TACOMA POWER
TACOMA PUBLIC UTILITIES

3628 South 35th Street

Tacoma, Washington 98409-3192

TACOMA PUBLIC UTILITIES

October 20, 2020

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 Cushman 2 Unit 31, 32 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 Cushman 2 Unit 31, 32 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 received project approval to use design-build on the Alder Unit 11 Rebuild project in 2019. That project is now through the procurement phase and in the design and manufacturing phase. Drawing from lessons learned during the Alder project, Tacoma Power is assembling an experienced team of City staff and consultants to assist with procurement, contracting, and management of the Cushman 2 Unit 31, 32 Rebuild 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 has previously assisted Tacoma Power and the City of Seattle with almost identical projects in the hydro power industry. Tacoma Power is in the process of evaluation and selection of a consultant for expertise in hydro power design and alternative project delivery.

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 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: **Cushman 2 Unit 31, 32 Rebuild**
b) County of Project Location: **Mason**
c) Please describe the project in no more than two short paragraphs. *(See Attachment A for an example.)*

Tacoma Power is seeking project 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 technical design, including project management and approach, and price.

The project will rebuild two hydro turbine-generator units at Tacoma Power's Cushman 2 Powerhouse located at the Cushman Hydroelectric Project near Hoodsport, WA. The 30 megawatt turbine generators manufactured by Allis-Chalmers were originally installed in the 1930's. The last significant work performed on the units was replacement of the generator stator windings in the mid-1970s and replacement of the turbine runners in the mid-1990s. Major original components still in service today include the generator stator frame and core, generator rotor, turbine shaft, distributor assembly, head cover, and water passage components. The 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 after machine disassembly during the construction outage. Components identified to be replaced include the generator stator windings and core, with possibility of a complete stator replacement, and the wicket gates. Refurbished components will be cleaned, inspected and evaluated for reuse and remaining life, and re-machined to original dimensions and tolerances. The project is expected to extend the safe, reliable and efficient service life of the units another 30 years.

2. Projected Total Cost for the Project:

A. Project Budget

Costs for Professional Services (A/E, Legal etc.)	$**912,000**
Estimated project construction costs *(including construction contingencies)*:	$**24,683,000**
Equipment and misc. service contract costs	$**397,000**
Contract administration costs (owner, cm etc.)	$**1,948,000**
Contingencies (5%)	$**1,397,000**
Total	$**29,337,000**

(Note: Sales tax is included in costs listed above.)

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 $29.4M and is expected to span 2021-2024. The anticipated spend is $8.4M in 2021/22 and $21M in 2023/24. The overall project was approved by Tacoma Power's Capital Steering Committee, Power Superintendent and the Director of Utilities. The 2021/22 budget is on the Tacoma Public Utility Board agenda for the October 28 meeting. There is $89M in bond funds available in Tacoma Power's capital program. The estimated spend for 2023/24 of $21M will be included in the City's 2023/24 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 $21M 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 AA by S&P Global Ratings, AA- by Fitch Ratings, and Aa3 by Moody's, 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 is evaluating statements of qualifications for professional engineering services to support the Cushman 2 Unit 31, 32 Rebuild Project. The request for qualifications process for Owner's Engineer began early September. Tacoma Power received four project-specific SOQs from highly experienced firms registered on the City's Architectural and Engineering roster, and anticipate executing a contract with the selected firm by end of November.

Tacoma Power amended an existing legal services contract with Thaxton-Parkinson for legal and design-build advisory services related to the project.

Task	Start	Finish
Planning Phase		
Issue RFQ for Owner's Engineer	-	September 18, 2020
SOQ Submittals Due	-	October 16, 2020
Evaluate submittals and conduct interviews	October 16, 2020	November 1, 2020
Negotiations and contract execution	November 1, 2020	December 15, 2020
Develop RFQ Documents	October, 2020	November, 2020
Develop RFP Documents	December, 2020	January, 2021
Procurement & Preconstruction Phase		
PRC Application	-	October 21, 2020

PRC Presentation	-	December 3, 2020
Publication of RFQ for Design-Build Services	-	December, 2020
RFQ Submittal Deadline	-	February, 2021
Notify Finalists	-	March, 2021
Issue RFP & Proprietary Meeting Notifications	-	March, 2021
Proprietary One-on-one Meetings	April, 2021	May, 2021
RFP Submittal Deadline (Price & Technical Proposals)	-	June, 2021
Evaluate Technical Proposals		June, 2021
Design-Builder Interviews	June 22, 2021	June 24, 2021
Open Price Proposals & Complete Scoring	-	June 25, 2021
Notify Design-Builders of Scoring and Recommendation to Award	-	July, 2021
Design-Build Contract Negotiation	July, 2021	August, 2021
PUB Approval of Design-Build Contract	-	September, 2021
Execute Design-Build Contract	-	November, 2021
Design Phase		
Design Meetings	December, 2021	March, 2022
Design Submittals	March, 2022	April, 2022
Owner's Review	-	May, 2022
Materials Procurement & Manufacturing	May, 2022	February, 2023
Construction Phase		
Site Set-up and Mobilization (Unit 32)	-	March, 2023
Construction Outage (Unit 32)	April, 2023	October, 2023
Site Set-up and Mobilization (Unit 31)	-	March, 2024
Construction Outage (Unit 31)	April, 2024	October, 2024
Closeout Phase		
Final Completion and Closeout	October, 2024	January, 2025

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 two hydroelectric turbine generators. Cushman 2 Units 31 and 32 were built and installed in 1930, last disassembled in the mid-90's, and each weigh over 100 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 a 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 4 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.

