



3628 South 35th Street

Tacoma, Washington 98409-3192

TACOMA PUBLIC UTILITIES

April 18, 2019

Attn: Talia Baker
PRC Administrative Support
Department of Enterprise Services
Engineering & Architectural Services
P.O. Box 41476
Olympia, WA 98504-1476

Dear PRC members:

The City of Tacoma and Tacoma Power submits the attached application to the Project Review Committee for design-build project approval for the Alder Unit 11 Rebuild project. Although the City of Tacoma is a certified public agency pursuant to RCW 39.10.270, Tacoma Power is a separately administered business unit from the City of Tacoma and, therefore, seeks project approval pursuant to 39.10.280. Tacoma Power has chosen design-build as the delivery method for the Alder Unit 11 Rebuild project because the work is highly technical, and there are a limited number of companies able to perform the work. The entities who will be responsible for rebuilding the project are also the best entities to design the project. Further, hydro power rebuild projects could have a significant number of unknown conditions that cannot be discovered until after the unit is disassembled. Having a single entity responsible for addressing these potential unknown conditions is the most efficient way to manage the risks.

Tacoma Power has assembled an experienced group of consultants to assist with the development of the procurement and contract and with the management of the project. Robynne Thaxton (Parkinson) will assist Tacoma Power with developing the procurement and the contract. Not only does she have many years of experience with design-build, she recently assisted the City of Seattle with an almost identical project, the Boundary Dam Unit Re-wind project. She will be bringing her experience with that project with her to assist Tacoma Power. Richard Patterson, Stanley Hayes, and William Akaishi with Stantec Engineers will assist Tacoma Power with both design-build expertise as well as specific expertise in hydro power design.

Thank you for your consideration of our application. We look forward to your questions and input on the process.

Sincerely,

David Wagner
Project Manager/ Production Engineering
Tacoma Power/ Tacoma Public Utilities

State of Washington
Capital Projects Advisory Review Board (CPARB)
PROJECT REVIEW COMMITTEE (PRC)

APPLICATION FOR PROJECT APPROVAL
To Use the Design-Build (DB)
Alternative Contracting Procedure

The CPARB PRC will only consider complete applications: Incomplete applications may result in delay of action on your application. Responses to sections 1-7 and 9 should not exceed 20 pages (*font size 11 or larger*). Provide no more than six sketches, diagrams or drawings under Section 8.

Identification of Applicant

- a) Legal name of Public Body (your organization): **City of Tacoma, Tacoma Public Utilities, d.b.a. Tacoma Power**
- b) Address: **3628 S 35th St, Tacoma, WA 98409**
- c) Contact Person Name: **David Wagner** Title: **Project Manager**
- d) Phone Number: **253-779-7781** E-mail: **dwagner@cityoftacoma.org**

1. Brief Description of Proposed Project

- a) Name of Project: **Alder Unit 11 Rebuild**
- b) County of Project Location: **Pierce**
- c) Please describe the project in no more than two short paragraphs. (*See Attachment A for an example.*)

This application is for seeking approval to use a two-step design-build approach as the project delivery method. The selection process will include a Request for Qualifications phase to shortlist design-builders and a Request for Proposals phase to select a design-builder based on best value including technical design, project management, project approach, and price. The project will rebuild one hydro turbine-generator unit (refer to Exhibit D for sketches/ photos) at Tacoma Power's Alder Powerhouse located at the Nisqually River Hydroelectric Project. The 25 megawatt turbine generator manufactured by General Electric (GE) was originally installed in 1947. The last significant work performed on the unit was replacement of the generator stator windings in 1973. The last unit disassembly was in 1988. Major original components still in service today include the turbine, generator stator frame and core, and generator rotor.

The unit rebuild project will include refurbishment of most major components with replacement of some due to either limited remaining life or to mitigate schedule impacts from finding unrepairable items during the construction outage. Components planned to be replaced include the generator stator windings and core, with possibility of a complete stator replacement. Refurbished components will be cleaned, inspected and evaluated for reuse and remaining life, and re-machined to original dimensions and tolerances. The rebuild work is anticipated to provide 30 years of safe, reliable and efficient service life for the unit.



2. Projected Total Cost for the Project:

A. Project Budget

Costs for Professional Services (A/E, Legal etc.)	\$409,000
Estimated project construction costs (<i>including construction contingencies</i>):	\$5,854,000
Equipment and furnishing costs	\$274,000
Contract administration costs (owner, cm etc.)	\$1,459,000
Contingencies (10%)	\$814,000
Other related project costs (Owner performed concurrent work)	\$148,000
Total	\$8,958,000

(Note: All design and construction costs identified above include 7.9% sales tax)

Tacoma Power requests approval pursuant to RCW 39.10.300(5) for approval of projects between two and ten million dollars.

B. Funding Status

Please describe the funding status for the whole project. *Note: If funding is not available, please explain how and when funding is anticipated*

The overall estimated project cost is \$9M and is expected to span 2019 – 2022. The anticipated spend is \$3.9M in 2019/20 and \$5.1M in 2021/22. The overall project was approved as part of the 2019/20 budget by the Tacoma Public Utility Board with \$3.9M in bond funds available in Tacoma Power’s capital program. The estimated spend for 2021/22 of \$5.1M will be included in the City’s 2021/22 budget. During budget planning, Tacoma Power’s Capital Steering Committee prioritizes any capital projects that are in progress and the Committee is aware of the \$5.1M as part of the 10 year Capital Improvement Plan.

The entire project will be funded through bonds. Tacoma Power currently has a bond rating of Aa3 which positions the organization to successfully debt fund this project through its completion.

3. Anticipated Project Design and Construction Schedule

Please provide (See Attachment B for an example schedule.):

The anticipated project design and construction schedule, including:

- a) Procurement;
- b) Hiring consultants if not already hired; and
- c) Employing staff or hiring consultants to manage the project if not already employed or hired.

Tacoma Power entered into a services agreement for design-build advisory and engineering services specific to the Alder Unit 11 Rebuild Project with Stantec in March 2019. A legal services contract was entered into with Thaxton-Parkinson in January 2019 for legal and design-build advisory services related to the project.

Task	Start	Finish
Planning Phase		
Project Kickoff Meeting	-	March 11, 2019
Develop RFQ Documents	March 13, 2019	May 31, 2019
Develop RFP Documents	March 13, 2019	June 28, 2019
Procurement & Preconstruction Phase		
PRC Application	March 11, 2019	April 19, 2019
PRC Presentation	-	May 23, 2019
Publication of RFQ for Design-Build Services	-	June 3, 2019
Deadline for Submittal of Questions/Comments regarding RFQ	-	June 14, 2019
Final RFQ Addendum/Clarifications Issued	-	June 21, 2019
RFQ Submittal Deadline	-	July 2, 2019

Open and Evaluate Submittals	July 3, 2019	July 12, 2019
Identify Finalists & Issue RFP & Proprietary Meeting Notifications	July 15, 2019	July 19, 2019
Proprietary One-on-one Meetings	August 5, 2019	August 9, 2019
Deadline for Submittal of Questions/Comments regarding RFP	-	August 16, 2019
Final RFP Addendum/Clarifications Issued	-	August 23, 2019
RFP Submittal Deadline (Price & Technical Proposals)	-	September 10, 2019
Open and Evaluate Technical Proposals	September 11, 2019	September 19, 2019
Design-Builder Interviews	September 20, 2019	September 20, 2019
Open Price Proposals & Complete Scoring	-	September 20, 2019
Notify Design-Builders of Scoring and Recommendation to Award	-	September 27, 2019
Design-Build Contract Negotiation	September 30, 2019	November 15, 2019
Public Utility Board (PUB) Letter	November 18, 2019	November 29, 2019
PUB Approval of Design-Build Contract	-	December 11, 2019
Execute Design-Build Contract	December 16, 2019	January 31, 2020
Design Phase		
Design Meetings	February, 2020	September, 2020
Design Submittal	-	September 30, 2020
Owner's Review	-	October, 2020
Manufacturing	November, 2020	February, 2021
Site Set-up and Mobilization	-	May, 2022
Construction Phase		
Construction Outage	June, 2022	November, 2022
Commissioning & Operational Testing	December, 2022	January, 2023
Substantial Completion	-	January, 2023
Closeout Phase		
Final Completion and Closeout	January, 2023	March, 2023

4. Explain why the DB Contracting Procedure is Appropriate for this Project

Please provide a detailed explanation of why use of the contracting procedure is appropriate for the proposed project. Please address the following, as appropriate:

- If the construction activities are highly specialized and a DB approach is critical in developing the construction methodology (1) What are these highly specialized activities, and (2) Why is DB critical in the development of them?

