



AGENDA
Board of Directors
Public Power Generation Agency
Virtual Meeting
8377 Glynoaks Dr. Lincoln, NE

Thursday ~~Wednesday~~, February 19, 2026 – 10:30 a.m. (CT)

All agenda items are for discussion and action will be taken as deemed appropriate.

- 1. Call to Order / Roll Call
a. Nebraska Open Meetings Act
b. Roll Call
2. Public Comment..... 2
3. Consent Agenda 3
a. Minutes of the December 3, 2025 Meeting (Attachment A)
b. Financial Statements and Disbursements for Periods Ended October and November 2025
c. Next Meeting
d. Consent Resolution
4. Reports and Recommendations 4
a. Finance Committee
i. Selection of Senior Manager and Co-Managers for Underwriting Services for Potential Bond Refunding
b. Engineering & Operations (E&O) Committee Report..... 5
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i. PPGA 2026-01 – Steam Turbine and Valve Overhaul for WEC2 (Attachment B)
ii. PPGA 2026-02 - Installation of Miscellaneous Platforms (Attachment C)
iii. Engineer Certificate for WEC2 DCS Evergreen and WEC1&2 Common DCS Evergreen (Attachment D)
iv. Engineer Certificate for Purchase of 7kV Protective Relay Replacements (Attachment E)
5. Open Discussion and Chairperson Remarks 6
6. Adjourn

PUBLIC COMMENT

Date:	February 19, 2026
Initiator/Staff information source:	Bob Poehling
Action Proposed:	Information

This is the opportunity for any individuals of the public body that are in attendance to make comments.

CONSENT AGENDA

Date:	February 19, 2026
Initiator/Staff information source:	Bob Poehling
Action Proposed:	Information/Approval

Minutes

The minutes of the December 3, 2025 meeting were previously distributed and are included as [Attachment A](#) of the meeting packet. Please contact Stacy Hendricks at 800-234-2595 with any recommended changes or corrections.

Next Meeting

The next meeting of the PPGA Board of Directors is scheduled for Thursday, April 16, 2025 at 10:30 a.m. (CT) and will be held in Lincoln.

Financial Report

Financial Statements and Disbursements for the periods ended October and November 2025 have been previously distributed to the Board of Directors.

Consent Resolution

CONSENT RESOLUTION

WHEREAS, certain business of the Board of Directors of the Public Power Generation Agency (PPGA) transpires on a regular and routine basis or is not of a controversial nature; and,

WHEREAS, roll call votes on each individual issue greatly extended the meeting time.

NOW, THEREFORE, BE IT RESOLVED BY THE PPGA Board of Directors that in the interest of economizing time, yet complying with the Open Meetings Act of the State of Nebraska, which require roll call voting, the following issues are hereby consolidated in this Consent Resolution:

BE IT FURTHER RESOLVED BY the PPGA Board of Directors that the minutes of the December 3, 2025 and meeting are hereby approved.

BE IT FURTHER RESOLVED BY the PPGA Board of Directors that the next meeting will be held on Thursday, April 16, 2026 in Lincoln.

BE IT FURTHER RESOLVED BY the PPGA Board of Directors that the Financial Statements and Disbursements for the period ended October and November 2025 are hereby accepted.

REPORTS AND RECOMMENDATIONS

Date:	February 19, 2026
Initiator/Staff information source:	Jamie Johnson, Adam Graff, Shane Stone,
Action Proposed:	Information/Approval

Finance Committee

- Selection of Senior Manager and Co-Managers for Underwriting Services for Potential Bond Refunding

The Finance Committee has been working with Chris Lover, PFM Financial Advisors LLC (PFM), and other PFM staff to analyze opportunities related to PPGA’s outstanding debt.

The Finance Committee worked with PFM to administer a Request for Qualifications for Underwriting Services on behalf of PPGA in 2024 when PPGA began exploring potential bond refunding opportunities. At the June 26, 2024, PPGA Board meeting, Chris Lover with PFM and representatives from BofASecurities, Inc. attended the Board meeting and the Board selected BofASecurities, Inc. as Senior Manager and Goldman Sachs & Co. LLC and RBC Capital Markets, LLC as Co-Managers for the transaction that was completed in 2024.

Updated information was received from BofASecurities, Inc. which was presented to the Finance Committee by PFM at the January 5, 2026, Finance Committee meeting. The Finance Committee recommends utilization of the same banking team for potential upcoming refunding opportunities.

