

HDC NATIONAL PROGRAM OVERVIEW



30 June 2022

“COMBINED *Meet the Chiefs*”



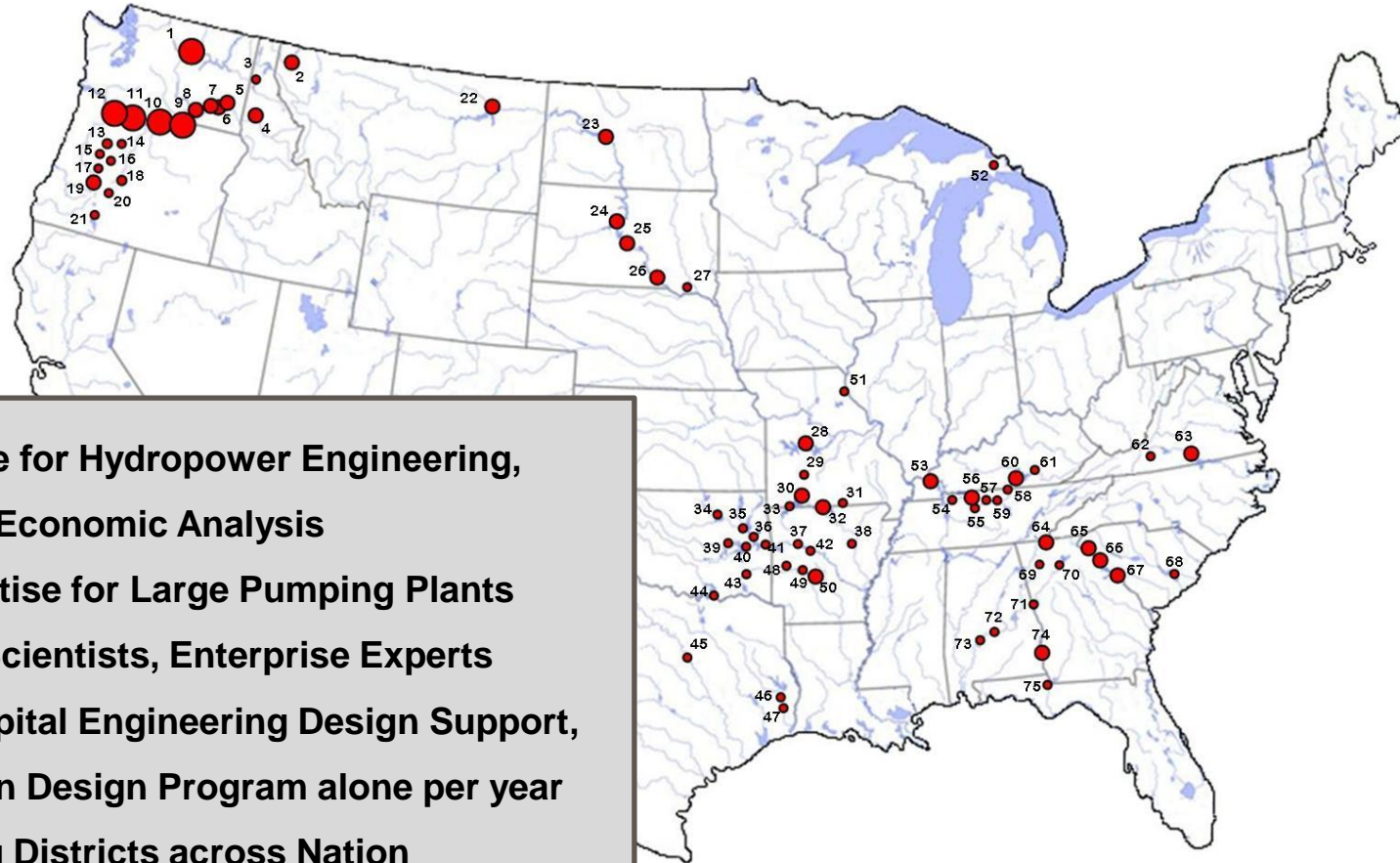
NOTE:
TAMTER GATE
M...



US Army Corps
of Engineers®

The Corps' Hydroelectric Design Center

Portland, Oregon



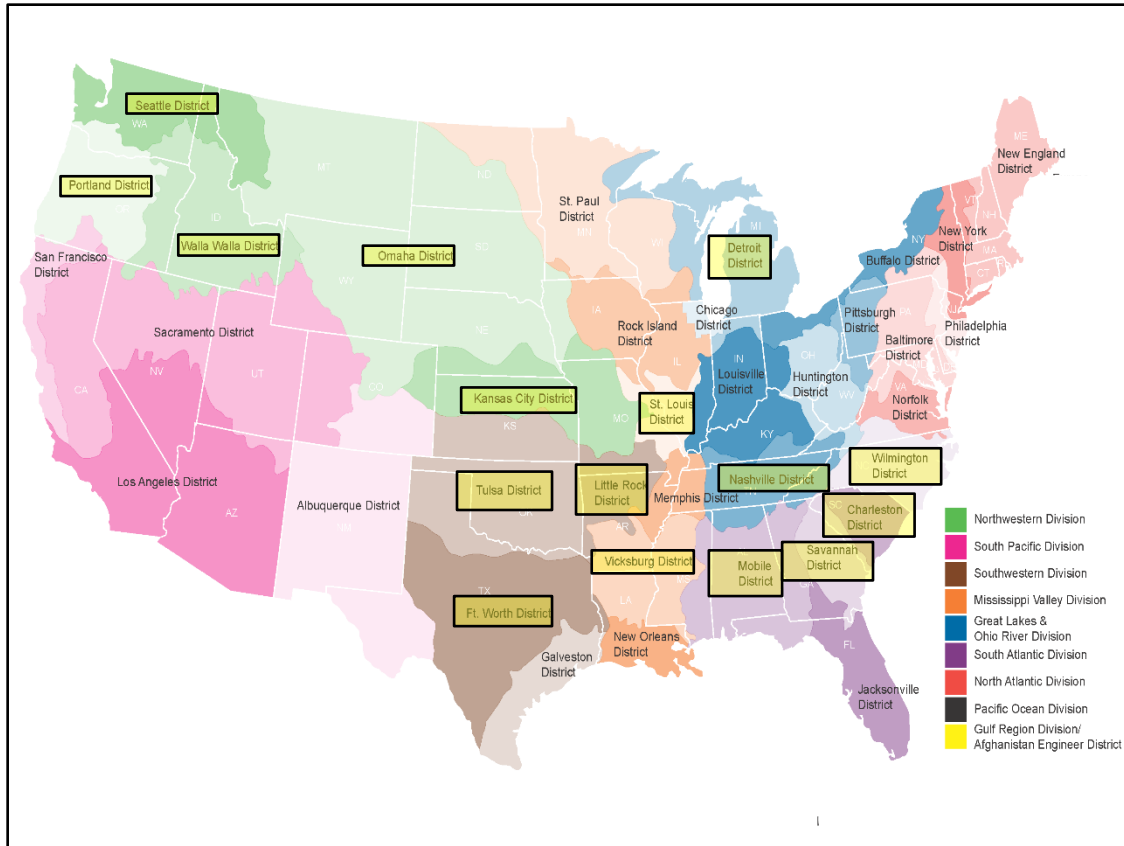
- Corps' Center of Expertise for Hydropower Engineering, Design, and Planning & Economic Analysis
- Technical Center of Expertise for Large Pumping Plants
- Over 170 Engineers and Scientists, Enterprise Experts
- Responsible for Large Capital Engineering Design Support, \$35M-\$40M in Design Program alone per year
- 16 Hydropower producing Districts across Nation
- 75 Power plants across the country & overseas Contingency
- Mechanical, Electrical, Structural, Computer Engineers
Computer Scientists, Economists, Mathematicians