The project will include system engineering and design, disassembly, inspection and evaluation, refurbishment work, installation, and reassembly of a hydroelectric turbine generator. Alder Unit 11 was built and installed in 1947, last disassembled in 1988, and weighs as much as 170 tons.

The work to refurbish a hydroelectric generator unit is highly specialized and highly technical in nature. Designs are proprietary and are customized to each turbine-generator machine, mode of operation, and operating condition. Many components will need evaluation after the unit is disassembled to determine their remaining useful life and whether to refurbish or replace, and the appropriate party to make this determination is the one responsible for the refurbishment. After unit disassembly, coordination between and timely decisions from the designer and builder are necessary to ensure engineering design is completed, materials are ordered, manufacturing occurs, and components are delivered to the site in time to meet scheduled construction activities.

Machine reassembly and alignment requires extensive knowledge of hydro units, as the components are large (approximately 5 meters in diameter) and operate with minimal clearances and tolerances (often measured in thousandths of an inch) between rotating and stationary components. The knowledge required to safely and efficiently perform this work lies with both designers and builders. So again, coordination between designer and builder is of significant importance when developing detailed assembly and disassembly procedures and the schedule of construction activities. The design-builder

needs the experience and expertise to design and manufacture the components, as well as remove, evaluate, and reinstall them.

- If the project provides opportunity for greater innovation and efficiencies between designer and builder, describe these opportunities for innovation and efficiencies.

The design-builder team will be able to collaborate at the early stage of the project starting with Alternative Technical Concept (ATC) meetings to propose and develop the best unique solution. Any design proposed by the designer will be backed by the builder and there by reducing constructability risk as well as providing opportunity for innovation.

Throughout the course of the project the design-builder team will be able to collaborate towards ensuring that the design and construction takes into account constraints imposed by long lead items. It is expected that certain key components could take as much as 12 months to manufacture and deliver. During the disassembly phase of the project, having the design-builder team working together will enable for efficient recovery from any unknowns that are encountered. This will help minimize extension of the construction window due to such unknowns.

- If significant savings in project delivery time would be realized, explain how DB can achieve time savings on this project.

Using design-build will provide significant savings in delivery time mostly through materials procurement at an earlier stage in the project for long lead items as compared to design-bid-build project delivery. One example of this is procurement of stator core laminations with a lead time of up to 12 months.

In addition, because the same entity that will be disassembling the unit will also be the one to evaluate the ability to re-use the components within their overall design, the process will be much faster because there will not be a significant delay after the unit is disassembled. This in turn will result in cost savings for the overall project.

5. Public Benefit

In addition to the above information, please provide information on how use of the DB contracting procedure will serve the public interest. For example, your description must address, but is not limited to:

- How this contracting method provides a substantial fiscal benefit; or
- How the use of the traditional method of awarding contracts in a lump sum (*the "design-bid-build method"*) is not practical for meeting desired quality standards or delivery schedules.

The traditional design-bid-build contracting method, where the contract is awarded to the lowest responsive bidder without consideration given to qualifications and experience beyond the minimum required, isn't practical for this type of work. Hydro unit rebuild projects like this project require highly technical and specialized work, proprietary designs, and the ability to address unknown conditions both upfront and on-the-fly. The traditional method makes it difficult to manage the associated and substantial cost and schedule risks which inherently exist, either transferring these risks to the contractor resulting in higher bids or leaving the risks with Tacoma Power to manage who is then at the mercy of the contractor when changes in conditions are discovered.

In addition, the condition of the unit has a significant impact on the overall design and ultimate construction. The unit's condition will not be known until the unit is disassembled. By having the same entity both evaluate the condition of the unit as well as design and construct the solution, there is significant savings in time during the project. Any recommendation by the design-build contractor will be reviewed and analyzed by Tacoma Power project team from both a technical and a financial viewpoint prior to approval to make sure it is in the best interests of Tacoma Power's ratepayers.

6. Public Body Qualifications

Please provide:

- A description of your organization's qualifications to use the DB contracting procedure.

Tacoma Power has assembled a team of full time employees and consultants that have the necessary design-build, project management, and technical knowledge and experience to successfully execute this project. Tacoma Power has setup a contract with Stantec to provide design-build and project management advisory oversight and hydroelectric technical expertise. The City of Tacoma is approved by the State and has completed several successful design-build projects; however, Tacoma Power is requesting separate project approval out of an abundance of caution.

As this is Tacoma Power's first design-build project under RCW 39.10, Mr. Richard Patterson with Stantec who has 20 years' experience with design-build contracting, has been retained to provide oversight and guidance. Robynne Thaxton (Parkinson) of Thaxton Parkinson, PLLC is our external design-build legal advisor and will assist with the development of the procurement documents, the contract and to provide design-build legal consultation throughout the project.

Additionally, back in 2006, Tacoma Power staff had successfully undertaken the rebuild of Mossyrock hydro units using a similar approach. This project was undertaken prior to creation of RCW 39.10 and CPARB/ PRC. Some of Tacoma Power's staff involved in that project will be supporting the Alder unit rebuild project.

- A project organizational chart, showing all existing or planned staff and consultant roles.

Note: The organizational chart must show the level of involvement and main responsibilities anticipated for each position throughout the project (for example, full-time project manager). If acronyms are used, a key should be provided. (See Attachment C for an example.)

Refer to Exhibit A for the project organizational chart.

- Staff and consultant short biographies that demonstrate experience with DB contracting and projects (not complete résumés).

Ram Veeraraghavan, PE, Generation Electrical Engineering Supervisor/ Program Manager

Ram has 14 years of experience working in the power industry. This includes work with power utilities, architectural and engineering (A&E), and manufacturing. At Tacoma Power, Ram was responsible for planning and delivering a four year 5.1M exciter replacement program and a four year 5.7M hydro governor replacement program. He is responsible for developing both short and long term plan/ programs for Tacoma Power – Generation's electrical assets. As a project manager, he has led multiple hydro projects. While with the A&E firm, he managed multiple projects for utilities including Pacific Gas and Electric (PG&E), United States Bureau of Reclamation (USBR), Wisconsin Power and Light (WPL), and others. His experience includes working on new hydro development (USA and overseas) and rehabilitation of existing hydro power plants and hydro units.

David Wagner, PE, Assoc. DBIA, Project Manager

David has 14 years of professional experience with engineering design, construction, project management, and contract administration. He has been with Tacoma Power for eight years having led and managed several design, procurement, and construction projects, such as replacement of generator switchgear, governor systems, excitation systems, non-segregated phase bus, and electrical distribution systems, and the modernization of groundwater supply wells for one of Tacoma Power's salmon hatcheries. His public works contracting experience includes serving as lead in-house electrical engineer for the \$35.7M Cushman Floating Surface Collector and \$23.3M Cushman Hatcheries projects. In 2017, he led two separate procurements of new \$600k generator switchgear and \$395k buswork for the Cushman Hydroelectric Project that included a combination of functional, performance and prescriptive requirements to fit modern equipment in the space-constrained 1930's era powerhouse. David will serve as the project manager for the Alder rebuild project. He holds Associate DBIA certification.

Eric Hoffman, PE, Lead Electrical Engineer

Eric has 30 years of experience working with electrical equipment. For the past 16 years he has worked at Tacoma Power as an electrical engineer working almost exclusively with hydroelectric generating plants. From 2006 to 2011, Eric had significant involvement in the rebuild of the two 226 MVA generators at the Mossyrock hydroelectric generating facility, including design of new unit control panels, integration of new electrical equipment into the powerhouse and commissioning of the generators. From 2009 to 2013 he helped with technical specifications, procurement, design, construction and commissioning of the new North Fork Powerhouse.