A resolution for consideration follows:

PPGA BOARD OF DIRECTORS RESOLUTION

WHEREAS, the Public Power Generation Agency (“PPGA”) through its Financial Advisor, PFM Financial Advisors LLC (PFM) and the PPGA Finance Committee has reviewed options for Underwriting Services; and,

WHEREAS, PPGA desires to explore options related to PPGA’s outstanding debt including potential refunding of the Revenue Refunding Bonds – 2015 Series B, refunding of the Revenue Refunding Bonds – 2016 Series A, and refunding of the Revenues Bonds – 2009 Series B.

NOW, THEREFORE, BE IT RESOLVED BY the PPGA Board of Directors that the PPGA Managing Agent, Finance Committee Chair, Board of Directors Chair, and PPGA Financial Advisor are authorized to conduct negotiations for contract terms and conditions with BofASecurities, Inc. for

Senior Manager underwriting services and Goldman Sachs & Co. LLC and RBC Capital Markets LLC for Co-Manager underwriting services for PPGA’s potential bond refunding.

Engineering & Operations (E&O) Committee

E&O Committee Chair, Adam Graff, will provide an update to the Board on the Committee’s activities.

Project Operating Agent

Project Operating Agent, Shane Stone, will update the Board on activities and projects being worked on.

Joint Committee and Project Operating Agent Recommendations

The Project Operating Agent and Committee Chairs will present details of recommendations to be considered by the Board.

Below are multiple contract recommendations that have been presented by Engineering and Staff to both the E&O Committee and the Project Operating Agent for review. Those recommendations have been included in the agenda materials for detailed review.

The Project Operating Agent has reviewed and recommends the approval of each of the above contracts as recommended by Engineering and Staff.

Description	Recommendation Approved (by)		
	Finance Committee	E & O Committee	Project Op. Agent
PPGA 2026-01 – Steam Turbine and Valve Overhaul for WEC2 to Toshiba America Energy Systems of West Allis, Wisconsin, in the amount of \$2,099,700.00 (Attachment B)	N/A	YES	YES
PPGA 2026-02 - Installation of Miscellaneous Platforms at WEC2 to DeWine Mechanical in the amount of \$297,080.50, including tax (Attachment C)	N/A	YES	YES
Engineer Certificate for WEC2 DCS Evergreen and WEC1&2 Common DCS Evergreen for a combined total of \$1,042,193, not including tax. Budgeted total for these projects was \$1,139,900. (Attachment D)	N/A	YES	YES
Engineer Certificate for Purchase of 7kV Protective Relay Replacements to SEL Engineering Services, Inc in the amount of \$216,347.27, including tax. Budgeted amount was \$300,000. (Attachment E)	N/A	YES	YES

OPEN DISCUSSION AND CHAIRPERSON REMARKS

Date:	February 19, 2026
Initiator/Staff information source:	Bob Poehling
Action Proposed:	Discussion

Open Discussion

This is an opportunity for the Members to raise any issues to be included on future meeting agendas and/or to discuss or seek clarification on existing matters.

Closing Remarks

The Chairperson will provide closing remarks.

NOTICE OF MEETING

NOTICE IS HEREBY GIVEN that a meeting of the Public Power Generation Agency Board of Directors will be held virtually on Thursday, February 19, 2026, at 10:30 a.m. (CT). The meeting is open to the public and members of the media and is accessible via computer or smart device at: <https://www.microsoft.com/microsoft-teams/join-a-meeting> meeting ID: 234 599 270 261 67, passcode pZ94bn9w or via telephone at (308) 251-2063, access code: 479963920#, or at NMPP Energy, the public designated meeting site, 8377 Glynoaks Drive, Lincoln, Nebraska. When joining virtually you will be prompted for your name. This information is used only to identify you as an attendee. If you wish to remain anonymous, enter your name as "Public Attendee". If you wish to make comments during the meeting you will be required to identify yourself for the public record.

An agenda is kept continually current and is available for public inspection at NMPP Energy during normal business hours. Notice of this meeting, agenda, and meeting materials along with a copy of the Nebraska Open Meetings Act will be posted prior to the meeting at:

<https://www.ppga-ne.com/board-information/>. If you require assistance or special accommodations in order to participate in the meeting, contact Stacy at (402) 474-4759.