on (OK) 47- R.D. Willis/Town Bluff (TX) 57- Cordell Hull (TN) 68- St. Stephens (SC)
Ferry (OK) 48- Narrows (AR) 58- Dale Hollow (TN) 69- Allatoona (GA)
49- Blakely Mountain (AR) 59- Center Hill (TN) 70- Buford (GA)
50- DeGray (AR) 60- Wolf Creek (KY) 71- West Point (AL/GA)
51- Clarence Cannon (MO) 61- Laurel (KY) 72- Jones Bluff (AL)
52- Saint Mary's Falls (MI) 62- Philpott (VA) 73- Millers Ferry (AL)
53- Barkley (KY) 63- John H. Kerr (VA) 74- Walter F. George (AL/GA)
54- Cheatham (TN) 64- Carters (GA) 75- Jim Woodruff (FL)
55- J. Percy Priest (TN) 65- Hartwell (SC/GA)
56- Old Hickory (TN) 66- Richard B. Russell (SC/GA)
67- J. Strom Thurmond (SC/GA)

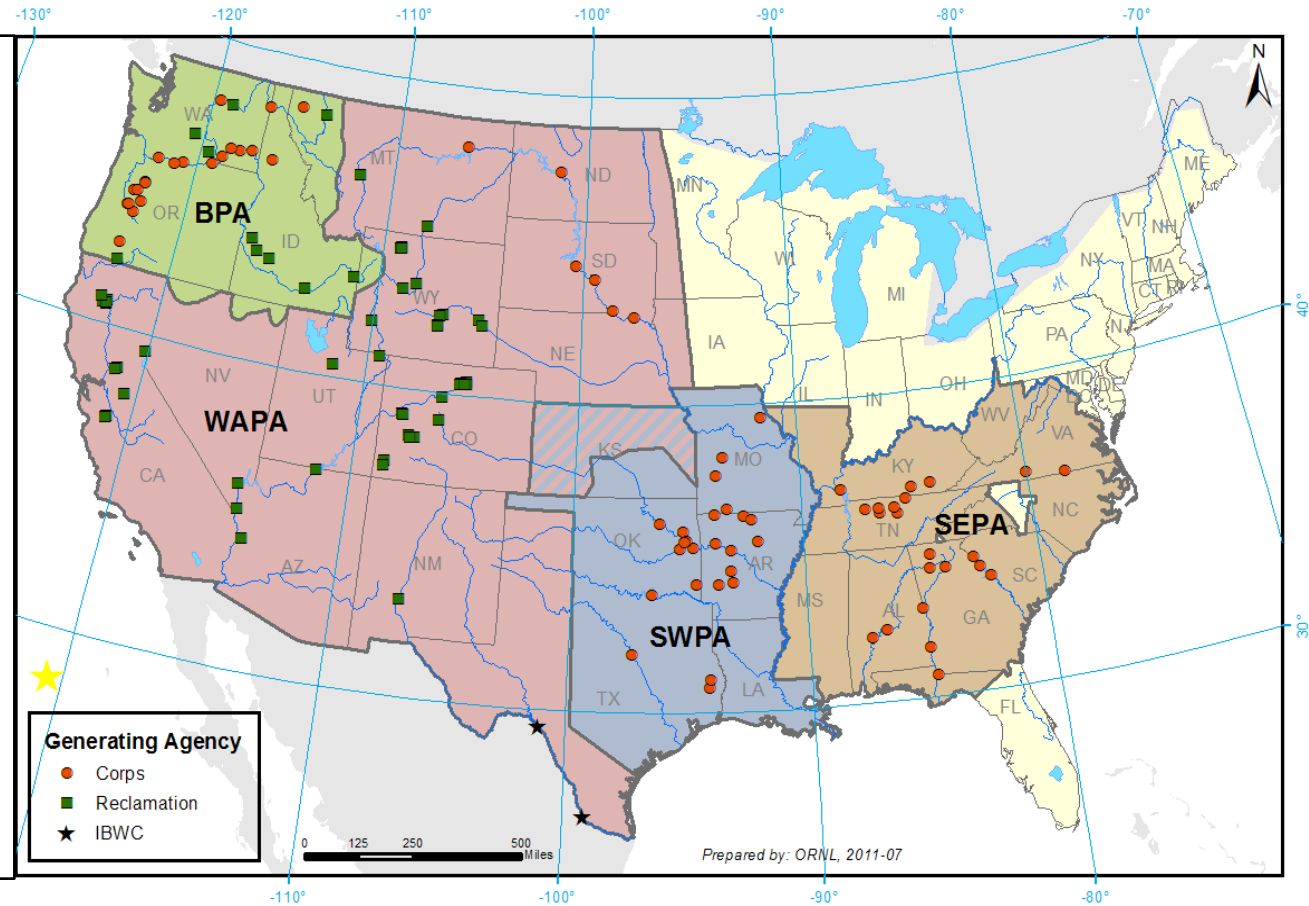


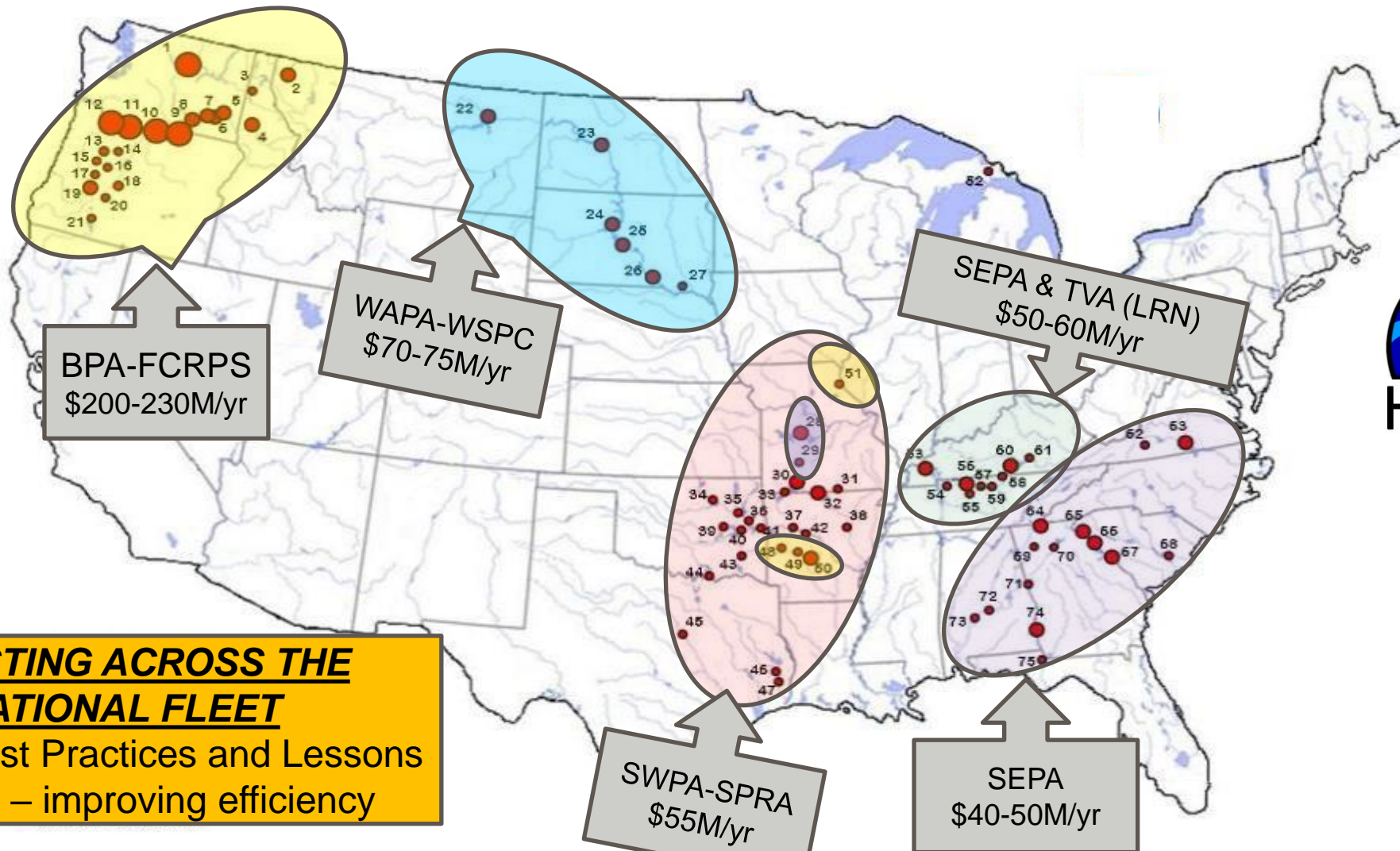
US Army Corps
of Engineers®

Our 16 Hydropower Producing Districts Partners



Our 4 Power Marketing Administration Partners





INVESTING ACROSS THE NATIONAL FLEET
 Sharing Best Practices and Lessons Learned – improving efficiency

NWD:

- 1- Chief Joseph (WA)
- 2- Libby (MT)
- 3- Albert Falls (ID)
- 4- Dworshak (ID)
- 5- Lower Granite (WA)
- 6- Little Goose (WA)
- 7- Lower Monumental (WA)
- 8- Ice Harbor (WA)
- 9- McNary (OR/WA)
- 10- John Day (OR/WA)
- 11- The Dalles (OR/WA)

- 12- Bonneville (OR/WA)