Tyler Braun, PE, Lead Mechanical Engineer

Tyler has nearly 10 years of professional experience in the hydroelectric industry. As a power engineer and project manager, he supports capital and maintenance projects for Tacoma's four hydroelectric river projects, seven dams, and 23 hydroelectric turbine-generators and provides technical services to operations and maintenance staff. At Tacoma Power, he has led a condition-assessment program to prioritize work on the utility's oldest and most critical generators and has contracted for and overseen emergency repairs to damaged turbine equipment. Previously, he worked as an engineering consultant, serving as owner's engineer for hydroelectric projects in Pennsylvania and Vermont; in this role, he spent more than three years working onsite during the construction and commissioning phases of one expansion project and has helped build or rehabilitate a total of eight hydroelectric turbine-generators. His expertise includes contract and project management, powerhouse and mechanical systems design, engineering analysis, equipment specification and selection, equipment-procurement assistance, construction support, turbine-generator erection, and commissioning services.

Martha Lantz, Internal Legal Counsel

Martha advises the City of Tacoma and Tacoma Public Utilities on various matters, including public works procurement and contracting and is currently working with Tacoma Power on the Alder Unit 11 Rebuild Project using the Design Build project delivery method. She has been a Deputy City Attorney for the City of Tacoma since 2009. Prior to joining the City Attorney's Office in Tacoma Martha served for 15 years as an Assistant Attorney General for the State of Washington, where she represented and advised several state agencies, including enforcement of the state's Public Works and Prevailing Wage Acts for the Department of Labor and Industries. Martha began her legal career in 1991 as a judicial clerk for Division II of the Washington State Court of Appeals.

Robynne Thaxton (Parkinson), JD, FDBIA, Design-Build Advisor

Robynne is one of the leading experts in construction law and alternative procurement both in Washington State and on a national basis. She served on the National Design Build Institute of America Board of Directors from 2010 - 2016. In addition, she is a member of the DBIA National Education Committee and the former chair of the DBIA National Legal and Legislation Committee, where she continues to serve and is instrumental in drafting and revising the DBIA form Design-Build contracts and subcontracts. Robynne has been a designated Design-Build Professional since 2005 and is in the first class of Design-Build Designated Fellows. Robynne was named as a Washington Super Lawyer in 2010-2019 and is also a Fellow with the Construction Lawyers Society of America. Robynne has assisted many public owners with their design-build projects. Recent representative projects include Seattle City Light's Boundary Dam re-wind and Cedar Falls substation projects, Western Washington University New Residence Hall and Consolidated Academic Support Services building, University of California San Diego Triton Pavilion, Los Angeles County Consolidated Correctional Facility project, Grant County PUD's Substation Reliability Project, Port of Seattle's International Arrivals Facility and Concourse D Hardstand projects, City of Richland's Firehouse and City Hall projects, and City of Portland's Portland Building project.

E. Richard Patterson, PE, SE, Design-Build Consultant (Stantec)

Richard is the NW Regional Transportation Manager for Stantec. He brings over 33 years of transportation design and management experience. Richard has worked on a wide variety of design build project types including highways, bridges, building structures, subway transit stations, tunnels, and transit centers. Richard's experiences include project management, structural/civil design, and project controls. The majority of Richard's experience comes from Washington State Department of Transportation (WSDOT) projects, or projects that utilize WSDOT Standards.

Richard has worked on over a dozen design build projects including both final design and providing owner representation. His design build project experience originated overseas in the late 1990's and includes experience on DB projects for WSDOT, Port of Seattle (POS), Colorado Department of Transportation, Seattle Monorail Corporation, City of Reno, Nevada, and LTA Singapore. Local DB projects include WSDOT's SR 519 Phase 2 design build project, a very technically challenging project that included two bridges near the Seattle Mariners Stadium. Terminal 18 Redevelopment for POS. Richard is currently the Design Manager for WSDOT South Central Regions first DB project, the Wildcat Creek Bridge Replacement Project. Richard is a long-time member of the WSDOT/AGC/ACEC Design Build Committee and the current ACEC co-Chair.

Stanley Hayes, PE, Hydro Design Consultant – Project Management and Mechanical Subject Matter Expert (Stantec)

Stanley has 42 years of professional experience and is skilled in the project management and design and/or refurbishment of hydroelectric and other water resources projects. He has prepared or supervised preparation of design-build technical contract documents for hydroelectric projects in Washington, Oregon, California, Colorado, and New York and internationally. He has been responsible for the study, selection, technical procurement/contracting, design coordination, installation, and commissioning of a wide range of new and rehabilitated equipment for dams, hydroelectric facilities and hydraulic structures. His expertise includes project management, cost estimating, preparation of design documents and contract documents, analysis of bids, review of suppliers' drawings, shop and field inspections, and start-up and commissioning of equipment. Stanley has authored or co-authored over 20 technical papers or magazine articles on a wide range of hydropower and dams topics and has also been an expert panelist at several international hydropower conferences.

Willian Akaishi, Hydro Design Consultant – Electrical Subject Matter Expert (Stantec)

Willian has more than 32 years' experience in the hydroelectric industry in the areas of generator design engineering, quality assurance and quality control of generator manufacturing, and service of generators. Prior to joining Stantec in 2008, he worked for two major hydroelectric equipment manufacturers. His responsibilities included management of the generator engineering department and later management of generator services and repairs. Currently he is owner's engineer for rehabilitation of several hydro projects around the world, including projects in USA, Canada, Africa, South America and Middle East. He has worked on several DB projects for public and private client. In the State of Washington he has worked on several Grand Coulee task orders for United States Bureau of Reclamation (USBR) as well as for Grant County PUD, Douglas County PUD and Tacoma Power. His Washington State public works alternative contracting experience includes serving as the Owner's Engineer (Grant County PUD) for Rock Island Dam, Powerhouse #2-Turbine Rehabilitation Project. He has served as owner's engineer for both new power plants and rehabilitation of existing hydroelectric projects.

- Provide the ***experience and role on previous DB projects*** delivered under RCW 39.10 or equivalent experience for each staff member or consultant in key positions on the proposed project. (See Attachment D for an example. The applicant shall use the abbreviations as identified in the example in the attachment.)

Refer to Exhibit B for team project experience and roles.

- The qualifications of the existing or planned project manager and consultants.

Note: For design-build projects, you must have personnel who are independent of the design-build team, knowledgeable in the design-build process, and able to oversee and administer the contract.

See information provided above and in Exhibit B.

- If the project manager is interim until your organization has employed staff or hired a consultant as the project manager indicate whether sufficient funds are available for this purpose and how long it is anticipated the interim project manager will serve.

Not applicable. Project management will be performed by Tacoma Power staff with support from Stantec.

- A brief summary of the construction experience of your organization's project management team that is relevant to the project.

In addition to the response below, refer to the information provided above and in Exhibit B.

Tacoma Power is actively and continuously managing construction projects, large and small, to maintain the reliability of its assets and its portion of the bulk electric system as mandated by the Federal Energy Regulatory Commission. Tacoma Power owns and operates 23 hydroelectric turbine-generator units located across seven powerhouses on four river systems.

Beginning in 2014, Ram Veeraraghavan led two programs to replace 13 hydro-turbine governor systems (5.7M) and 13 static excitation systems (5.1M). Each replacement program included a Request for Proposal to design, manufacture, supply, test and commission the specified equipment. Submitted proposals were reviewed and evaluated per the factors listed in the RFP. Construction was performed with in-house resources, managed by David Wagner, Eric Hoffman and other staff. As the electrical engineering supervisor, Ram oversees an annual capital budget of around \$3.7M in addition to providing O&M oversight/ management.

David has managed construction on several recent projects, including replacement of hydro-turbine governor systems, static excitation systems, generator switchgear, and electrical buswork. In summer 2018, he spent most of his time at the Cushman Hydroelectric Project overseeing daily construction activities, coordinating generator outages, reviewing safety plans, and ensuring quality control.

The last unit rebuild for Tacoma Power began in 2006-2007, with construction beginning in 2009, at Tacoma Power's Mossyrock Powerhouse on the Cowlitz River. Two 226 MVA hydroelectric turbine-generators were rebuilt by Andritz (an Original Equipment Manufacturer - OEM), who was contracted through an RFP process. Eric Hoffman was an integral member of the project team from start to finish, overseeing much of the construction.