  There are a limited number of companies qualified to perform work of this type. As mentioned earlier, the work is highly technical and it is imperative the engineering and rebuild work is performed by a skilled team of professionals specializing in hydroelectric power generation facilities.

  The design-builder team will be able to collaborate at the early stage of the project starting with proprietary one-on-one meetings to propose and develop the best unique solution. Any design proposed by the designer will be backed by the builder, thereby 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 design and construction take into account constraints imposed by long lead items. A few key components can take as long as 12 months to manufacture and deliver.

  During the disassembly phase of the project, having the design-builder team working together will allow efficient recovery from unknowns that are encountered, reducing construction schedule overruns.

  These are some of the examples where there is opportunity for innovation and efficiency between the designer and builder with the design-build approach. Some of these creative solutions and their development early on in the procurement process was noticed in the Alder Unit 11 rebuild DB project that is currently underway.

- 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. 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 units will also be the one to evaluate the ability to reuse components within their overall design, the process will be much faster because there will not be a significant delay after a 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 a unit has a significant impact on the overall design and final construction. A unit's condition will not be fully known until it is disassembled. By having the same entity evaluate unit condition, as well as design and construct the solution, there is a significant savings in time during the project.

6. Public Body Qualifications

Please provide:

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

  Tacoma Power's team of full time employees have the necessary design-build, project management, and technical knowledge and experience to successfully execute this project. Tacoma Power successfully executed the design-build procurement of the Alder Unit 11 Rebuild project, and it intends to implement lessons learned from that project on this one. To increase the strength and capacity of the in-house team, Tacoma Power is in the process of executing a professional services contract with an experienced and highly qualified engineering firm.

  The City of Tacoma is approved by the State as a Certified Public Body to use design-build and has completed several successful design-build projects; however, Tacoma Power is requesting separate project approval out of an abundance of caution. As noted above, this will be Tacoma Power's second design-build project under RCW 39.10. The City's team for this project, with exception of the Lead Mechanical Engineer, was approved to use design-build for a similar rebuild project in May 2019.

  Tacoma Power continues its strong relationship working with Robynne Thaxton of Thaxton Parkinson, PLLC as our external design-build advisor. Ms. Thaxton will assist with the development of procurement documents, the contract and provide design-build legal consultation throughout the 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 15 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 helped define and is leading the hydro unit rehabilitation program – a program to rehabilitate eight to ten of Tacoma Power's hydro units over the next decade. Ram is actively overseeing Tacoma Power's first design-build project, and the first of the unit rehabilitation projects, the rebuilding of Alder Unit 11. 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), Wisconsin Power and Light (WPL), Los Angeles Department of Water and Power (LADWP), 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 15 years of professional experience with engineering design, construction, project management, and contract administration. He has been with Tacoma Power for ten 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 Project Manager for the Alder Unit 11 Rebuild design-build project, 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. He holds Associate DBIA certification.

Tony Daniels, Assistant Project Manager

Tony has 15 years of professional experience with utility engineering, design, project management and construction management. He has been with Tacoma Power for three years having engineered, and led transmission & distribution construction projects. During his career Tony has managed utility projects such as Tyee Dr Extension & Toyota of Tumwater Dealership $300k, SR410 Hwy improvements in Bonney Lake $250k, City of Edgewater SR161 improvements $200k. Currently Tony is assisting David Wagner as the assistant Project Manager for Tacoma Power's Alder Unit-11 Rebuild Design-Build project. In 2018 Tony won a Tacoma Power Employee of the Year award for his management of an EV Charging project at Lemay Car Museum, and holds a Bachelor's of Science in Project Management.

Eric Hoffman, PE, Lead Electrical Engineer

Eric has over 30 years of experience working with electrical equipment. For the past 17 years he has worked at Tacoma Power as an electrical engineer working almost exclusively with hydroelectric generating plants. Eric is Lead Electrical Engineer for Tacoma Power on the Alder Unit 11 Rebuild Project, a recently awarded design-build project. 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.