- 13- Big Cliff (OR)
- 14- Deloit (OR)
- 15- Foster (OR)
- 16- Green Peter (OR)
- 17- Dexter (OR)
- 18- Cougar (OR)
- 19- Lookout Point (OR)
- 20- Hills Creek (OR)
- 21- Lost Creek (OR)
- 22- Fort Peck (MT)
- 23- Garrison (ND)

- 24- Oahe (SD)
- 25- Big Bend (SD)
- 26- Fort Randall (SD)
- 27- Gavins Point (SD)
- 28- Harry S. Truman (MO)
- 29- Stockton (MO)
- 30- Table Rock (MO)
- 31- Norfolk (AR)
- 32- Bull Shoals (AR)
- 33- Beaver (AR)
- 34- Keystone (OK)

- 35- Fort Gibson (OK)
- 36- Tenkiller Ferry (OK)
- 37- Ozark (AR)
- 38- Greers Ferry (AR)
- 39- Eufala (OK)
- 40- Webbers Falls (OK)
- 41- Robert S. Kerr (OK)
- 42- Dardenelle (AR)
- 43- Broken Bow (OK)
- 44- Denison (TX)
- 45- Whitney (TX)
- 46- Sam Rayburn (TX)
- 47- R.D. Webb/Town Bluff (TX)

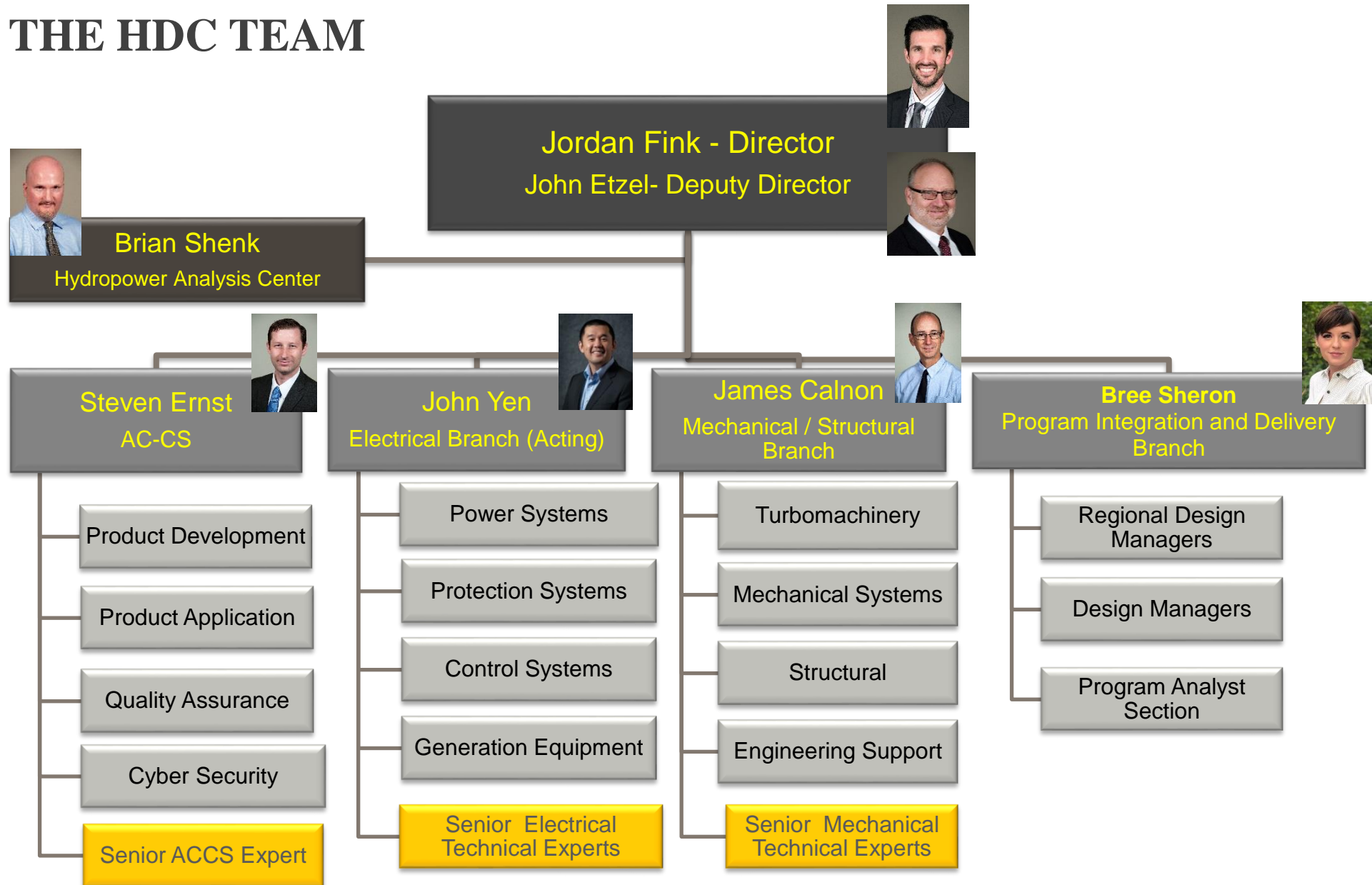
- 48- Narrows (AR)
- 49- Blakely Mountain (AR)
- 50- DeGray (AR)
- 51- Clarence Cannon (MO)
- 52- Saint Mary's Falls (MI)
- 53- Barkley (TN)
- 54- Cheatham (TN)
- 55- J. Percy Priest (TN)
- 56- Old Hickory (TN)
- 57- Cordell Hull (TN)
- 58- Dale Hollow (TN)
- 59- Center Hill (TN)
- 60- Wolf Creek (KY)
- 61- Laurel (KY)
- 62- Philpott (VA)
- 63- John H. Kerr (VA)
- 64- Casters (GA)
- 65- Hartwell (SC/GA)
- 66- Richard B. Russell (SC/GA)
- 67- J. Strom Thurmond (SC/GA)