In recent years as detailed in Exhibit C, Tacoma Power has completed major construction projects which include two fish hatcheries, one floating surface fish collector, and another fish collection facility. These projects were managed by Terry Ryan (Engineering Manager) and his staff. While these individuals are not listed as part of the project, these in-house staff with skilled construction experience are easily available to the team as a resource to provide guidance and support as needed.

- A description of the controls your organization will have in place to ensure that the project is adequately managed.

This project will be managed through Tacoma Power's Generation Department in coordination and with support from Tacoma Power's Project Management Office and the City's Purchasing and Legal Departments. Tacoma Power executes over 100 projects annually and has business processes in place to manage projects of this nature.

Tacoma Power's Project Manager will represent Tacoma Power throughout all phases of this project, managing the contractual obligations of the DB team and overseeing and managing the work assigned to project team members. He will have decision making authority for daily management of the project including first-level approval of changes in scope, schedule and budget up to a dollar threshold of \$200,000. (Tacoma Power Management signature is required in addition to the Project Manager's approval.) Changes resulting in excess of \$200,000 require Tacoma Public Utility Board approval.

Tacoma Power will use the project management, construction management, and financial controls listed below to manage scope, schedule, budget, quality and risk on this project.

Project Management Controls – development of a Project Management Plan (PMP); logs such as a risk register and change management; periodic project reviews (scope, schedule, budget) with the project team as well as Tacoma Power's management; Microsoft Project to develop, maintain and communicate out to all project stakeholders the project schedule and staff resource needs.

Construction Management Controls – a resource plan to ensure adequate staffing; daily tailgates for safety and awareness of construction activities; weekly meetings to review and plan work; field visits and inspections to validate quality; manufacturing shop visits to validate quality; hold points to monitor progress during construction; and construction logs to track, manage and closeout construction items.

Document controls – SharePoint with version history and access controls for all project related documents including logs for submittals, change orders and other project related documents.

Financial controls – Monthly PM budget reviews; quarterly spend plan/ cash flow/ earned value updates; progress payments tied to milestones.

- A brief description of your planned DB procurement process.

Tacoma Power plans to use a 2-step DB procurement process. The first step will be to issue a Request for Qualifications (RFQ) to shortlist the three most qualified applicants. The second step will be to issue a Request for Proposals (RFP) to the three shortlisted applicants as part of a design competition whereby final selection will be based on technical proposal and price factors.

The RFQ will provide a general project description; rationale for using design-build; discussion on project goals, budget, and schedule; description of the required qualifications including submission of the applicant's accident prevention program; a description of the evaluation and selection process and factors (scoring breakdown) for both the RFQ and RFP; protest procedures; form of the contract to be awarded; and the amount of the honorarium to be paid. The submitted Statements of Qualifications (SOQ) will be reviewed and evaluated by a team comprised of the Tacoma Power Project Manager, Generation Electrical Engineering Lead, Generation Mechanical Engineering Lead, and the subject matter experts from Stantec.

The RFP will elaborate on the project description by providing a more detailed scope of work including technical performance requirements, minimum technical requirements for function and operations, an existing condition assessment report, schedule requirements, target budget for the DB contract, and form of the DB contract (general terms and conditions). During the RFP phase, proprietary one-on-one meetings with the three proposers will be conducted. The meetings will provide an opportunity for each proposer to ask questions seeking clarification about the project, to present their innovations or technology in generator design and manufacturing, to propose an Alternative Technical Concept (ATC) on one or more aspects of the project, to provide their approach on the recertification for reuse of specific components, and to give Tacoma Power face time with key individuals on the proposer's team. In addition to the one-on-one meetings, a site visit to inspect the site location, access to powerhouse, staging areas, on-site services, and Unit 11 (to extent possible) will be required. The submitted proposals will be reviewed and evaluated by the same team as listed above for the RFQ. Factors such as schedule, design and manufacturing technologies, approach to recertification of existing components, safety plan, project management controls, communication plan, quality control plan, and other criteria listed in the published RFP will be used to select the successful proposer. An honorarium will be paid to each shortlisted firm not awarded a contract who submits a responsive proposal.

- Verification that your organization has already developed (or provide your plan to develop) specific DB contract terms.
Ms. Robynne Thaxton (Parkinson) will assist Tacoma Power with preparation of the contract terms. Working with City Legal and Purchasing Departments, Generation Engineering and Stantec, Robynne will tailor the RFQ, RFP and Contract documents to meet the needs of the project. Robynne previously assisted the City of Seattle develop the design-build RFQ, RFP, and Contract Documents for the Boundary Dam generator refurbishment project.

7. Public Body (your organization) Construction History:

Provide a matrix summary of your organization's construction activity for the past six years outlining project data in content and format per the attached sample provided: *(See Attachment E. The applicant shall use the abbreviations as identified in the example in the attachment.)*

- Project Number, Name, and Description
- Contracting method used
- Planned start and finish dates
- Actual start and finish dates
- Planned and actual budget amounts
- Reasons for budget or schedule overruns

[Refer to Exhibit C.](#)

8. Preliminary Concepts, sketches or plans depicting the project

To assist the PRC with understanding your proposed project, please provide a combination of up to six concepts, drawings, sketches, diagrams, or plan/section documents which best depict your project. In electronic submissions these documents must be provided in a PDF or JPEG format for easy distribution. Some examples are included in attachments E1 thru E6. At a minimum, please try to include the following:

- A overview site plan (*indicating existing structure and new structures*)
- Plan or section views which show existing vs. renovation plans particularly for areas that will remain occupied during construction.

Note: applicant may utilize photos to further depict project issues during their presentation to the PRC

[Refer to Exhibit D.](#)

9. Resolution of Audit Findings On Previous Public Works Projects

If your organization had audit findings on any project identified in your response to Question 7, please specify the project, briefly state those findings, and describe how your organization resolved them.

[There have been no audit findings on any project identified in our responses.](#)

10. Subcontractor Outreach

Please describe your subcontractor outreach and how the public body will encourage small, women and minority-owned business participation.

Tacoma Power is committed to supporting the local economy and promoting the participation of small business enterprises, socially and economically disadvantaged business enterprises, as well as local businesses. As one evaluation factor and part of the SOQ, Applicants will be asked to submit their plan(s) to encourage the participation of small business enterprises, minority and women-owned business enterprises, and local businesses in the Project. In addition to the SBE/MWBE evaluation factor, the City's Small Business Enterprise Program Manager will review registered City of Tacoma SBE firms, along with Washington State Office of MWBE firms, to determine if any can potentially perform all or some of the work required and notify the firm(s) of the opportunity.

CAUTION TO APPLICANTS

The definition of the project is at the applicant's discretion. The entire project, including all components, must meet the criteria of RCW 39.10.300 to be approved.

SIGNATURE OF AUTHORIZED REPRESENTATIVE

In submitting this application, you, as the authorized representative of your organization, understand that: (1) the PRC may request additional information about your organization, its construction history, and the proposed project; and (2) your organization is required to submit the information requested by the PRC. You agree to submit this information in a timely manner and understand that failure to do so may delay action on your application.

PRC strongly encourages all project team members to read the Design-Build Best Practices Guidelines as developed by CPARB, and attend any relevant applicable training. If the PRC approves your request to use the DB contracting procedure, you also understand that: (1) your organization is required to participate in brief, state-sponsored surveys at the beginning and the end of your approved project; and (2) the data collected in these surveys will be used in a study by the state to evaluate the effectiveness of the DB process. You also agree that your organization will complete these surveys within the time required by CPARB.

I have carefully reviewed the information provided and attest that this is a complete, correct and true application.