Unapproved MEETING MINUTES
Board of Directors
Public Power Generation Agency
Virtual Conference
Wednesday, December 3, 2025, 10:30 a.m. (CT)

The Board of Directors of the Public Power Generation Agency (PPGA) met virtually on Wednesday, December 3, 2025. Notice of the meeting was given to Directors by email, and the public was advised by publication in print and online in the Lincoln Journal-Star newspaper and website on November 28, 2025. The notice and agenda were posted upon issuance at the NMPP Energy Office, at 8377 Glynoaks Drive, Lincoln, Nebraska and kept continually current and available for public inspection. Instructions to join the meeting virtually were provided in the public meeting notice and all documents being considered at the meeting, and the current version of the Nebraska Open Meetings Act were made available on PPGA's public Board Information website.

CALL TO ORDER

Chair, Bob Poehling called the meeting to order at 10:30 a.m. (CT). Pursuant to Section 84-1412 (8) of the Nebraska Open Meetings Act, a current copy of the Open Meetings Act was made available to the public electronically.

ROLL CALL

A quorum was declared with all five Directors in attendance.

1. Grand Island (GI) – Ryan Schmitz
2. Hastings Utilities (HU) – Derek Zeisler
3. Heartland Energy (HE) – Russell Olsen
4. Municipal Energy Agency of Nebraska (MEAN) – Bob Poehling
5. Nebraska City Utilities (NCU) – Jon Borer

Others in attendance: Stuart Abbott (NCU); Larry Fox (HU); Jean Gorecki (HU); Adam Graff (HE); Stacy Hendricks (MEAN); Joe Hobelman (MEAN); Jamie Johnson (MEAN); Keith Leonhardt (HU); Mike Malone (HE); Lynn Mayhew (GI); Micah McCaffery (HU); Roger Nash (HU); and Shane Stone (HU).

PUBLIC COMMENT

The public comment period was announced and members of the public body in attendance were offered the opportunity to make comments on any of the agenda items. There were no public comments.

CONSENT AGENDA

Minutes

The minutes of the September 24, 2025 meeting were previously distributed and included as Attachment A of the meeting packet. There were no changes or corrections to the minutes.



Next Meeting

The next meeting of the PPGA Board of Directors is scheduled to be held on Wednesday, April 16, 2026, and will be held in Lincoln, Nebraska.

Financial Report

Financial Statements and Disbursements for the periods ended August and September 2025 were previously distributed.

Consent Resolution

Motion: Russell Olsen moved to approve the following consent resolution. Jon Borer seconded the motion, which carried unanimously on a roll call vote.

CONSENT RESOLUTION

WHEREAS, certain business of the Board of Directors of the Public Power Generation Agency (PPGA) transpires on a regular and routine basis or is not of a controversial nature; and,

WHEREAS, roll call votes on each individual issue greatly extended the meeting time.

NOW, THEREFORE, BE IT RESOLVED BY THE PPGA Board of Directors that in the interest of economizing time, yet complying with the Open Meetings Act of the State of Nebraska, which require roll call voting, the following issues are hereby consolidated in this Consent Resolution:

BE IT FURTHER RESOLVED BY the PPGA Board of Directors that the minutes of the September 24, 2025 and meeting are hereby approved.

BE IT FURTHER RESOLVED BY the PPGA Board of Directors that the next meeting will be held in Lincoln, Nebraska on Wednesday, April 16, 2026.

BE IT FURTHER RESOLVED BY the PPGA Board of Directors that the Financial Statements and Disbursements for the period ended August and September 2025 are hereby accepted.

REPORTS AND RECOMMENDATIONS

Finance Committee

Jamie Johnson, chair of the Finance Committee, reported on the results of the annual election of officers that took place at the November 6, 2025 committee meeting as follows:

Chair: Jamie Johnson

Vice Chair: Mike Malone

Secretary-Treasurer: Jon Borer



The committee recommended board approval of the 2026 operating and capital budget that was submitted in September, with the additional projects included.

Debt Strategy - Selection of Bond Counsel for Potential Bond Refunding.

The committee met with representatives from PFM Financial Advisors LLC (PFM) to discuss potential transactions associated with the 2016 bonds that will become callable in 2026.

Hawkins Delafield & Wood LLP has served as Bond Counsel to PPGA for several years, and a draft engagement letter was received from Sam Litton for the Finance Committee's review. The terms and language in the engagement letter were similar to previous years. The committee will return to the Board with selections for underwriting services, and the authorizing resolutions, at a later date.