- 68- St. Stephens (SC)
- 69- Allatoona (GA)
- 70- Buford (GA)
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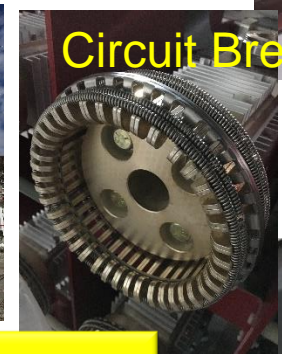


US Army Corps of Engineers®

THE HDC TEAM



Generation, Power, Protection Equipment



Turbomachinery Equipment



What we do in HDC...

An Inside Look...

...at the turbine

- 1. Scroll Case: Guides water into all Wicket Gate openings.
- 2. Stay Vane Ring: Guides water into the Wicket Gates.
- 3. Wicket Gates: Movable gates that control water flow over the Turbine blades.
- 4. Bull Ring Mechanism: A ring with mechanical areas that open and close the Wicket Gates.
- 5. Gate Servomotor: Hydraulic motor that moves the Bull Ring Mechanism.
- 6. Kaplan Turbine: Converts the energy of falling water into a spinning motion.
- 7. Main Shaft: Connects the spinning Turbine to the Rotor.

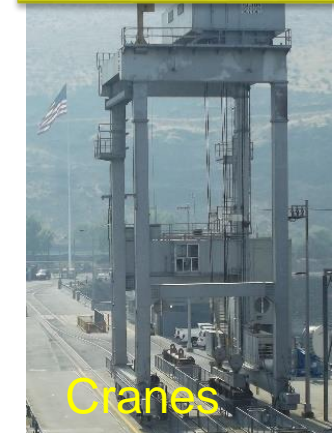
...at the generator

- 8. Rotor: A rotating set of electromagnets which spin past the Stator.
- 9. Stator: Coils of copper strands where electricity is generated.
- 10. Oil Head: Entry point for hydraulic oils used to vary the turbine blade angle.
- 11. Slip Rings: Feed current into the spinning Rotor to power its electromagnets.
- 12. Thrust Bearing: Holds bearing that supports the vertical weight of the rotating Shaft, Rotor and Turbine.
- 13. Air Cooler: Radiators used to cool air inside the Generator and barrel.
- 14. Bus Ducts: Contain copper bars which carry electricity out of the Generator to the transformers.
- 15. Exciter (not shown): Changes 55,000 volts AC into 500 volts DC for charging the electromagnet on the Rotor.
- 16. D.C. Bus: Carries 500 volts from the Exciter #11 through the slip rings #12 to Rotor electromagnets #8.
- 17. Governor (not shown): Sends high pressure oil to the Servomotor #5 and Oil Head #10 for controlling waterflow which determines generator output power.

...external to the unit

- 15. Exciter (not shown): Changes 55,000 volts AC into 500 volts DC for charging the electromagnet on the Rotor.
- 17. Governor (not shown): Sends high pressure oil to the Servomotor #5 and Oil Head #10 for controlling waterflow which determines generator output power.

Mechanical Systems Equipment



Cranes



ICS & SCADA





Digital Advancements

Control Systems and Data Management



❑ FCRPS developed GDACS

- 25 yrs strong; Resilient, Adaptable, Secure
- We are in the Driver's seat, we own the code and product dev.
- Strong posture against growing cyber threats

❑ GRIDMOD & EIM

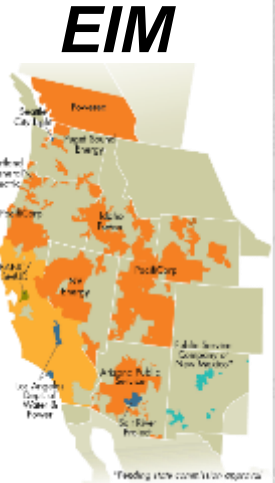
- BPA Live with CAISO (3-May 2022)
- HDC ACCS on all interagency teams to align deliverables
- Big benefit to owning GDACS - can modify with internal forces with cost and schedule control

❑ Centralized/Consolidated Control

- SWPA6 region-wide SCADA upgrade
- SAD region-wide Controls & GDACS upgrade
- Willamette Valley Automation & GDACS upgrade

❑ Data Management

- In-the-field Pilot: Secure Business Network Connection in SAD
- Purpose: Build Plant O&M efficiencies and Provide web-based real-time display of Fleet Status for Managers
- Next: Data Analytics & Algorithms to leverage ops data



HDC Program Drivers Across the Fleet

Chief Joseph Powerhouse



- ☐ In PHASE I (in Solicitation)
- ☐ 27 New Generator Rewinds

McNary Powerhouse



- ☐ In PHASE II (Model Testing)
- ☐ 14 New Turbine Runners
- ☐ 3 New Generator Rewinds

Oahe Powerhouse



- ☐ In PHASE IA (Engineering Study)
- ☐ 7 New Turbine-Generator Units
- ☐ Full Powertrain Assessment

Barkley Powerhouse



- ☐ In PHASE II (Fabrication)
- ☐ 4 New Turbine Runners
- ☐ 3 New Generator Rewinds

Old Hickory Powerhouse



- ☐ In PHASE I (In Solicitation)
- ☐ 3 New Turbine Runners
 - ☐ Optional 4th Unit
- ☐ 3 New Generator Rewinds