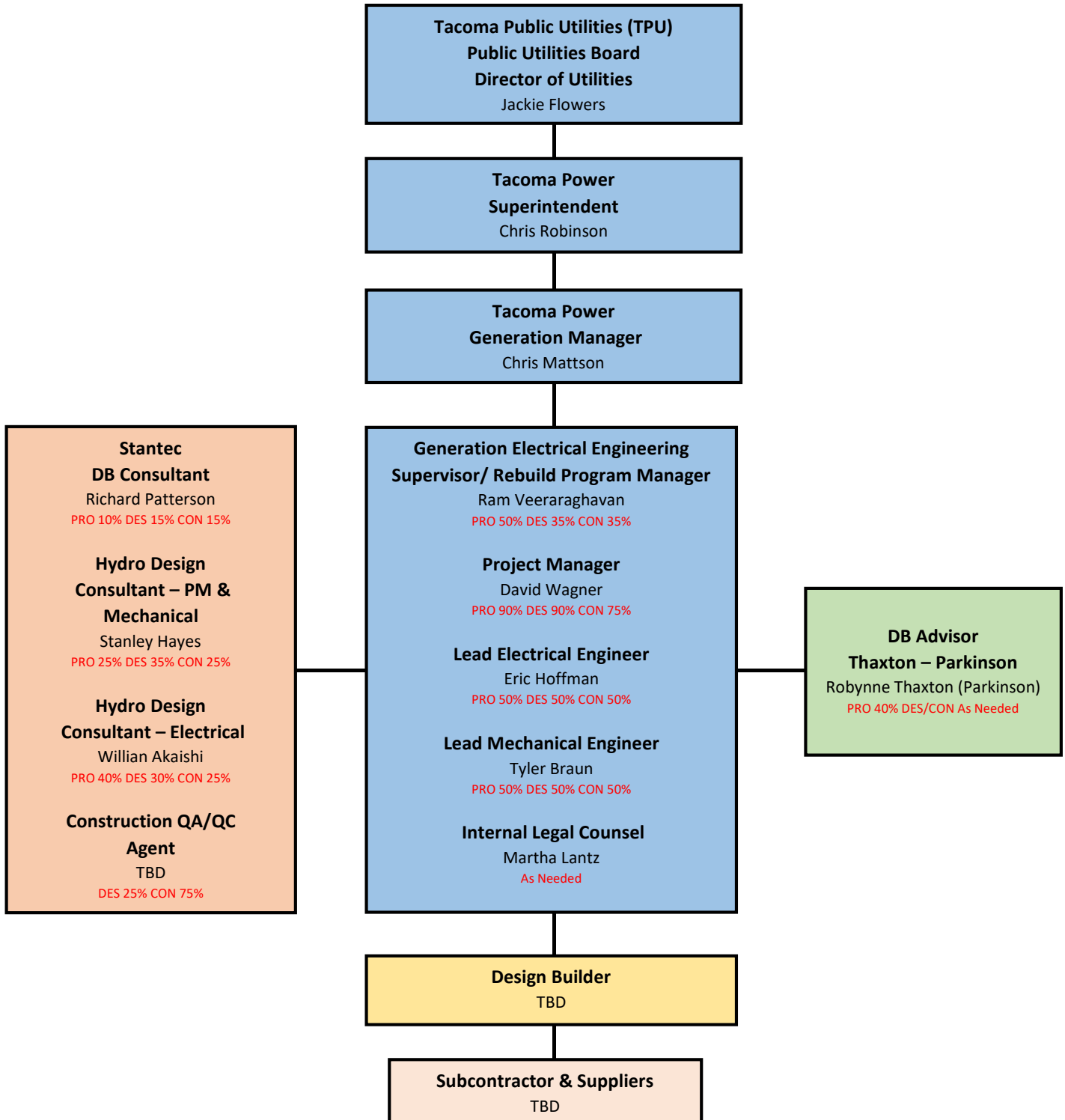
Signature:  _____

Name: *(please print)* _____ David Wagner _____ *(public body personnel)*

Title: _____ Project Manager _____

Date: _____ 4/15/19 _____

Exhibit A – Tacoma Power Project Organization Chart



Legend

PRO – Procurement
DES – Design
CON – Construction

Tacoma Power					Role During Project Phases		
Name	Summary of Experience	Project Name	Project Size	Project Type	Planning	Design	Construction
David Wagner - Project Manager	Project manager, design engineer, and construction manager for Tacoma Power for the past 8 years. Experience has spanned commercial building electrical improvements, fish hatcheries, and hydroelectric turbine-generator and balance of plant work.	Cushman 2 Generator Switchgear & Bus Replacement	\$2M	Design-Supply and In-House	Project Manager	Project Manager/Reviewer	Project Manager/Construction Manager
		Alder Units 11&12 Governor Upgrade	\$850K	Design-Supply and In-House	Project Manager	Project Manager/Engineer/Reviewer	Project Manager/Construction Manager
		Cushman 2 Units 31-33 Exciter Upgrade	\$945K	Design-Supply and In-House	Project Manager	Project Manager/Engineer/Reviewer	Project Manager/Construction Manager
		Cowlitz Salmon Hatchery Wells Modernization	\$925K	In-house	Project Manager	Project Manager/Engineer	Project Manager/Construction Manager
		Cowlitz Falls North Shore Collector	\$32M	D-B-B	-	Reviewer	-
		Cushman Hatcheries	\$20M	D-B-B	-	Reviewer	-
		Cushman Floating Surface Collector Shore Based Facilities	\$9.7M	D-B-B	Engineering Support	Engineer	Construction Support
		Cowlitz Substation Backup Control Center Station Service Upgrade	\$612K	In-house	Project Manager	Project Manager/Engineer	Project Manager/Construction Manager
Ram Veeraraghavan - Generation Electrical Engineering Supervisor	Electrical engineer/ Project Manager with 14 years of professional experience in the power industry.	Hydro Exciter Replacement Program	\$5.1M	Design-Supply and In-House	Program Manager	Program Manager	Program Manager
		Hydro Governor Replacement Program	\$5.7M	Design-Supply and In-House	Program Manager	Program Manager	Program Manager
		Wynoochee Turbine-Generator Mechanical Repair	\$1M	Emergency Repair	Project Manager	Project Manager	Project Manager

Tacoma Power					Role During Project Phases		
Name	Summary of Experience	Project Name	Project Size	Project Type	Planning	Design	Construction
Tyler Braun - Lead Mechanical Engineer	Mechanical engineer for 9 years, with Tacoma Power for 4 years. Experienced in hydroelectric power generation and fish hatcheries, including 3 years as part of a resident (i.e., onsite owner's) engineering staff on a hydroelectric expansion.	Holtwood Expansion Project	\$440M	D-B-B	--	Engineer/Reviewer	Procurement/Construction/Commissioning Support
		Proctor Redevelopment Project	\$15M	D-B-B	--	Engineer/Reviewer	Procurement/Construction Support
		Cushman #2 Units 31-33 Cooling Water System Replacement	\$300K	In-House	Project Manager	Project Manager/Engineer	Project Manager/Construction Manager
		Cowlitz Trout Hatchery Ozone Generator Replacement	\$2.5M	Design-Supply	--	Engineer/Reviewer	--
Eric Hoffman - Lead Electrical Engineer	Engineer for Tacoma Power's Generation Section for past 16 years. Projects include upgrading generator control systems, excitation systems, governors, rehabilitating Tacoma's two largest hydroelectric generators and construction of the North Fork Powerhouse.	Mayfield Plant Control System	\$1.5M	In-House	Project Manager	Project Manager/Engineer	Project Manager/Construction Manager & Commissioning
		Mossyrock Rehabilitation	\$50M	D-B-B and In-House	Engineering Support	Engineer	Construction Support and Commissioning
		North Fork Powerhouse Construction	\$15M	D-B-B and In-House	--	Engineer	Construction Support and commissioning
		Wynoochee Control Modernization	\$1.0M	In-House	--	Engineer	Construction manager and commissioning
		Wynoochee Exciter Replacement	\$400K	Design-Supply and In-House	Project Manager	Project Manager/Engineer	Project Manager/Construction Manager & Commissioning
		LaGrande Unit 5 Exciter Replacement	\$400K	Design-Supply and In-House	Project Manager	Project Manager/Engineer	Project Manager/Construction Manager
		Wynoochee Governor Replacement	\$400K	Design-Supply and In-House	Project Manager	Project Manager/Engineer	Project Manager/Const Manager, Commissioning