The Finance Committee had recommended the PPGA Board of Directors approve Hawkins, Delafield & Wood, LLP to serve as Bond Counsel for PPGA's potential bond refunding.

PPGA BOARD OF DIRECTORS RESOLUTION

WHEREAS, the Public Power Generation Agency ("PPGA") has previously contracted with Hawkins Delafield & Wood LLP to serve as Bond Counsel to PPGA; and,

WHEREAS, PPGA desires to explore options related to PPGA's outstanding debt including potential refunding of the Revenues Bonds – 2009 Series B, the Revenue Refunding Bonds – 2015 Series B, and the Revenue Refunding Bonds – 2016 Series A.

NOW, THEREFORE, BE IT RESOLVED BY the PPGA Board of Directors that the PPGA Board of Directors approves Hawkins, Delafield & Wood, LLP to serve as Bond Counsel for PPGA's potential bond refunding and authorizes the Board of Directors Chair to finalize negotiations for engagement letter terms and conditions.

Engineering & Operations (E&O) Committee Report

Adam Graff, chair of the PPGA Engineering and Operations Committee, reported on the annual election of officers that took place at the November 18, 2025 meeting as follows:

Chair: Adam Graff

Vice Chair: Lynn Mayhew

Secretary-Treasurer: Stuart Abbott

The committee completed final review of the 2026 operating and capital budget and a recommendation to the board was included as Attachment B of the meeting packet.

There are a number of contractual items the committee is working on, with the Operating Agent, that they will bring to the Board after the first of the year.



Project Operating Agent Report

Shane Stone, Project Operating Agent, reported to the Board on items addressed during the fall outage, startup challenges, repairs, and the status of the Unit 2 auxiliary boiler.

The fall outage began October 3, 2025, and ended on November 7, 2025 as scheduled. Major items that were addressed during the outage included B elevation coal burner core replacement, and completion of three of six cells in the cooling tower.

Issues discovered during the outage that were addressed included repair of damaged mill loading rods, replacing an extraction valve from the turbine, and installation of a dust collector backdraft damper for explosion protection, which was a FM Global recommendation from a few years ago.

WEC2 was called up to start on market status on November 9th but that startup was stopped due to steam leaks in the auxiliary boiler that were too significant to continue. The unit was put into a forced outage while repairs were completed. The unit was called up again to start on market status on November 18th and started successfully.

The operating agent recommended the Board approve the operating and capital budget that was sent out on September 30th, 2025, including three additional projects totaling \$164,000. The additional items were identified during the outage as items that could be scheduled and included repairs related to boiler area elevator doors, oil slingers for a Forced Draft fan and Primary Air bearings, and closed cycle cooling water lines.

Joint Committee and Project Operating Agent Recommendations

2026 PPGA Operation and Capital Budget

Jean Gorecki, PPGA Account Manager, reported on the 2026 operating and capital budget, including the additional projects and major expense items.

Motion: Russell Olsen moved to approve the 2026 PPGA Operating and Capital Budget as presented and recommended by the Finance Committee, E & O Committee, and Operating Agent. Jon Borer seconded the motion which carried unanimously on a roll call vote.

Jean Gorecki, and the team in Hastings were thanked for their work developing the budget.

Managing Agent Report: There was no managing agent report.

ELECTION OF OFFICERS

The Board of Directors considered officer elections for fiscal year 2026. Chairman Poehling stated nominations must be closed for each office by motion with the stipulation of voting by roll call vote, and if a motion was made to elect a slate of officers, a motion and a second was needed to cease nominations and accept the slate as presented. The floor was then opened for nominations. The three current office holders, Bob Poehling - Chair, Russell Olsen – Vice Chair, and Derek Zeisler – Secretary Treasurer, stated they were willing to serve.



Motion: Ryan Schmitz moved to close nominations, accept the slate of current Officers, and elect the slate as presented by roll call vote. Jon Borer seconded the motion, which carried unanimously on roll call vote. Bob Poehling was elected as Chair, Russell Olsen as Vice-Chair, and Derek Zeisler as Secretary-Treasurer for fiscal year 2026 with the term commencing January 1, 2026, and concluding December 31, 2026.

OPEN DISCUSSION AND CHAIRPERSON REMARKS

Keith Leonhardt provided a progress update on revisions to Formal Contract Sealed Bid Requirements for Interlocal Agreements. Keith and Shane Stone testified before the League of Municipalities Legislative Subcommittee on behalf of PPGA. The League supported the proposed changes. Revised language has been submitted to the legislature to change the bidding amounts for electric generation interlocal agreements to increase the purchasing limit for capital and maintenance items and include an emergency procurement clause.