Fort Randall Powerhouse



- ☐ In PHASE II (Runner design)
- ☐ 8 New Turbine Runners
- ☐ 8 New Generator Rewinds

Wolf Creek Powerhouse



- ☐ In PHASE I (In Design)
- ☐ 6 New Turbine Runners
- ☐ 4 New Generator Rewinds

John Day Powerhouse



- ☐ In PHASE I (in Design)
- ☐ 12-16 New Turbine Runners
- ☐ 12-16 New Generator Rewinds

Philpott Powerhouse



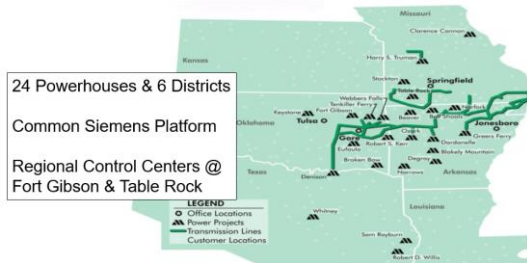
- ☐ In PHASE II (in Construction)
- ☐ 2 New Turbine Runners
- ☐ 2 New Generator Rewinds
- ☐ 15MW TO 19 MW

Hartwell Powerhouse



- ☐ In PHASE II (in Construction)
- ☐ 2 New Generator Rewinds

SWPA6 CONSOLIDATED CONTROL



Dennison Powerhouse



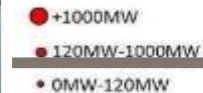
- ☐ In 100 Day Test of 2nd of 2 Units
- ☐ Replacement of 2 Francis Units

RS Kerr Powerhouse



- ☐ In First Yr of 7+ Yr Schedule
- ☐ 4 New Turbine Runners
- ☐ 4 New Generator Rewinds

Hydropower Plants



1- Chief Joseph (WA)	12- Bonneville (OR/WA)	24- Gale (SD)	35- Fort Calles (OR)	47- R.D. Williams Dam (TX)	57- Cordell Hull (TN)	68- St. Stephens (SC)
2- Libby (MT)	13- Big Lost (OR)	25- Big Bend (TX)	36- Fort Randall (SD)	48- Marble (AZ)	58- Dale Hollow (TN)	69- Alcoa (VA)
3- Allouez Falls (IL)	14- Delvalle (OR)	26- Fort Randall (SD)	37- Grand (MT)	49- Snowy Mountain (AR)	59- Condit Hill (TN)	70- DuPont (CA)
4- Decatur (ID)	15- Foster (SD)	27- Gaius Point (SD)	38- Crocker Ferry (AR)	50- DeGray (AR)	60- Wolf Creek (KY)	71- West Ford (AL/VA)
5- Lower Crocker (VA)	16- Green Point (OR)	28- Harry S. Truman (MO)	39- Calhoun (AR)	51- Cherokee Canyon (MO)	61- Laurel (KY)	72- Jones Dam (AL)
6- Upper Crocker (VA)	17- Wheeler (OR)	29- Meeker (WY)	40- Gaius Falls (OR)	52- Cherokee Canyon (MO)	62- Philpott (VA)	73- Millers Ferry (GA)
7- Lower Crocker (VA)	18- Gage (ID)	30- Meeker (WY)	41- Gaius Falls (OR)	53- Cherokee Canyon (MO)	63- John H. Kerr (VA)	74- Walter F. George (AL/GA)
8- Lower Crocker (VA)	19- Lookout (OR)	31- Meeker (WY)	42- Gaius Falls (OR)	54- Cherokee Canyon (MO)	64- Carter (GA)	75- Jim Woodruff (FL)
9- Lookout (OR)	20- Mills Creek (OR)	32- Meeker (WY)	43- Gaius Falls (OR)	55- Cherokee Canyon (MO)	65- John H. Kerr (VA)	
10- Lookout (OR)	21- Lookout (OR)	33- Meeker (WY)	44- Gaius Falls (OR)	56- Cherokee Canyon (MO)	66- Hartwell (GA/VA)	
11- Lookout (OR)	22- Lookout (OR)	34- Meeker (WY)	45- Gaius Falls (OR)	57- Cherokee Canyon (MO)	67- J. Strom Thurmond (SC/GA)	

SAD Centralized Regional Control



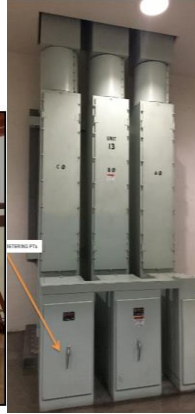
- ☐ 13 Powerhouses & 3 Districts
- ☐ Regional Control Centers at CAR & RBR



US Army Corps
of Engineers®

PROJECT SPOTLIGHT

MCNARY MODERNIZATION PROJECT PLAN



McNary Modernization Project Plan - June 2022									
	Auxilliaries Outages					Water Passage Outages			
Project	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	
Turbine Replacement (U1-14)	KTR Design		Execution (Adj): Continue Fixed Blade Design			GE, \$321M (Apr 2018) DL: B. Hefferman			
Excitation Replacement	Contract	Execution				Closeout	"McQuad" Olsson, \$41.7M (Mar 2021) DL: K. Chen		
Digital Governor Upgrade	Contract	Execution				Closeout			
Powerhouse Control System	Contract	Execution				Closeout			
Governor Mechanical System Rehabilitation	Contract	Execution				Closeout			
Isolated Phase, HV Bus, and Switch Upgrades	P&S Contract	Execution						"McDouble"	
Intake Gates/Hydraulic System	P&S Contract	Fabrication	Execution						Knight Const. \$116M (Apr 2022) DL: S. Hinnen
Intake Bulkheads (Qty: 4)	P&S Contract	Execution						Hydro Partners Joint Venture \$3.4M (Jun '21) DL: A. Muehleck	
GSU Transformer Re-gasketing	P&S	Execution						Negotiating with TVA DL: P. Kleine	
Station Service Unit Rehabilitation (2 Units)	P&S Contract	Execution						Andritz Hydro, \$11.8M (Apr '21) DL: A Bostrom	
Drainage, Unwatering & Equalization System	P&S	Contract	Execution						Sch'd Award: Sep 2022 Review Lead: D. Courson
Intake Gantry Crane #5	P&S Contract	Execution						Reel COH, \$17M, (Jan 2020) DL: S. Hinnen	
Tailrace Gantry Crane #4	P&S Contract	Execution							
Bridge Crane PLC Upgrade	P&S	Execution 1 Crane PLC: FY23 and 1 Crane PLC: FY24						Crane MATOC DL: T. Olson	
Life Safety/Fire Alarm	A/E & NWW Concept	NWW P&S Contract			Execution			FY22 New Start HDC: R. Harvey	

PROJECT SPOTLIGHT

OLD HICKORY TURBINE AND GENERATOR REHAB



Background:

- Plans and Specs design complete
 - Uprate 3 main units, 1 optional (Kaplan)
 - Current – 28.75 MW per unit
 - Uprate – 40.5 MW per unit
 - Replace Kaplan turbine runners
 - Replace Stator Winding
 - Replace Core

Status:



- Currently out for bid
- Contract Award target end of FY22
- 8-year period of performance for construction