Thaxton-Parkinson PLLC					Role During Project Phases		
Name	Summary of Experience	Project Name	Project Size	Project Type	Planning	Design	Construction
Robynne Thaxton (Parkinson) - DB Advisor	Attorney and consultant to the City with 30 years experience as an attorney, 28 years experience in construction law and 22 years experience specifically in design-build construction. The following are representative projects.	Seattle City Light Boundary Dam Rewind Project	\$65M	D-B	Procurement Consultant	As needed	As needed
		Seattle City Light Cedar Falls Substation	\$14M	D-B	Procurement Consultant	As needed	As needed
		University of California San Diego Triton Pavillion	\$220M	D-B	Procurement Consultant	As needed	As needed
		WWU New Residence Hall	\$60M	D-B	Procurement Consultant	As needed	As needed
		WWU Consolidated Academic Support Bldg	\$10M	D-B	Procurement Consultant	As needed	As needed
		Seatac International Arrivals Facility	\$700M	D-B	Procurement Consultant	As needed	As needed
		Seatac Auxiliary Utility Facility	\$28M	System Procurement	Procurement Consultant	As needed	As needed
		Seatac Concourse D Hardstand	\$30M	D-B	Procurement Consultant	As needed	As needed
		City of Portland, Portland Building	\$100M	D-B	Procurement Consultant	As needed	As needed
		City of Spokane Riverfront Pavilion	\$19M	D-B	Procurement Consultant	As needed	As needed
		Los Angeles County Consolidated Correctional Treatment Facility	\$1.9B	D-B	Procurement Consultant	As needed	As needed
		Grant County PUD Substation Reliability Project	\$27M	D-B	Procurement Consultant	As needed	As needed
		City of Richland Town Hall Project	\$12.5M	D-B	Procurement Consultant	As needed	As needed
		Okanogan County PUD Enloe Dam Project	\$40 M	D-B	Procurement Consultant	As needed	As needed
City of Spokane Refueling Facility	\$14M	D-B	Procurement Consultant	As needed	As needed		

Stantec					Role During Project Phases		
Name	Summary of Experience	Project Name	Project Size	Project Type	Planning	Design	Construction
Richard Patterson - DB Consultant	Over 33 years of transportation design and management experience on a wide variety of design-build project types including highways, bridges, building structures, subway transit stations, tunnels, and transit centers. Experiences include project management, structural/civil design, and project controls.	Singapore MRT NEL C707	\$250M +	D-B	-	Lead Structural Engineer	Lead Structural Engineer
		Singapore MRT NEL C703	\$250M +	D-B	-	Lead Structural Engineer	Lead Structural Engineer
		Port of Seattle Terminal 18 Redevelopment	\$120M	D-B	-	DPM/Lead Structural Engineer	DPM/Lead Structural Engineer
		CDOT I-25 TRex Segment 1.1	\$1.1B	D-B	-	Structural Segment Lead	Structural Segment Lead
		City of Reno ReTRAC	\$280M	D-B	-	Structural Review	Structural Review
		WSDOT SR 509 Freeway Extension Project	\$980M	D-B	Project Controls Lead & Structure Review	-	-
		Seattle Monorail Project	\$2B	D-B	Chief Structural Engineer for Ballard Crossing	Chief Structural Engineer for Ballard Crossing	-
		Las Vegas Monorail Project Phase II	\$400M	D-B	Structural Review for RFP	-	-
		WSDOT SR 519 Phase 2	\$68M	D-B	-	Lead Structural Engineer	Lead Structural Engineer
		WSDOT US 12 Wilcat Creek Bridge Replacement	\$8M	D-B	-	Design Manager	Design Manager

Stantec					Role During Project Phases		
Name	Summary of Experience	Project Name	Project Size	Project Type	Planning	Design	Construction
Stanley Hayes - PM & Hydro Design Consultant	Hydropower consultant for over 40 years, technical D-B experience on over 20 projects.	LADWP Castaic Modernization project	\$55M	D-B	PM for Owner's Engineer	PM for Owner's Engineer	PM for Owner's Engineer
		LADWP San Francisquito PP2 Modernization	\$18M	D-B	PM for Owner's Engineer	PM for Owner's Engineer	PM for Owner's Engineer
		Chelan County PUD Lake Chelan Modernization	\$40M	D-B hybrid	PM for Owner's Engineer	PM for Owner's Engineer	PM for Owner's Engineer
		Chelan County PUD Rock Island Powerhouse 2 Modernization	\$80M	D-B	PM for Owner's Engineer	PM for Owner's Engineer	PM for Owner's Engineer
		Douglas County PUD Wells rehab project	\$250M	D-B hybrid	PM for Owner's Engineer	PM for Owner's Engineer	PM for Owner's Engineer
		EWEB Leaburg-Waltermville project	\$40M	D-B hybrid	PM for Owner's Engineer	PM for Owner's Engineer	PM for Owner's Engineer
Willian Akaishi - Hydro Design Consultant	Corporate Consultant and former electric machine designer for a major equipment manufacturer has 32 years of experience in the engineering design, installation, commissioning, testing, troubleshooting, and modernizing of small, medium and large hydro generators.	Oglethorpe Power Co-Rocky Mountain Rewind	\$25M	D-B	Engineer	Reviewer	Construction Support
		Colorado Springs Utility - Tesla Rewind	\$3M	D-B	Engineer	Reviewer	Construction Support
		Duke Energy - Not-Disclosed, Generator Rehabilitation	\$20M	D-B	Engineer	Reviewer	Construction Support
		DCPUD - Wells Plant Rehabilitation	\$150M	D-B	Engineer	Reviewer	Construction Support
		GCPUD - Priest Rapids Plant Rehabilitation	\$90M	D-B	Engineer	Reviewer	Construction Support
		AMP- Cannelton Hydroelectric Plant	\$420M	D-B	Engineer	Reviewer	Construction Support
		Mira Power-Gulpur Hydroelecric Plant	\$365M	D-B	Engineer	Reviewer	Construction Support
		WAPDA - Mangla Plant Rehabilitation	\$110M	D-B	Reviewer	Reviewer	Construction Support