Dustin Hale, PE, Lead Mechanical Engineer

Dustin has 14 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 runner cavitation repairs at the Cushman 1, Lagrande and Mayfield turbines. He has led various projects including turbine pressure relief valve overhauls, generator cooling water control valve replacement, automated water strainer replacement, and stoplog lifting beam upgrades. He is leading the refurbishment of an existing fixed cone river outlet valve (ROV) and is a team member for the replacement of the Cushman 1 ROV. Previously, he worked in British Columbia briefly as an engineering consultant, and prior to that nearly 10 years as a mechanical engineer with the utility FortisBC (FBC). While at FBC Dustin provided various mechanical engineering support for ten hydroelectric turbine-generator overhauls, a majority of them part of the Upgrade Life Extensions program. He supported refurbishment of spillgate, headgates and stoplogs. From 2010-2012, Dustin provided civil and mechanical design submittal review of the new 335MW Waneta Expansion project. His expertise includes mechanical design, engineering analysis, equipment troubleshooting, site direction for assembly, commissioning, project planning, procurement, and project and contract management.

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 Cushman 2 Unit 31, 32 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, JD, FDBIA, Thaxton Parkinson PLLC, 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 and the DBIA Northwest Region Board of Directors from 2004 to 2020. 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 2010-2020. Robynne has assisted many owners with their design-build projects, participating in more than 36 design-build projects with a value of over $4.5 billion. Recent representative projects include Tacoma Power's Alder Unit 11 Rebuild, Bonneville Power Administration's Ross Complex Redevelopment and Secondary Capacity Model projects, WSDOT's Coastal 29 Fish Passage project, Seattle City Light's Boundary Dam re-wind and Cedar Falls substation projects, the East County Advanced Water Purification Project in San Diego, Western Washington University's New Residence Hall, University of California San Diego's Triton Pavilion, the Los Angeles County Consolidated Correctional Facility project, Grant County PUD's Substation Reliability Project, Port of Seattle's International Arrivals Facility, Auxiliary Utility Facility and Concourse D Hardstand projects, City of Richland's Firehouse and City Hall projects, and City of Portland's Portland Building project.

- 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.

- 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 oversight for O&M activities and the overall unit rehabilitation program.

  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 2019 he spent time at the LaGrande Hydroelectric Project overseeing daily construction activities for the replacement of electrical equipment for Units 1 through 4, and in the summer 2018 spent most of his time at the Cushman Hydroelectric Project managing construction, coordinating generator outages, reviewing safety plans, and ensuring quality control.

  Since joining Tacoma Power in 2016, Dustin has led the dismantle, assembly and cavitation repair of two turbines at Cushman 1. At the LaGrande hydroelectric project, he led pressure relief valve overhauls along with runner cavitation repair on four turbines. Prior to Tacoma Power, Dustin led and

supported field activities during disassembly and reassembly on 10 hydro unit rehabilitation projects. Dustin has also refurbishment of spillgates, headgates and stoplogs with field inspections and repair plans.

Prior to the Alder Unit 11 Rebuild Project, which is now in the design and manufacturing phase, 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. Eric has a breadth of experience managing and overseeing construction work in many of Tacoma Power's powerhouses.

In recent years as detailed in Exhibit B, 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, Tacoma Power's in-house staff with skilled construction experience are available 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. As an added control, Tacoma Power has begun using a cloud-based Project and Construction Management software to aid Project Managers and the organization in managing Tacoma Power's portfolio of projects.

  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 updates; progress payments tied to milestones.

- A brief description of your planned DB procurement process.

  Tacoma Power had success using a 2-step DB procurement process with its first design-build project and plans to repeat the same for this project. 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.

  Deviating slightly from the previous design-build procurement, the RFQ will provide a few more details on anticipated scope of work than was included in the general project description last time. The RFQ will also include 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 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, Lead Electrical Engineer, Lead Mechanical Engineer, and the generator and turbine engineers from the Owner's Engineer firm.

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. Drawing from lessons learned from the previous design-build procurement, Tacoma Power will use the one-on-one meetings to better set the stage for partnering and to solicit input on the project goals, anticipated schedule and target budget. 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 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 the turbine-generator units (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 will assist Tacoma Power with preparation of the contract terms. Working with City Legal and Purchasing Departments, Generation Engineering and Owner's Engineer, Robynne will tailor the RFQ, RFP and Contract documents to meet the needs of the project. Robynne previously assisted Tacoma Power to develop the design-build RFQ, RFP, and Contract Documents for the Alder Unit 11 Rebuild 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 EIC evaluation factor, the City's Workforce Development Program Manager will review registered EIC 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

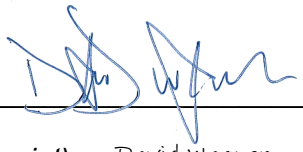
The definition of the project is at the applicant's discretion. The entire project, including all components, must meet the criteria of RCW 39.10.300 to be approved.

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.