The language will be reviewed by the legislature's government subcommittee after the first of the year. A Senator willing to introduce the bill will need to be identified.

Bob thanked Keith for his work on this project.

Jamie Johnson, on behalf of the Finance Committee, Adam Graff on behalf of the E& O Committee, and Chair Bob Poehling, all acknowledged the contributions and efforts by Jean Gorecki, Shane Stone, and the team at Hastings, for their work in preparing the budget.

ADJOURNMENT

There being no further business, the meeting was adjourned at 10:55 a.m. (CT).

Prepared by:
Stacy Hendricks
Administrative Assistant

Released for Distribution by:
Derek Zeisler
Secretary Treasurer



Date: February 10th, 2026

To: PPGA Board of Directors

From: Engineering & Operations Committee

Re: Contract for Turbine and Valve Overhaul Labor (PPGA 2026-01)

The PPGA Engineering & Operations (E&O) Committee met on Friday, February 6th, 2026, to discuss bids for the labor associated with the upcoming turbine and valve overhaul. Two valid bids were received for the project. The E&O Committee agrees with the operating agent that bid of \$2,099,700.00 from Toshiba America provides the lowest and best bid for PPGA.

The E & O Committee recommends that the PPGA Board of Directors approve Contract PPGA 2026-01 with Toshiba America Energy Systems of West Allis, Wisconsin, in the amount of \$2,099,700.00, for turbine and valve overhaul labor.



DATE : 2/3/26
TO : Micah McCaffery
FROM : Derek Pfeifer
RE : Contract for Turbine and Valve Overhaul Craft Labor (PPGA 2026-01)

On January 30th, 2026 bids were opened for the Unit 2 Turbine and Valve Overhaul Craft Labor (Formal proposal PPGA 2026-01). A summary of the bids is given below:

BIDDER'S NAME	BID BOND	EXCEPTIONS	BASE BID PRICE
Power Services Group	YES, 5%	YES	\$3,183,000
Toshiba/Turbine Pros	YES, 5%	YES	\$2,099,700

Bid packages were sent directly to eight contractors and advertised in the Hastings Tribune. Three contractors did not respond to the bid request. One contractor responded as no-bid due to fall workload and time required to bid. One contractor responded as no-bid due to project risk exposure concerns on a Toshiba unit. One contractor's bid package arrived after the mandatory bid opening time and was returned unopened. The two remaining bids were valid.

The base scope of work for this contract includes all labor, management, tools, and equipment necessary to inspect and overhaul Unit 2's turbine and valves. This includes both the HP/IP and LP turbine sections, the crossover pipe, the main stop/control valve, the combined reheat valves, turning gear, EHC system, and lubrication system. Additional scope details can be found in the attached Toshiba Proposal and PPGA Bid Specification Section 3, appendix, and addendum.

In addition to the turbine overhaul scope, PPGA is under contract with Toshiba for upgrading stages 14 & 15 long chord nozzle diaphragms, modifying HP stages 2-13 and IP Stages 15-19 diaphragm abradable seals with conventional seals, providing a technical advisor, inspecting and repairing the turning gear, and performing inspections and balancing the HIP rotor.

Power Services Group provided a bidder qualification report 5 days in advance of the bid opening as requested and it proved they were adequately capable to tackle the project. However, after evaluating exceptions and cost, their proposal will be rejected.

Toshiba's bid was complete but did include exceptions. They are proposing to utilize Turbine Pro's as their authorized service contractor. Hastings Utilities and PPGA have both utilized Turbine Pro's for turbine work and have had excellent results. Their proposal took exception to insulation and scaffolding work, which is expected and addressed on Addendum #1. Plant personnel will secure informal bids for these two items and contract this scope separately. It is anticipated that the insulation and scaffold will cost around \$50,000. Toshiba's proposal also took exceptions to the





standard terms and conditions included in the specifications. Redlined terms and conditions were provided, and no concerning items were found. The vast majority of proposed red-lines are wording additions and subtractions. There was no impact to overall insurance, indemnification, or risk. They did request that liquidated damages be capped at 10% of the contract value, which is acceptable and vendors typically take full exception to LDs.