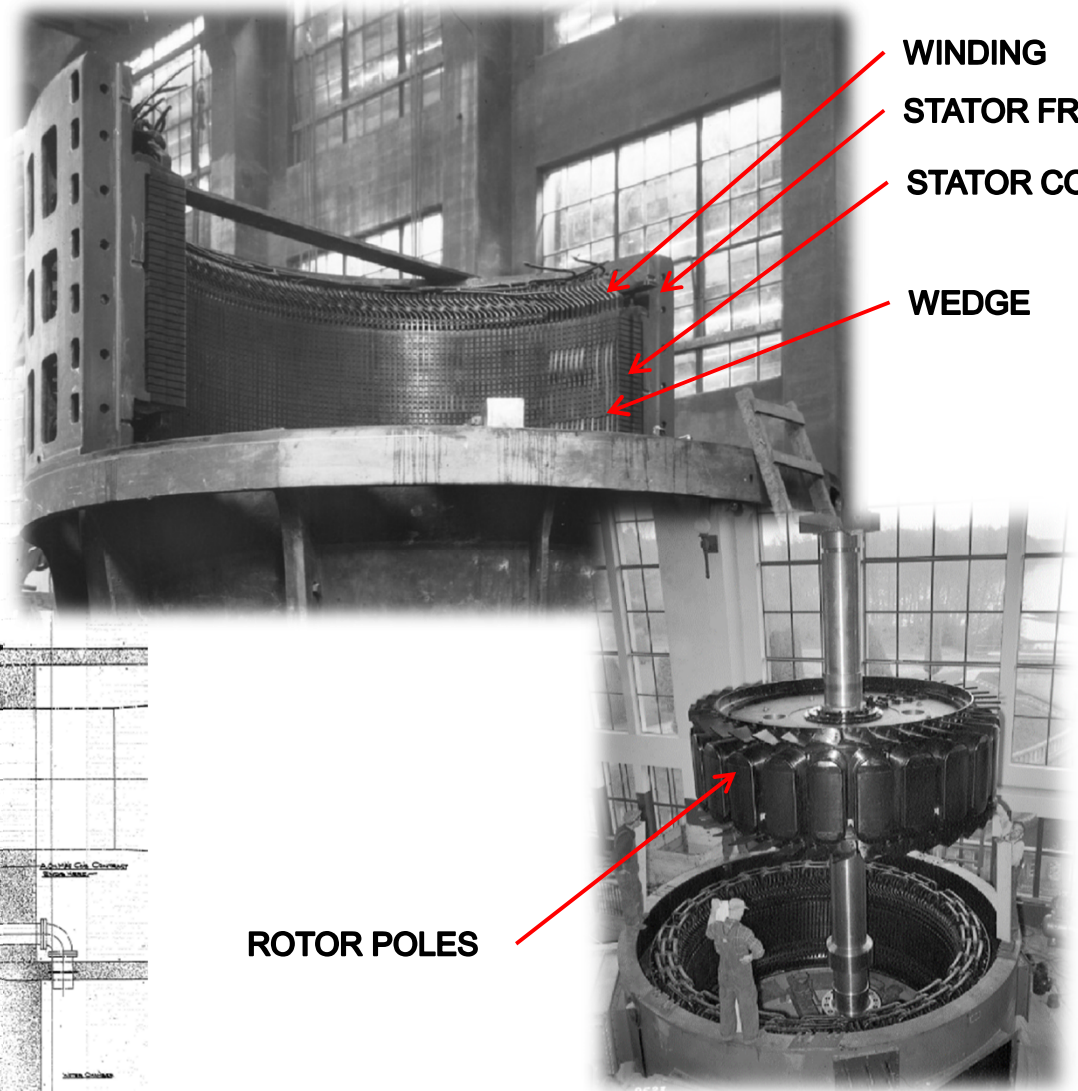
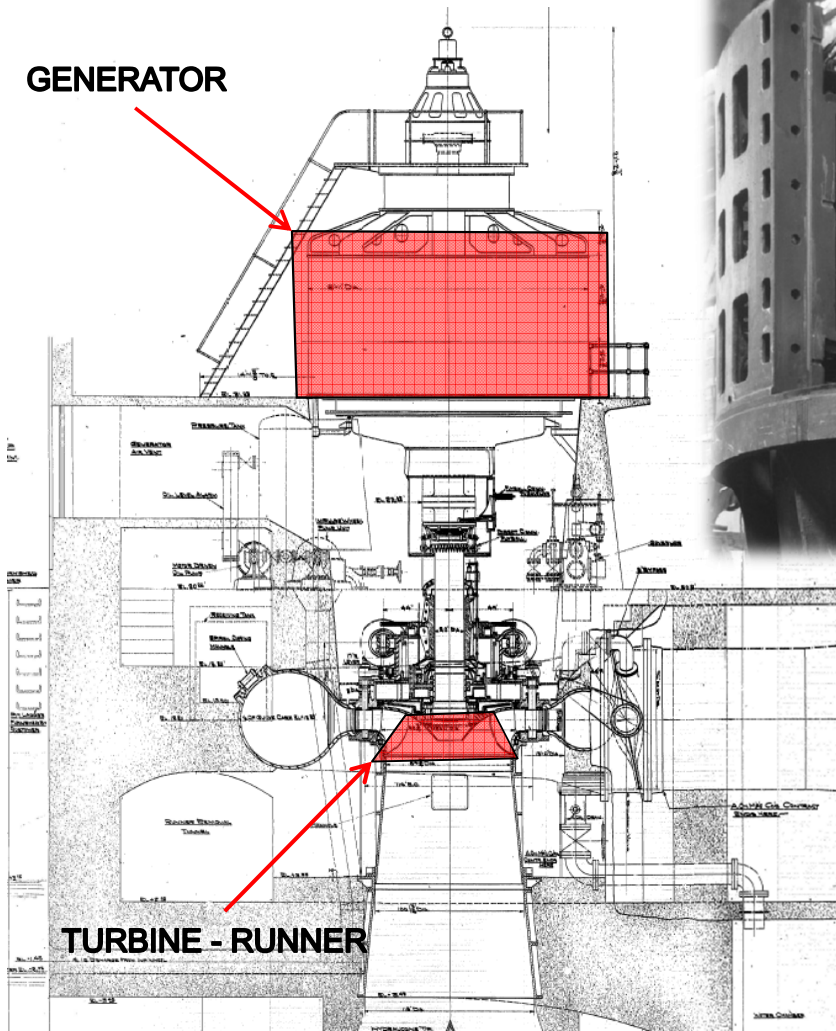
Tacoma Power - Construction History

Project #	Project Name	Project Description	Contracting Method	Planned Start	Planned Finish	Actual Start	Actual Finish	Planned Budget	Actual Budget	Reason for Budget or schedule overrun
1	Cowlitz Falls North Shore Collector	Desgin and construction of a shore-based fish collector.	D-B-B	Jan-10	Dec-16	Jan-10	Mar-17	\$ 32,000,000.00	\$ 34,942,275.00	Changes in scope of work during design and construction
2	Cushman Hatcheries	Design and construction of 2 fish hatcheries.	D-B-B	Jun-14	Dec-15	Jun-14	Jun-16	\$ 20,000,000.00	\$ 23,325,453.00	Changes in scope of work during design and construction
3	Cushman Floating Surface Collector	Design and construction of a floating fish collector.	D-B-B	Mar-11	Dec-14	Mar-11	Mar-15	\$ 32,000,000.00	\$ 35,781,561.00	Design took longer than anticipated, contstruction contract took longer than anticipated
4	Pearl Street Substation Tower Replacement	Desgin and construction of a new 170 foot tall self supporting tower, demolition of existing guyed tower	D-B-B	Mar-16	Dec-16	Apr-16	Dec-16	\$ 850,000.00	\$ 732,200.00	Under budget
5	Taylor Substation	Design and construction of an electrical substation.	D-B-B	Jan-17	Jun-18	Jan-17	Sep-18	\$ 5,000,000.00	\$ 5,500,000.00	Changes in scope of work
6	Rooftop Community Solar Plant	Design and construction of a 300kW solar plant on TPU Warehouse building	D-B-B	Dec-15	Jun-16	Dec-15	Jul-16	\$ 450,000.00	\$ 1,042,700.00	Project was driven by customer demand. Instead of 75kW, installed 300kW with good economies of scale.
7	Cushman 2 Generator Switchgear and Bus Replacement	Design and construction of generator switchgear and main electrical bus.	Design-Supply	Jan-17	Oct-18	Jan-17	Dec-18	\$ 1,500,000.00	\$ 2,034,066.00	Changes in scope of work. Delayed equipment delivery.
8	Potlatch Ring Bus	Design and construction of an electrical switching station including communication tower and building.	D-B-B	Jul-15	Jan-17	Jul-15	Jan-18	\$ 5,500,000.00	\$ 5,836,000.00	Issues with land acquisition delayed project design and subsequent construction, changes in scope increased cost.
9	Henderson Bay Tower Replacement	Design and construction of new transmission poles including demolition of existing structures.	D-B-B	Jun-16	Apr-18	Jun-16	Apr-18	\$ 6,770,000.00	\$ 6,570,000.00	Under planned budget
10	Cushman No. 2 Shop Building	Design and construct a 5000 SF shop building	D-B-B	Jul-15	Jan-17	Jul-15	Jan-17	\$ 550,000.00	\$ 573,000.00	Changes in scope of work
11	Northfork Powerhouse & Fish Collection Facility	Design and construct a powerhouse and fish collection facility at the base of Cushman No. 2 Dam.	D-B-B	Jan-11	Oct-12	Mar-11	Jan-13	\$ 24,000,000.00	\$ 27,182,000.00	Changes in scope of work