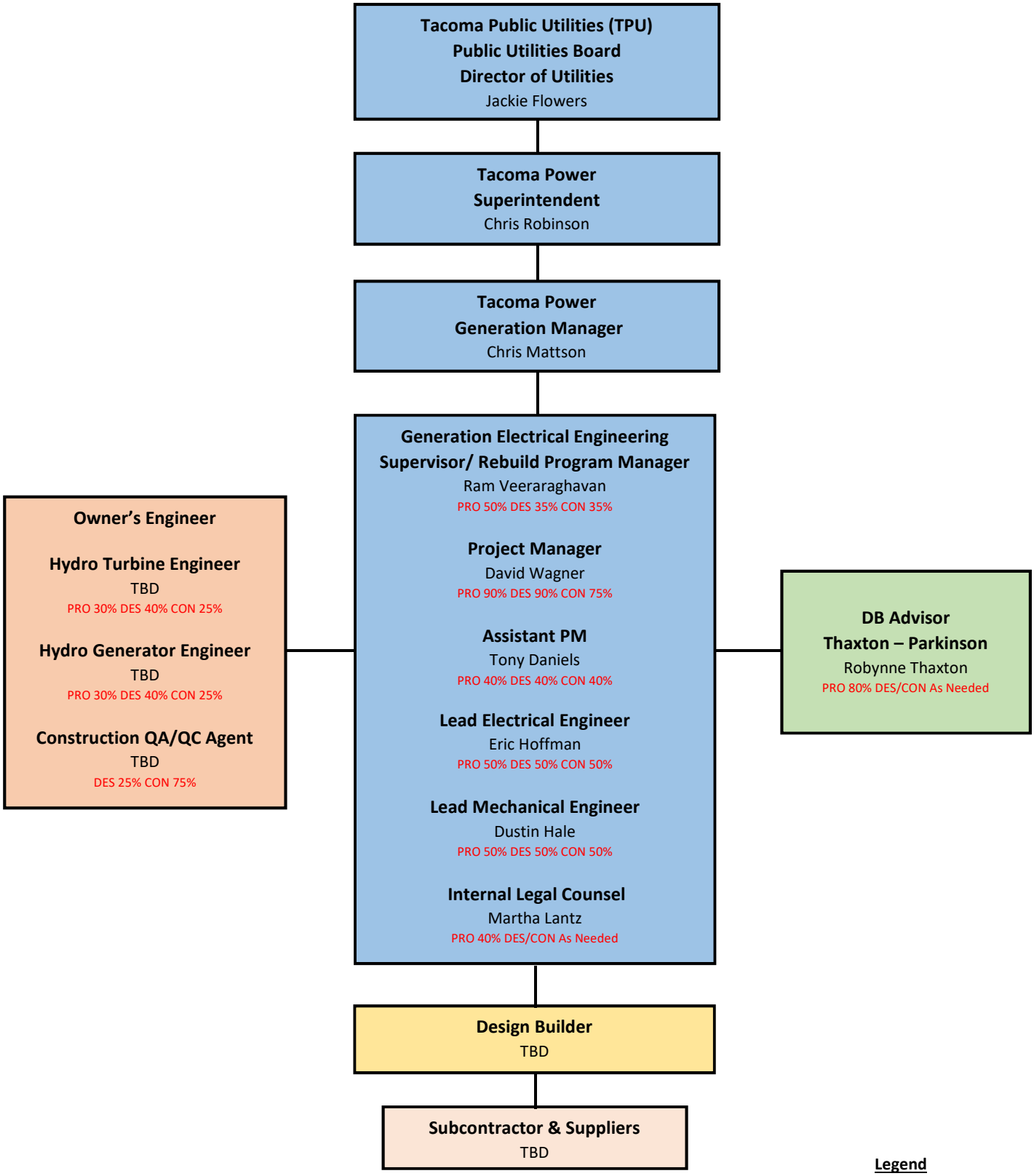
Signature: 

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

Title: Project Manager

Date: 10/20/20

Tacoma Power
Project Organization Chart



Legend
PRO – Procurement
DES – Design
CON – Construction

Exhibit A – Project Organization Chart

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 10 years. Experience has spanned commercial building electrical improvements, fish hatecheries, and hydroelectric turbine-generator and balance of plant work.	Alder Unit 11 Rebuild Project (ongoing)	$11.9M	D-B	PM	PM/ Reviewer	PM/CM
		LaGrande U1-4 Excitation System Power Supply Upgrade	$290K	Design-Supply and In-House	PM	PM/ Engineer	PM/CM
		Cushman 2 Generator Switchgear & Bus Replacement	$2M	Design-Supply and In-House	PM	PM/ Reviewer	PM/CM
		Alder Units 11&12 Governor Upgrade	$850K	Design-Supply and In-House	PM	PM/ Engineer/ Reviewer	PM/CM
		Cushman 2 Units 31-33 Exciter Upgrade	$945K	Design-Supply and In-House	PM	PM/ Engineer/ Reviewer	PM/CM
		Cowlitz Salmon Hatchery Wells Modernization	$925K	In-house	PM	PM/ Engineer	PM/CM
		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	PM	PM/ Engineer	PM/CM
Ram Veeraraghavan - Generation Electrical Engineering Supervisor	Electrical engineer with 15 years of professional experience in the power industy.	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