US Army Corps
of Engineers®

MAJOR HYDROPOWER MECHANICAL AND ELECTRICAL EQUIPMENT REHABILITATION WORK





Potential USACE Contracts for
Major Hydropower Mechanical and Electrical Equipment Rehabilitation Work

CONTACT	DISTRICT / AREA	PHONE NUMBER
Vinnie DiBlasi	Mobile/ Savannah/ Wilmington/ Charleston	503-808-4214
George Kalli	Bonneville/The Dalles/John Day	503-808-4535
Adonica Marshall	Omaha	503-808-5276
Andy Long	Fort Worth/Tulsa	503-808-5290
Larry Haas	Walla Walla	503-808-4279
Ellen Ballantine	Nashville/Detroit	503-808-4236
Beth McNair	Little Rock/Vicksburg/St. Louis/Kansas City	503-808-4270
Brian Feeney	Seattle/Willamette Valley/Rogue River	503-808-4315

Turbine and Generator.....4

Excitation System.....5

Governor.....7

Crane and Hoist.....7

Metal Fabrication (Bulkhead, Gate, Platform).....8

Balance of Plant.....8

Fire Suppression & Fire Protection/Detection.....9

Controls.....9

DC/Preferred AC Systems.....10



Electrical Low Voltage (Less than 1,000V).....10

Electrical Medium Voltage (More than 1,000V).....10

Large Power Transformer.....11

Turbine Oil Accountability and Replacement.....11

Coolers, Piping, and Large Valves.....12



U.S. Army Corps of Engineers
Potential Contracts

MAJOR HYDROPOWER MECHANICAL AND ELECTRICAL EQUIPMENT REHABILITATION WORK

14 Jun 2022

Hydroelectric Design Center

Jordan Fink, Director..... 503-808-4200

John Etzel, Deputy Director..... 503-808-4210

John Yen, Electrical Branch Chief..... 503-808-4275

Jim Calnon, Mechanical/Structural Branch Chief..... 503-808-4250

Steven Ernst, Automated Controls and Cyber Security Branch Chief..... 503-808-3732

Bree Sheron, Program Integration & Delivery Branch Chief..... 503-808-4225

Brian Shenk, Hydropower Analysis Center Chief..... 503-808-4221



US Army Corps
of Engineers®



*Potential USACE Contracts for
Major Hydropower Mechanical and Electrical Equipment Rehabilitation Work*

Turbine and Generator

Fort Worth: Sam Rayburn – Turbine Rehab, FY25 or later
2 Kaplan Runner Repl, 180" D, 41,300 HP, 70' Head, 85.7 RPM

Fort Worth: Sam Rayburn – Generator Rehab, FY23 or later
2 Rewinds, 31.5MVA

Kansas City: HS Truman – Generator Rehab, FY24 or later
6 Rewinds, 28.4 MVA

Little Rock: Bull Shoals – Turbine and Generator Rehab, FY26 or later
4 Francis Runner Repl, 152.5" D, 52,000 HP, 190' Head, 128.6 RPM, Potential Uprate
4 Francis Runner Repl, 152.5" D, 62,000 HP, 190' Head, 128.6 RPM
4 Rewinds, 48.4 MVA, Coils
4 Rewinds, 54.5 MVA, Coils

Little Rock: Dardanelle – Cavitation Repairs, FY24

Little Rock: Greers Ferry – Generator Rewind, FY25
2 Rewinds

Mobile: Allatoona – Turbine Rehab, FY28
2 Francis Runner Repl, 165" D, 50,000 HP, 135' Head, 112.5 RPM, Potential Uprate

Mobile: West Point – Turbine Rehab, FY27
2 Fixed Blade Propeller Repl, 230" D, 51,500 HP, 58' Head, 100 RPM, Potential Uprate

Mobile: West Point – U1 Generator Rewind, FY26
1 Rewind, Francis, 3.75 MVA, Coil

Nashville: Wolf Creek – Turbine and Generator Rehab, FY25
6 Francis Runner Repl, 175" D, 62,500 HP, 160 Head, 105.9 RPM, Potential Uprate
4 Rewinds, 50 MVA, Coils

Portland: John Day – Turbine Replacement and Generator Rewind, FY23 or later
Up to 16 Kaplan Runner Repl, 312" D, 212,400 HP, 94' Head, 90 RPM, Potential Uprate,
Fixed and adjustable blade alternatives being considered
16 Rewinds, 163 MVA, Bars, Potential Uprate

Portland: Willamette Valley: Foster – Turbine Refurbishment, FY25
2 Kaplan refurb, 95" D, Refurbish blade operating mechanisms, Generator Repair

Seattle: Albeni Falls – Generator Windings and Bearings, FY27 or later
3 Units, ~20MVA

Seattle: Libby – 6th Generator Unit Assembly, FY23 or later
1 Unit, Francis, 110 MVA, installation of Government Furnished Equipment

Seattle: Libby – Turbine Runner Replacement, FY26
6 Francis, 179" D, 165,000 HP, 300' Head, 128.6 RPM



*Potential USACE Contracts for
Major Hydropower Mechanical and Electrical Equipment Rehabilitation Work*

Tulsa: Denison – Station Service Units Rehab or Replace, FY24 or later
2 600 kW turbines, 480V generators

Tulsa: Keystone – Turbine Rehab, FY24 or later
2 Fixed Blade, 192.25" D, 49,000 HP, 74' Head, 120 RPM

Tulsa: Eufaula Generator Rewind, FY24 or later
3 Francis, 182" D, 41,500 HP, 96' Head, 100 RPM

Walla Walla: Little Goose Discharge Ring Upgrade and Turbine Blade Cavitation, FY24
6 Kaplan, 312" D, 212,400 HP, 90 RPM

Walla Walla: Lower Granite Blade Sleeve Upgrade, FY23
6 Kaplan, 312" D, 212,400 HP, 90 RPM

Excitation System

Fort Worth: Sam Rayburn – Generation Excitation System, FY23 or later

Little Rock: Beaver – Excitation, FY24

Little Rock: Greers Ferry – Excitation, FY24

Little Rock: Table Rock – Excitation, FY24

Mobile: West Point – U1 Exciter Replacement, FY26
1 Unit, under investigation

Portland: John Day Exciter Replacement, FY23 or later
16 Units, under investigation

Portland: The Dalles Exciter Control, FY27
21 Units, under investigation

Portland: Willamette Valley (under investigation):
Big Cliff – Excitation System, FY26
Cougar – Excitation System, FY26
Dexter – Excitation System, FY26
Detroit – Excitation System, FY26
Foster – Excitation System, FY26
Green Peter – Excitation System, FY26
Hills Creek – Excitation System, FY26
Lookout Point – Excitation System, FY26

Seattle: Albeni Falls – Exciter Replacement, FY27 or later

Seattle: Chief Joseph – Station Service Unit Exciter, FY24
2 Units, Supply and Install, Static to Static

Seattle: Chief Joseph – Unit 1-16 Exciter, FY23
16 Units, Supply & Install, Static to Static

Tulsa: Broken Bow – Exciter Voltage Regulator Replacement, FY23 or later
2 Units, under investigation