The base bid mandated a start date on 10/25/26 and a completion date of 12/8/26 to coincide with the planned fall 2026 outage, with liquidated damages after this date. Early into the bid process, Toshiba contacted me to discuss the project schedule. They investigated options to expedite the diaphragm work, but due to the scope and necessary shop time, there were no options to improve this work beyond approximately 28 days. Jason Redding attempted to extend the planned outage window with SPP but was denied. To compress the schedule, Toshiba and the plant will work 24/7 for the two weeks prior to shipment, and 24/7 for the 2 weeks after the diaphragms return. However, this comes at an added cost of approximately \$80,000 in additional TA for the night shift. If everything goes according to schedule, Unit 2 will not have a breaker closure until December 15th, which is 7 days after our planned outage. We will make attempts and take opportunities to improve; however, I'm communicating that there is a high likelihood that outage will be extended by 7 days.

I reviewed the 2018 scope and costs for comparison's sake. The base scope of work for the HIP Turbine and Valve Inspection was \$1,265,000, plus \$33,000 for the HIP Rotor balancing and \$495,000 for the LP Turbine inspection. This was a total of \$1,793,000 in 2018, and in comparison, their 2026 proposal is \$2,099,700. This is about a 17% increase, which I think makes this a reasonable proposal. The 2026 budget has \$2,721,000 for the turbine work and \$757,000 for the valve work, so even with the additional Toshiba shop items (\$262,000 for TA, \$33,000 for turning gear inspection, and \$48,600 HIP rotor inspection), we will have approximately \$1,034,700 remaining for discovery items, extra work authorizations, insulation, scaffolding, and the extra TA. Please note the diaphragm and seals work are their own budget line item separate from the overhaul, went under contract in 2025, and is on track to match budget.

After conversations with Bruce Perry, we feel having Toshiba perform the overhaul work is advantageous from a shop and parts perspective. PPGA has a significant amount of work occurring in Toshiba's Milwaukee Service Center. It's our opinion that having the TA and Toshiba contractor will be beneficial in coordinating with MSC for existing and discovery work.

Lastly, I do need to present the possibility of other contractors and a potentially lower price. Although it is my opinion we received a fair market price for this contract, there were three contractors that I feel would have had competitive bids. ST Cotter had FedEx issues, so their bid was rejected. HPI states they did not receive or missed the invitation to bid. And Rayker had concerns about the Toshiba unit's available information, the schedule, and ultimately the cost risk. Going forward I will move the bid openings until later in the day. I will take responsibility for contacting the bidders to ensure they receive the bids. I think PPGA and HU need an electronic bidding system, which we've discussed at length.



I recommend the award of Contract PPGA 2026-01 to Toshiba America Energy Systems of West Allis, Wisconsin, in the amount of \$2,099,700.00. This proposal is the lowest and best bid for PPGA.

I am available at your convenience to answer any questions you may have.

Sincerely,

Derek Pfeifer, P.E.
Production Engineer



1228 N. Denver Avenue • P.O. Box 398 • Hastings, NE 68902-0398
Telephone No. 402-462-3508

**FORMAL PROPOSAL
 WEC2 TURBINE AND VALVE OVERHAUL
 Formal Contract No. PPGA 2026-01**

TO: PPGA
 1228 N. Denver Ave
 Hastings, NE 68901

Bid Opening: January 30th, 2026 (Friday)
SEALED BIDS MUST BE RECEIVED BY 1:30 P.M. AND
WILL BE OPENED PROMPTLY AT THAT TIME

The undersigned bidder, having read and examined the specifications and associated contract documents for the above designated equipment, does hereby propose to furnish the equipment and provide the services set forth in this Proposal.

We, the undersigned, being familiar with all parts of this document, do hereby agree to complete the WEC Unit 2 Turbine and Valve Overhaul for the Public Power Generation Agency, Hastings, Nebraska as specified to purchaser for the following firm prices.