**EXHIBIT D -
Project Information and Visual Aids**

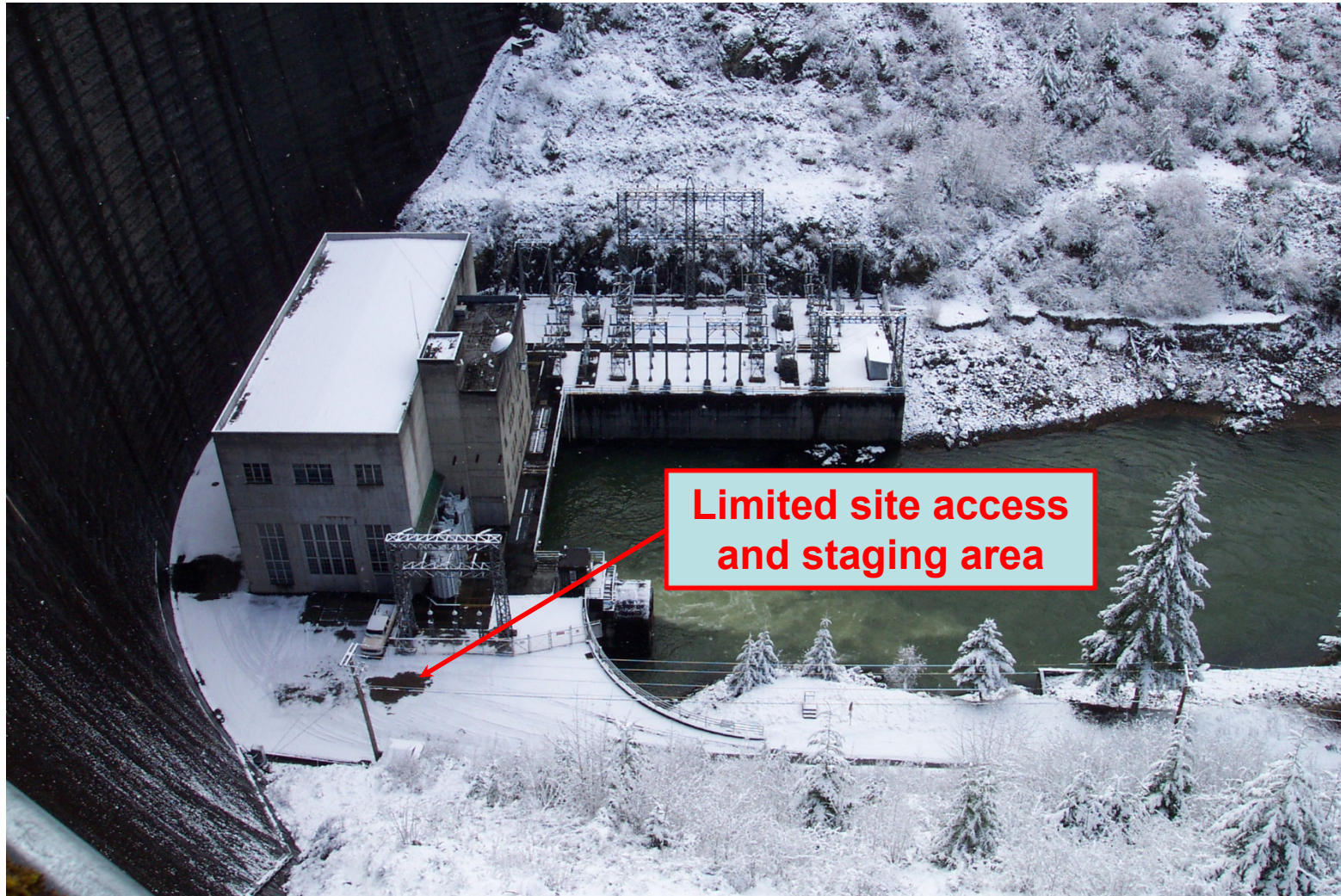
Turbine-Generator Overview



WINDING
STATOR FRAME
STATOR CORE
WEDGE

ROTOR POLES

Alder Powerhouse

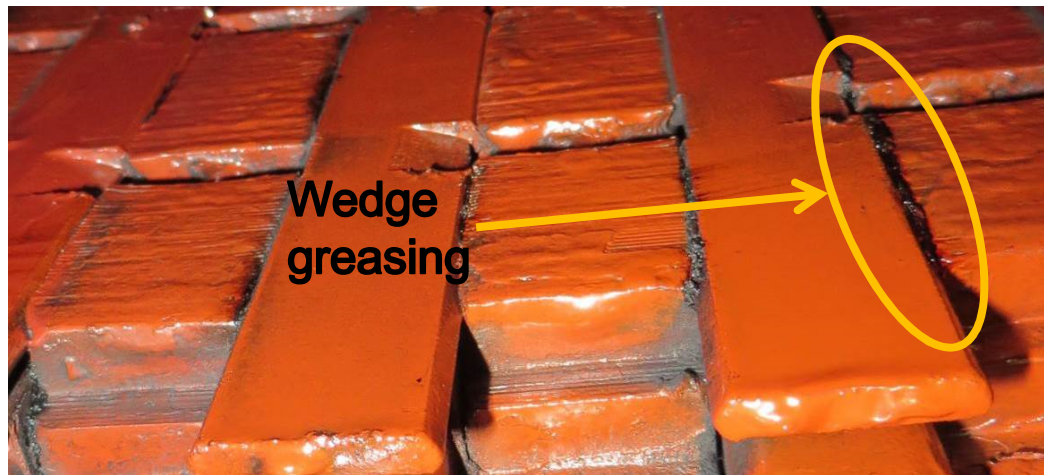
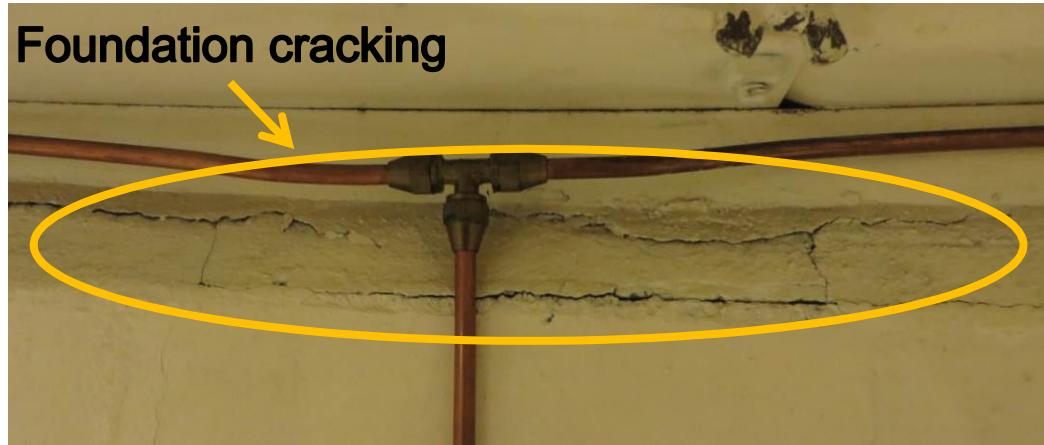
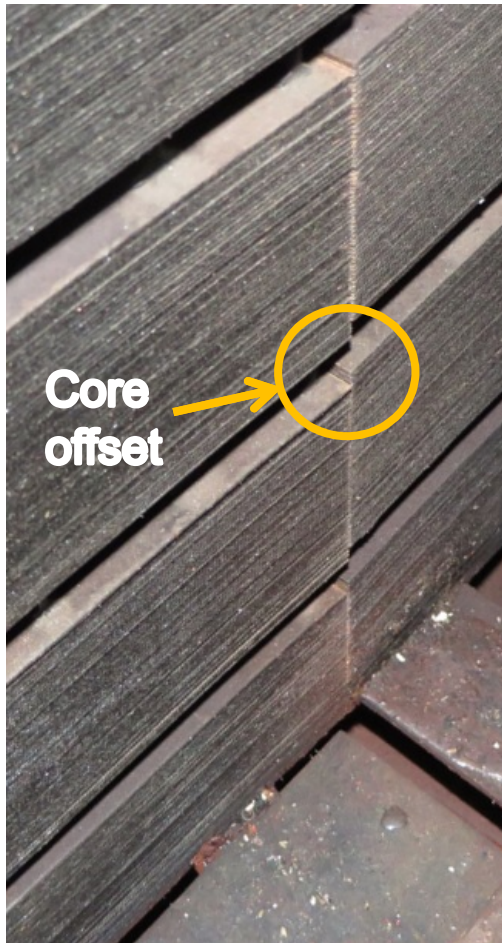


Limited site access
and staging area

1946 – Unit 11 Installation



Unit 11 Existing Conditions



Proposed Components to Replace

5

- All wear components and seals
- Wicket gate pins, link bearings, bushings, thrust washers and wear elements
- Wicket gate servomotor piston rings
- Turbine shaft sleeve
- Turbine shaft coupling hardware
- Shaft seal packing, lantern ring, etc.
- Stator winding
- Stator core and clamping system
- Rotor field pole insulation
- Generator shaft coupling hardware
- Generator air cooler tubing
- Heat exchangers and oil filters
- Brake pads and seals