Tulsa: Denison – Excitation System Replacement, FY24 or later





*Potential USACE Contracts for
Major Hydropower Mechanical and Electrical Equipment Rehabilitation Work*

2 Units, under investigation
Tulsa: Fort Gibson – Exciter Voltage Regulator Replacement, FY23 or later
4 Units, under investigation
Tulsa: Tenkiller Ferry – Excitation System Replacement, FY24 or later
2 Units, under investigation
Tulsa: Webbers Falls – Excitation System Replacement, FY24 or later
2 Units, under investigation

Governor

Little Rock: Greers Ferry- Governor Rehab, FY24
Portland: Bonneville: Powerhouse 1- Digital Governor Replacement Supply, FY22
St. Louis: Clarence Cannon – Governor Upgrades, FY24 or later
Wilmington: John H. Kerr – Digital Governor Upgrades, FY23

Crane and Hoist

Ft. Worth: Sam Rayburn – Draft Tube Crane, FY24 or later
Kansas City: H.S. Truman – Draft Tube Crane, FY23 or later
Little Rock: Beaver – Bridge Crane Rehab, FY25
Little Rock: Bull Shoals – Bridge Cranes Rehab, FY22-FY23
Little Rock: Dardanelle Bridge Crane Rehab FY23
Little Rock: Greers Ferry Bridge Crane Rehab FY24
Little Rock: Table Rock – Bridge Crane Rehab FY24
Little Rock: Table Rock – 20-Ton Tailrace Crane, FY22
Mobile: Allatoona – Headgates Machinery and Controls Rehab, FY23
Mobile: Buford – Headgates Machinery and Controls Rehab, FY23
Mobile: Walter F. George – Headgates Machinery and Controls Rehab, FY24
Mobile: West Point – Headgates Machinery and Controls Rehab, FY24
Nashville: Wolf Creek Bridge Crane Rehab, FY23
Nashville: Old Hickory Intake & Spillway Crane Rehab, FY23
Omaha: Big Bend – 60-Ton Intake Gantry Cranes Replacement, FY23
Omaha: Fort Randall – Intake Gantry Crane, FY22
Portland: Bonneville – Spillway Crane, FY26
Portland: Willamette Valley – Big Cliff 40-Ton Intake Gantry Crane, FY22

Savannah: RB Russell – Bridge Crane Rehab, FY25
Savannah: RB Russell – Draft Tube Crane Replacement, FY25
Seattle: Albeni Falls – 250-Ton Powerhouse Bridge Crane, FY24 or later
Seattle: Libby – Selective Withdraw Crane, FY25 or later
Tulsa: Denison – Intake Hoist Replacement, FY23 or later
Tulsa: Eufaula – Draft Tube Crane Rehab, FY22
Tulsa: Eufaula – Bridge Crane Rehab, FY24 or later
Tulsa: Fort Gibson – Draft Tube Crane Rehab, FY24 or later
Tulsa: Fort Gibson – Intake Gates and Hoists, FY24 or later



*Potential USACE Contracts for
Major Hydropower Mechanical and Electrical Equipment Rehabilitation Work*

Tulsa: Fort Gibson – Bridge Crane Rehab, FY23 or later
Tulsa: Keystone – Draft Tube Crane Rehab, FY24 or later
Walla Walla: Lower Monumental Bridge Crane Wheel and Drive System Upgrade, FY24
Walla Walla: Ice Harbor – Intake Gate Hydraulic System Upgrades, FY23

Metal Fabrication (Bulkhead, Gate, Platform)

Fort Worth District: HSS Gates and Bulkheads, FY24
Mobile: Allatoona – Headgate and Machinery Rehab, FY23
Mobile: Buford – Headgate and Machinery Rehab, FY23
Mobile: Walter F. George – Headgate and Machinery Rehab, FY24
Mobile: West Point – Headgate and Machinery Rehab, FY24
Omaha: Gavins Point – Tailrace Draft Tube Gate Refurbishment, FY22
Omaha: Oahe – Tailrace Bulkhead Rehab, FY22
Portland: Bonneville – Headgate Repair Pit Rehab, FY22
Portland: Willamette Valley – Big Cliff Intake Gates and Trash Racks Replacement, FY24
Portland: Willamette Valley – Detroit Intake Gates Replacement and Trash Racks Rehab., FY24
Seattle: Albeni Falls – Trashracks Rehab, F28
Seattle: Albeni Falls – Turbine Maintenance Platform, FY23 or later
Seattle: Chief Joseph – Intake Gates Rehab or Replacement, FY26 or later
Seattle: Chief Joseph – Turbine Maintenance Platform, FY23
Seattle: Libby – Selective Withdrawal Pressure Relief Bulkhead, FY28
Tulsa: Denison – Intake Gates and Hoists Replacement, FY23 or later
Tulsa: Fort Gibson – Intake Gates and Hoists, FY24 or later
Tulsa: Tenkiller – Draft Tube Gate Bulkhead & Lifting Beam, FY24 or later

Balance of Plant

Omaha: Big Bend – Station Service Air/Depressing Air System Upgrade, FY23
Omaha: Fort Randall – Intake Bubbler Blower System Air Compressors, FY23
Portland: John Day – Top Plate Pump, FY23
Seattle: Chief Joseph – Powerhouse Sump Pump and Controls, FY24





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Fire Suppression & Fire Protection/Detection

Ft. Worth: Sam Rayburn – Fire Detection System, FY23 or later
 Kansas City: Stockton – Fire Protection System Replacement, FY23 or later
 Kansas City: HS Truman – Fire Protection System Replacement, FY23 or later
 Little Rock: Beaver – CO2 System Replacement, FY24
 Little Rock: Dardanelle – CO2 System Replacement, FY25
 Little Rock: Greers Ferry – CO2 System Replacement, FY24
 Little Rock: Norfolk - Fire Suppression System Replacement, FY24
 Mobile: Buford – Generator Fire Suppression System Replacement, FY26
 Mobile: Carters – Generator Fire Suppression System Replacement, FY25
 Mobile: Jones Bluff (RF Henry) – Generator Fire Suppression System, FY27
 Portland: Willamette Valley – Dexter Fire Detection/HVAC/Life Safety, FY27
 Savannah: Hartwell – Transformer Fire Suppression System, FY28
 Seattle: Chief Joseph – Facility Plant Fire Detection and Protection, FY25
 Seattle: Libby – CO2 Fire Suppression System, FY28