Tacoma Power					Role During Project Phases		
Name	**Summary of Experience**	**Project Name**	**Project Size**	**Project Type**	**Planning**	**Design**	**Construction**
Dustin Hale - Lead Mechanical Engineer	Hydro Mechanical engineer for 14 years, with Tacoma Power for 4 years. Experienced in hydroelectric power generation and fish facilities.	Alder Unit 11 Rebuild Project (ongoing)	$11.9M	D-B	-	Engineer	Construction Support and Commissioning
		Waneta Expansion Project	$900M	D-B	-	Reviewer	-
		FortisBC UBO Unit 3 Overhaul	$3M	In-House	Engineering Estimating	Engineer	Construction Support
		FortisBC Turbine - Generator Upgrade Life Extension, 2006-2012 (9 Units)	$8.6-$18.7M/unit	In-House	Engineering Support	Engineering Support	Construction Support
		FortisBC Brilliant Dam Spillway Isolation	$1.5M	D-B	PM	Engineer/PM	Engineer/PM
Eric Hoffman - Lead Electrical Engineer	Engineer for Tacoma Power's Generation Section for past 17 years. Projects include upgrading generator control systems, excitation systems, governors, rehabilitating Tacoma's two largest hydroelectric generators and construction of the North Fork Powerhouse.	Alder Unit 11 Rebuild Project (ongoing)	$11.9M	D-B	Engineering Support	Engineer	Construction Support and Commissioning
		Mayfield Plant Control System	$1.5M	In-House	PM	PM/Engineer	PM/CM and 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	CM and Commissioning
		Wynoochee Exciter Replacement	$400K	Design-Supply and In-House	PM	PM/Engineer	PM/CM and Commissioning
		LaGrande Unit 5 Exciter Replacement	$400K	Design-Supply and In-House	PM	PM/Engineer	PM/CM
		Wynoochee Governor Replacement	$400K	Design-Supply and In-House	PM	PM/Engineer	PM/CM and 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.	Tacoma Power Alder Unit 11 Rebuild Project	$11.9M	D-B	Procurement Consultant	As needed	As needed
		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

Tacoma Power - Construction History

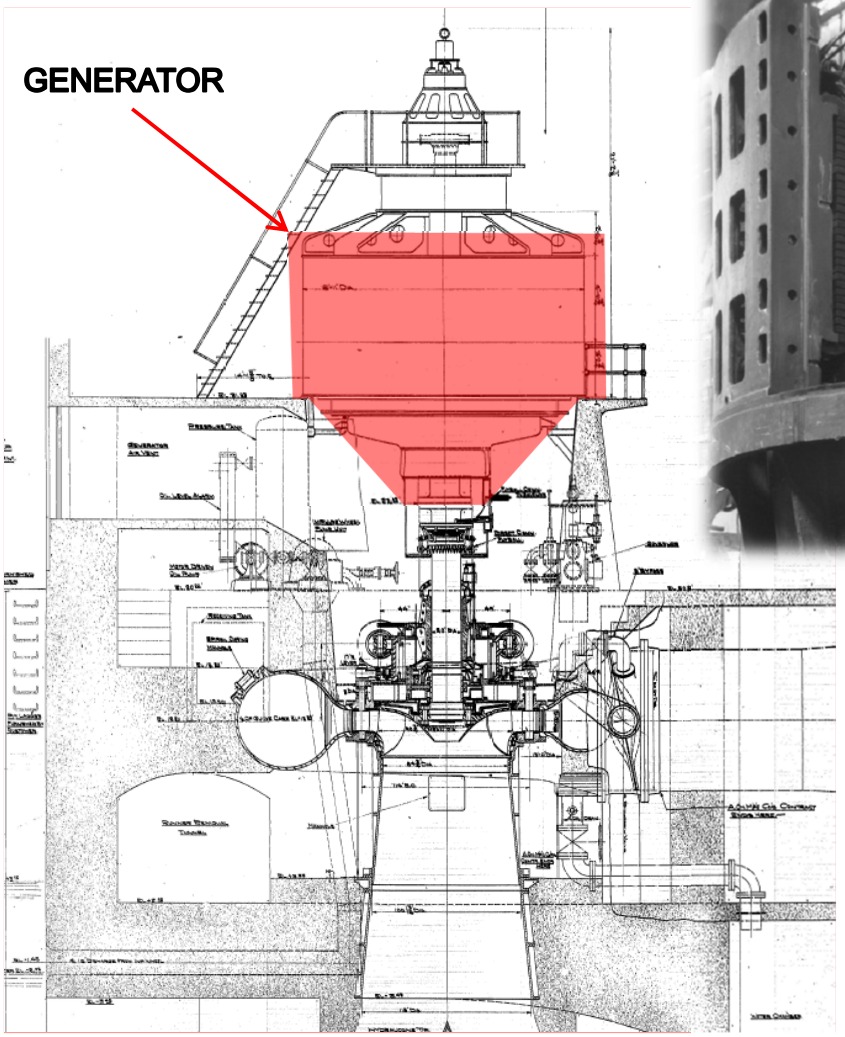
Project #	Project Name	Project Description	Contracting Method	Planned Start	Planned Finish	Actual Start	Actual Finish	Planned Budget	Actual Budget	Reason for Budget or schedule overrun
1	Cowlitz Falls North Shore Collector	Desgin and construction of a shore-based fish collector.	D-B-B	Jan-10	Dec-16	Jan-10	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