BID SECTION I: Fall Outage 2026

Item No.	Description	Labor/ Misc Material Cost	Sales Tax	Total Price
1	Provide highly skilled craft labor and labor supervision to complete turbine scope in planned time.	\$1,549,400	\$	\$1,549,400
2	Provide highly skilled craft labor and labor supervision to complete valve scope in planned time.	\$218,600	\$	\$218,600
3	Cleaning and NDE service for turbine rotor, casing and associated equipment.	\$167,500	\$	\$167,500
4	Provide turbine overhaul specific tooling including induction heating for turbine bolting	\$34,700	\$	\$34,700
5	Mobilization and De-Mobilization	\$84,900	\$	\$84,900
6	Shipping (T&M)	\$44,600	\$	\$44,600
TOTAL PRICE				
<i>Two million ninety-nine thousand seven hundred dollars</i> (Price In Words)				\$2,099,700

Liquidated Damages: The Contractor shall pay a fee of \$1,000.00 per working day starting December 16th (day after breaker closed) for failure to perform work within either the specified project period or the contract completion date in accordance with Paragraph GC.36 of the TAES redlined general conditions. This assumes all diaphragms are received in full by 7AM December 5th. Liquidated damages are capped in the aggregate at ten percent (10%) of the Contract Price.

*The labor portion is not subject to sales tax; however, the material portion is taxed accordingly. The project is outside of city limits and is subject to 5.5% sales tax. See following tax rules and regulation language.

For purposes of sales/use tax, this project falls under Nebraska Sales and Use Tax Regulation 1-017 for Contractors. By definition, a contractor is "any person who repairs property annexed to, or who annexes property to, real estate, including leased property, by attaching building materials to the annexed property or improvement being built or repaired, or who arranges for annexation of property." Please refer to www.revenue.nebraska.gov/salestax.html for additional information.

For calculating this proposal:

- All contractors are to include sales/use tax on materials in the bidder's prices.
- All contractors are to include the price of freight of materials delivered to site.
- **Option 1 contractors must separately state materials, sales tax, labor, and other charges on all invoices for the project. Any invoices submitted that do not include this required breakdown of the charges will not be accepted for payment. (This requirement does not apply to Option 2 or 3 contractors.)**
- The sales/use tax rate for this project will be 5.5%.
- Contractor labor charges for this proposal are not subject to sales/use tax per the Nebraska Department of Revenue Notice to Contractors effective October 1, 2007.
- In submitting this bid, the bidder certifies that he will comply with all applicable laws, ordinances, and codes of the City of Hastings and the State of Nebraska.

What contractor option have you registered with the Nebraska Department of Labor (must select one)? Please refer to <https://dol.nebraska.gov> for additional information.

Option 1
Option 2 X
Option 3

Is Nebraska Sales/Use Tax included in the above prices (must select one)?

No Yes

Exceptions: (must select one)

No Yes (If yes, list on "*Instructions to Bidders*" page)

Any modification of bid proposal will be considered non-conformance of the bid. All exceptions to the proposal shall be noted as an exception to the bid.

PPGA may at its own discretion delete any project area and / or component prior to award of contract.

In submitting this proposal, it is further understood that PPGA reserves the right to reject any or all proposals and may waive any informalities and may accept the proposal which best suits its needs. It is further understood that this proposal may not be withdrawn for a period of sixty days (60) days after bids are opened.

All proposals shall have original signatures. Electronic time-stamped signatures will be acceptable. Photocopied or printed versions of bid bonds will be accepted without original signatures, however a hardcopy with original signatures must be received by PPGA within 5 business days.

OFFICIAL NAME & ADDRESS

Toshiba America Energy Systems

Firm Name

6623 W. Washington Street

Address

West Allis, WI 53214

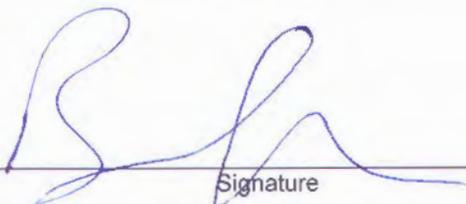
City, State, Zip

414-475-2800

Phone No.

414-475-2858

Fax No.



Signature

Brian Albin

Typed or Printed Name

Vice President of Thermal Services

Title

January 27, 2026

Date

brian.albin@toshiba.com

Email Address

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

SECTION 3-0 GENERAL DESCRIPTION AND SCOPE OF WORK

3.001 General. Public Power Generation Agency is accepting bids to provide skilled craft labor with supervision for the overhaul of its Single Reheat, Double Flow 250 MW Toshiba Steam Turbine and Valves for Unit 2 at Whelan Energy Center, 4520 East South Street in Hastings, Nebraska.

The bidder is encouraged to visit the site prior to submitting a bid. The Bidder shall inform themselves of all conditions and factors which would affect the execution of the work. No claims for financial compensation or time extension, based on the lack of such prior information (or its effect on the cost of the work) will be permitted by the Owner.