Controls

Mobile: Buford - Powerhouse Controls Upgrades, FY26
 Mobile: Carters - Powerhouse Controls Upgrades, FY27
 Mobile: J. Woodruff - Powerhouse Controls Upgrades, FY25
 Mobile: Jones Bluff - Powerhouse Controls Upgrades, FY26
 Mobile: Millers Ferry - Powerhouse Controls Upgrades, FY25
 Mobile: West Point - Powerhouse Controls Upgrades, FY24
 Portland: The Dalles – Control Room Modernization, FY26
 Savannah: Hartwell – Powerhouse Controls Upgrades, FY23
 Savannah: Richard B. Russell – Powerhouse Controls Upgrades, FY23
 Savannah: J. Strom Thurmond – Powerhouse Controls Upgrades, FY24
 Seattle: Chief Joseph – Annunciation Upgrade, FY27 or later
 Seattle: Chief Joseph – Powerhouse Control Room Reliability Upgrades, FY27
 Seattle: Chief Joseph – Protective Relays – FY28
 Walla Walla: Little Goose – Powerhouse Controls/Annunciation, FY24
 Walla Walla: Lower Granite – Powerhouse Controls/Annunciation, FY24
 Walla Walla: Lower Monumental – Powerhouse Controls/Annunciation, FY25
 Wilmington: J.H. Kerr – Powerhouse Controls Upgrades, FY23
 Wilmington: Philpott – Powerhouse Controls Upgrades, FY24
 Kansas City: Harry S Truman – SCADA and Reliability Updates for Consolidated Controls, FY25
 Kansas City: Stockton – SCADA and Reliability Updates for Consolidated Controls, FY25



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Kansas City: Harry S Truman – Intake Gate Controls, FY25

DC/Preferred AC Systems

Nashville: Old Hickory – DC/Preferred AC Systems Install, TBD
 Nashville: Wolf Creek – DC/Preferred AC Systems Install, FY23
 Portland: Bonneville – Powerhouse 1 Preferred AC/DC Improvements, FY25

Electrical Low Voltage (Less than 1,000V)

Kansas City: Stockton – 480V Switchgear and MCC Replacement, FY24
 Little Rock: Bull Shoals – 480V Switchgear and MCC, FY24
 Little Rock: Beaver – 480V Switchgear and MCC, FY23
 Little Rock: Table Rock – 480V Switchgear and MCC, FY23
 Little Rock: Ozark – 480V Switchgear and MCC, FY23
 Little Rock: Dardanelle – Low Voltage Switchgear Replacement, FY24
 Little Rock: Greers Ferry – Low Voltage Switchgear Replacement, FY25
 Vicksburg: DeGray – 480V Switchgear and MCC, FY23
 Portland: Rouge River Lost Creek – Motor Control Centers and Cabling, FY28
 Savannah: R.B. Russell – Motor Control Center, FY23
 Seattle: Chief Joseph – 480V Station Power DSQ 1&2, SQ1&3 Replacement, FY26
 Tulsa: Eufaula – Motor Control Centers Replacement, FY22
 Tulsa: Fort Gibson – 480V Switchgear and Transformers, FY23 or later
 Tulsa: RS Kerr – Motor Control Centers, FY22
 Tulsa: Tenkiller Ferry – Station Service System and Transformer Feeders Replacement, TBD
 Vicksburg: Narrows – 480V Switchgear and MCC Replacement, FY24

Electrical Medium Voltage (More than 1,000V)

Ft. Worth: Sam Rayburn – 15kV Switchgear Replacement, FY23
 Little Rock: Bull Shoals – Modernization Electrical Install, FY25
 Little Rock: Beaver – Transformer Supply and Install, FY26
 Little Rock: Norfolk – 161kV GCB Replacement, FY23
 Little Rock: Ozark – Replace 161-kV Switches, FY24
 Little Rock: Ozark – Replace 15kV Generator Cables, FY25
 Little Rock: Greers Ferry – 15kV Breakers/Switchgear and Station Service Transformer Replacement, FY25
 Mobile: Millers Ferry – 15kV Switchgear Installation, FY23



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Mobile: West Point – Generator Switchgear Supply and Installation, FY23
 Nashville: Center Hill Station Service, TBD
 Nashville: Old Hickory Station Service, TBD
 Nashville: Old Hickory – Main Power Transformer Install, FY23
 Nashville: Wolf Creek – Main Power Transformer Supply and Install, FY22
 Nashville: Laurel Oil to SF6 Circuit Breaker Replacement, FY22
 Omaha: Fort Peck – Outdoor SS Transformer B Install and Switchgear, FY23
 Omaha: Oahe – Switchyard Disconnects Switch Replacement, FY23
 Portland: Bonneville – Powerhouse 1 Main Unit Breaker Replacement Upgrades, FY23
 Portland: Willamette Valley – Detroit Main Unit Transformer Replacement Install, FY25
 Portland: Willamette Valley – Green Peter Electrical Reliability (Station Service) Upgrade, FY28
 Portland: Willamette Valley – Hills Creek Electrical Reliability (Station Service) Upgrades, FY22
 Portland: Willamette Valley – Cougar Electrical Reliability (Station Service) Upgrades, FY28
 Seattle: Albeni Falls – Emergency Diesel Generator, FY25
 Seattle: Chief Joseph – Isophase Bus Rehab Unit 1-16, FY23
 Seattle: Chief Joseph – SF6 Breaker Refurbishment, FY26
 Tulsa: Denison – Switchyard Power Circuit Breaker Replacement, FY24 or later
 Vicksburg: Blakely Mountain – Oil Circuit Breaker Replacement, FY24
 Vicksburg: DeGray – Oil Circuit Breaker Replacement, FY24
 Vicksburg: Narrows – Oil Circuit Breaker Replacement, FY24

Large Power Transformer

Little Rock: Bull Shoals – Main Unit Transformer Supply and Install, FY25
 Little Rock: Beaver – Transformer Supply and Install, FY26
 Little Rock: Ozark – GSU Transformer Repairs, FY25
 Mobile: West Point – U1 Transformer Replacement, FY25
 Nashville: Wolf Creek – Main Power Transformer Supply and Install, FY22
 Portland: The Dalles – Main Unit Transformers 9-11 Replacement Supply, FY28
 Portland: Willamette Valley – Detroit Main Unit Transformer Replacement Supply, FY24
 Seattle: Libby – Transformer Refurbishment (T1), FY23
 Seattle: Libby – Transformer Refurbishment (T2), FY27 or later
 Tulsa: Keystone – GSU Rehab/Replacement, FY24 or later
 Walla Walla: Little Goose – GSU spare supply, FY23
 Wilmington: Island Creek – Transformer Replacement, FY23

Turbine Oil Accountability and Replacement

Portland: The Dalles – Oil Accountability Measures, FY22
 Portland: Willamette Valley – Foster Oil Spill Prevention System, FY22



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Portland: Willamette Valley – Detroit Oil Spill Prevention System, FY24
 Portland: Willamette Valley – Dexter Oil Spill Prevention System, FY26
 Portland: Willamette Valley – Big Cliff Oil Spill Prevention System, FY26
 Portland: Willamette Valley – Green Peter Oil Spill Prevention System, FY26
 Portland: Willamette Valley – Lookout Point Oil Spill Prevention System, FY26

Coolers, Piping, and Large Valves

Little Rock: Greers Ferry – Unwatering pump Controls, Piping, and Valves, FY23
 Omaha: Fort Peck – Butterfly Valve Rehab, FY22
 Portland: John Day – Unwatering System Replacement, FY25 or later
 Portland: Willamette Valley – Cougar Butterfly Valves Replacement, FY22
 Tulsa: Denison Penstock/Expansion Joint and Drain Valve, FY24 or later
 Tulsa: Keystone Unit 2 Penstock Expansion Joint, FY24 or later
 Vicksburg: Blakely Mountain – Butterfly Valve Rehab, FY24



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Questions & Comments?



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