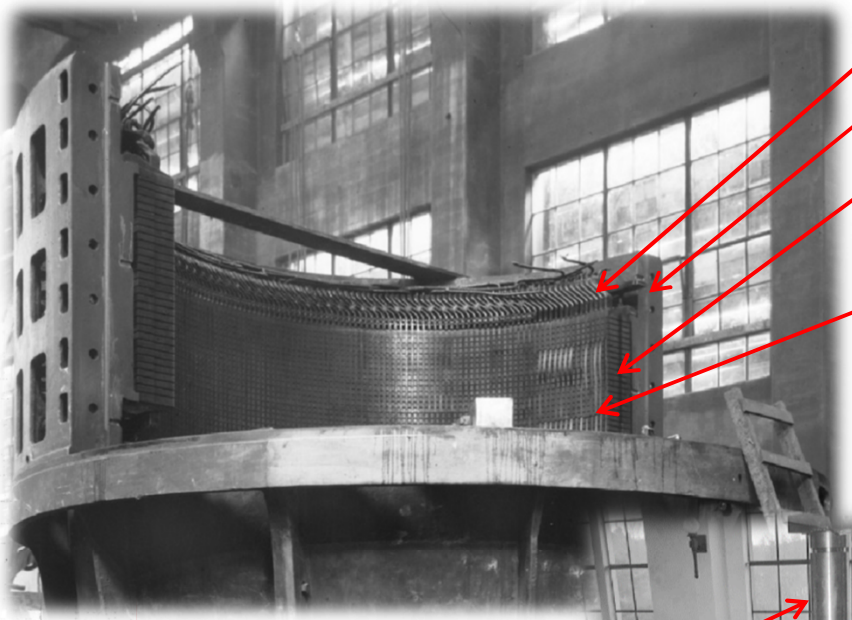
EXHIBIT D -

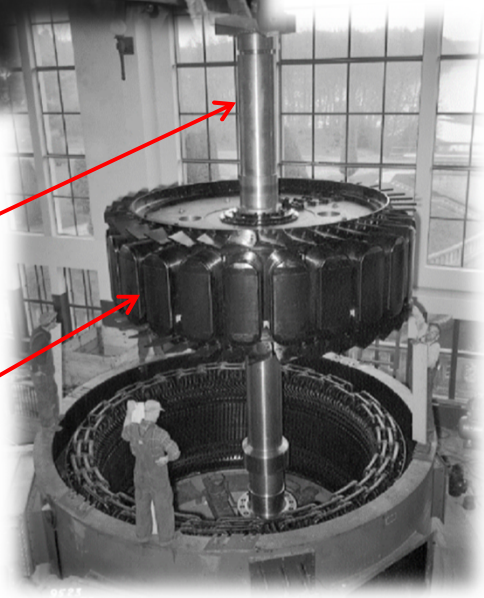
Project Information and Visual Aids

TACOMA POWER
TACOMA PUBLIC UTILITIES

Generator Overview

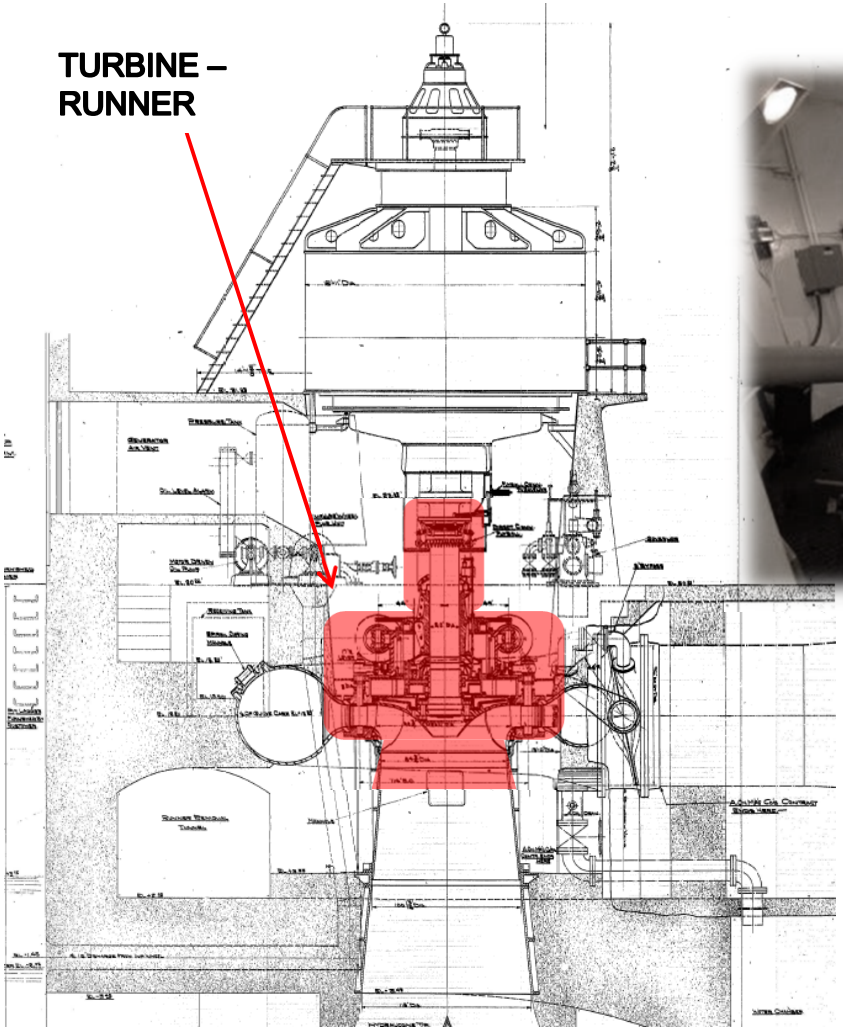


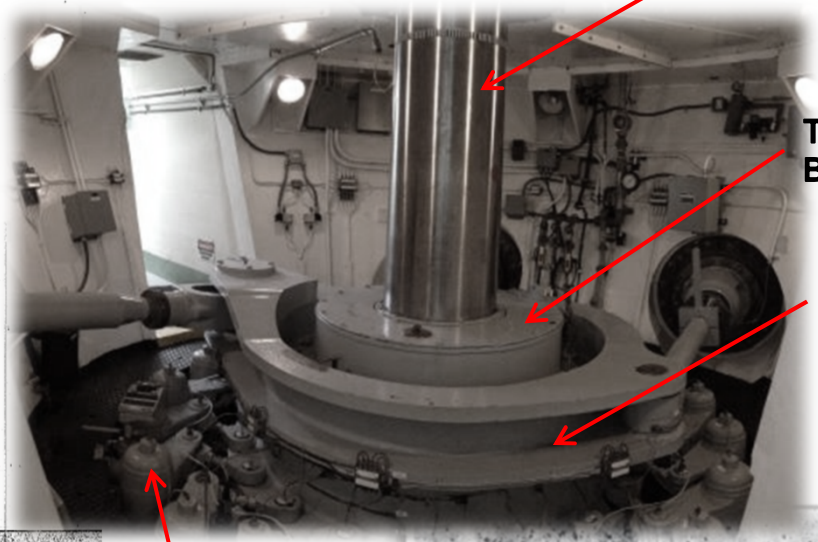


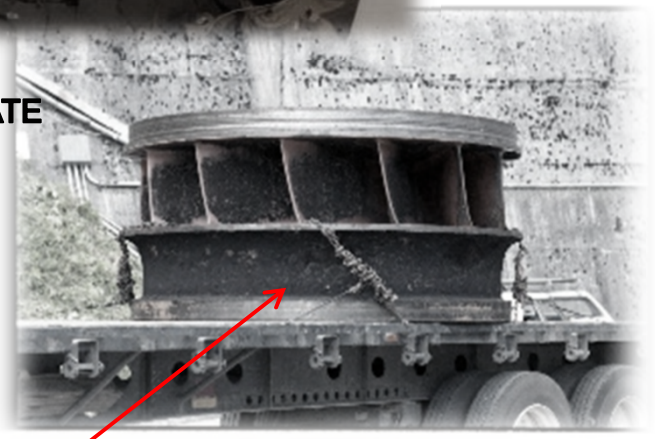


TACOMA POWER
TACOMA PUBLIC UTILITIES

Turbine Overview



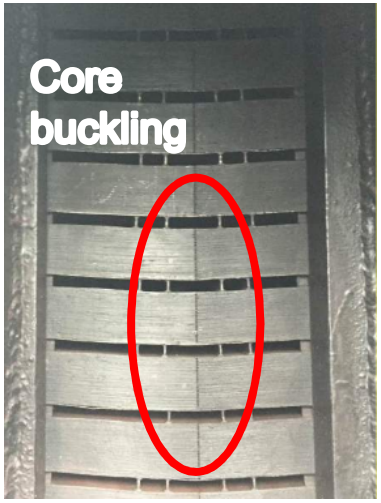


