrete liner needs replacement.	Hold	Project placed on hold.	
<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. 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 May of 2022. Construction is planned for June 2022 during the annual BS Canal outage pending NID Board approval (05/11/2022 Board of Directors' Meeting) of an agreement with PG&E for construction support.	*

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**10-5 HYDRO UPPER DIVISION WATER IMPROVEMENTS (\$950,000\*) 50112-52923**

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 for purchase in 2022.	*
04	Doug Hobbs	Bowman-Spaulding Canal	2600	Boxcar Spill Canal Lining Repair: Repair deteriorated shotcrete liner of the Bowman-Spaulding canal.	Planning	Damaged area will be assessed during the annual Bowman-Spaulding Canal outage in 2022 to plan for future repairs.	*
05	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	Adrian Schneider	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	Engineering 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.	*

**10-6 HYDRO SCADA/COMMUNICATION UPGRADES (\$350,000\*) 50112-52924**

01	Tonia Tabucchi Herrera	Hydro HQ	2405	Hydro Office Radio Tower	Planning	The line of sight study has been reviewed by District staff. The findings of this study will be used to update the NID Hydroelectric Department SCADA Wide Area Network Report to plan future communications improvement projects.	*
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**RAW WATER SYSTEM IMPROVEMENTS 10151-52910**

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 Managers 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.	
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