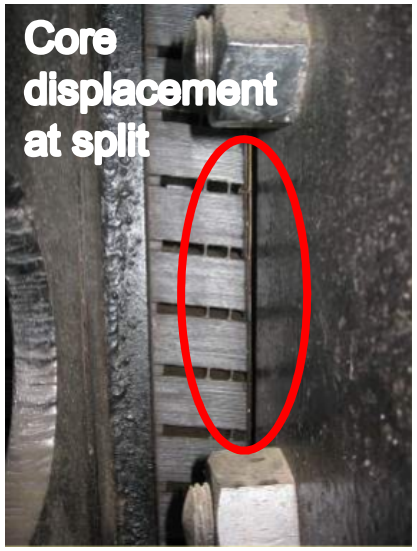


TACOMA POWER
TACOMA PUBLIC UTILITIES

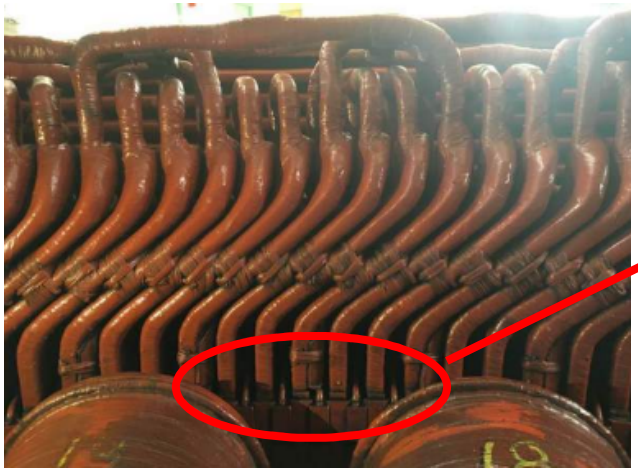
Existing Conditions - Generator

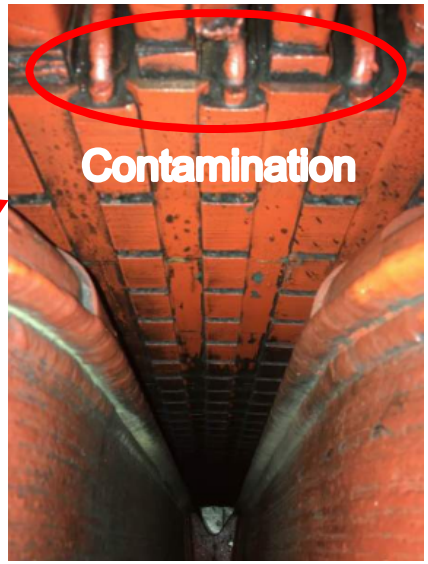
Stator Core





Stator Windings

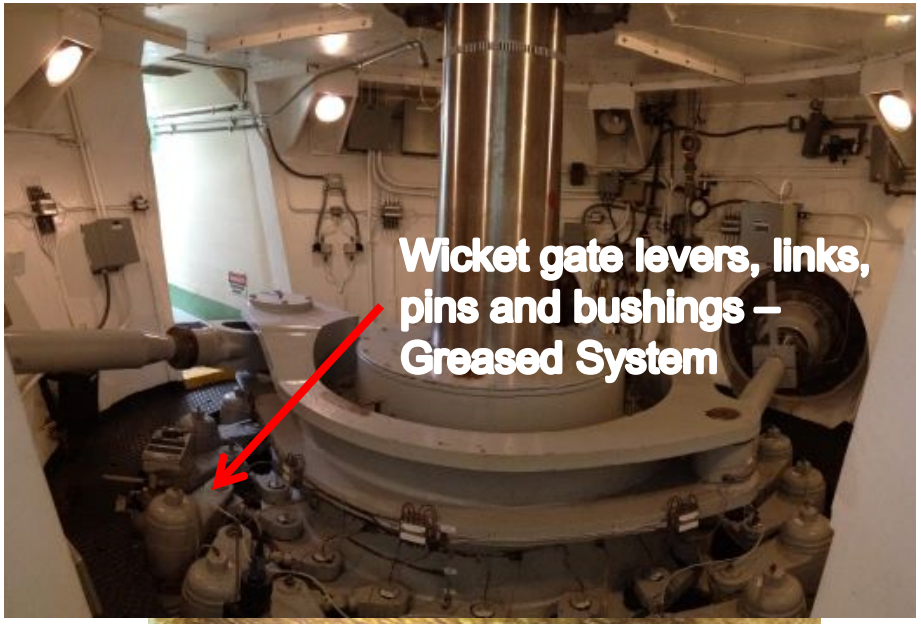




Rotor Pole

TACOMA POWER
TACOMA PUBLIC UTILITIES

Existing Conditions - Turbine



TACOMA POWER
TACOMA PUBLIC UTILITIES

Proposed Components to Replace

- All wear components and seals
- Wicket gate pins, link bearings, bushings, thrust washers and wear elements
- Wicket gate servomotor piston rings
- Wicket gates
- Wicket gate grease system
- Turbine shaft sleeve
- Turbine shaft coupling hardware
- Stator winding
- Stator core and clamping system
- Stator frame (optional)
- Rotor field pole insulation
- Generator shaft coupling hardware
- Bearing heat exchangers and oil filters
- Brake pads and seals