Contractor's proposal shall include all skilled labor, management, tools, and equipment as necessary to meet the scheduled outage window. The proposal shall include all straight time, overtime, double time, travel, per diem, and taxes.

3.002 Schedule. This shall include the completion of various activities in accordance with the milestone time periods and dates listed.

Activity	Schedule
Bid Opening	January 30 th , 2026
Anticipated Contract Award Date	February 18 th , 2026
Outage Dates	October 25 th through December 8 th , 2026
Complete Work	End of Day December 6 th , 2026

3.003 Hours & Crew Makeup. The Contractor's proposal shall include an anticipated schedule, including proposed shifts, working hours, and crew size as necessary to meet the scheduled outage window.

3.004 Time & Material Rates. The Contractor's proposal shall include the T&M rate sheets for labor and equipment.

3.005 Technical Advisor Role. A Toshiba Technical Advisor will be provided by PPGA. The TA's schedule will be Monday through Saturday, 7am until 5pm. The TA will assist with coordinating with the Toshiba shop for stage 14/15 diaphragm work.

3.006 Non-Destructive Testing Examination. All non-destructive inspection must be performed by an ASNT Level II or Level III technician operating under current qualified NDE procedures in accordance with ASNT SNT-TC-1A. Contractor to provide qualification records and procedures to Owner prior to conducting examinations.

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

3.007 Division of Responsibilities.

No.		PLANT	CONTRACTOR
	Mobilization and Pre-Outage Site Preparation		
1	Set up staging area for tooling and materials with 100 feet of work area.	X	
2	Provide parking for Contractor personnel near the work site.	X	
3	Set up laydown space within 100 feet of work area.	X	
4	Install protective floor covering.		X
5	Protective floor covering material.	X	
6	Provide a temporary site office with phone near work area.		X
7	Provide guest internet wifi access for the site office	X	
8	Set up craft labor break and change facilities near work area.		X
9	Provide restroom facilities in the form of portable toilets and wash stations	X	
10	Provide drinking water for employees		X
11	Receive, off-load, and stage Contractor tools and equipment.		X
12	Stage replacement parts in accessible location for Contractor.	X	
13	Provide electrical service to the work area and make connections as needed.	X	
14	Provide and connect temporary lighting for the laydown and work area.	X	
15	Route service water to work area as needed.	X	
16	Provide compressed air to work area as needed.	X	
17	Provide suitable containers for trash and disposal of trash from containers as required.	X	
18	Provide wood for timbers, skids, cribbing, pallets, work benches, etc.	X	
19	Fitness for Duty (drug and alcohol testing) program and implementation for Contractor labor.		X
	Outage Support Functions		
20	Provide, install, and remove OSHA approved scaffolding, as needed. Contractor to provide direction as needed to PLANT.	X	
21	Disconnect/reconnect instrumentation and instrumentation lines as needed.	X	
22	Disconnect/reconnect hydraulic lines as needed.		X
23	Operating personnel to perform shutdown, startup, draining and filling of oil system, and other normal operating functions.	X	
24	Inspect, repair, and calibrate all pressure and temperature indicating gauges, switches, transducers etc.	X	
25	Local machine shop facilities and on-site machining are available for smaller items.	X	
26	Provide crane(s) as necessary for work during the time Contractor is on site. This includes both the overhead crane and any manual gantry cranes.	X	
27	Provide trained crane operator(s) as needed.		X
28	Provide pre-outage certification of overhead crane.	X	
29	Provide welding and stress relief equipment and service, as necessary, at PLANT.	X	
30	Provide oxygen, acetylene, hydrogen, carbon dioxide, argon, and others, as necessary.	X	
31	Provide NDE equipment and personnel.		X

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32	Provide new and replacement parts.	X	
33	Provide solvents and appropriate rags.		X
34	Provide all electrical disconnects/reconnects for removal/installation as needed.	X	
35	Repaint components as necessary.	X	
36	Remove and install fire protection piping as necessary.		X
	Work Scope Specific Responsibilities		
37	Manage FME program and associated equipment.		X
38	Provide confined space program, equipment, watch personnel, and air monitoring.		X
39	Provide plant specific tools originally supplied by the OEM (lifting devices, special wrenches, rigging, etc.).	X	
40	Provide gaskets and gasket materials as required.	X	
41	Provide fork trucks and electric pallet jack if needed.	X	
42	Provide fork truck operator if needed.	X	
43	Provide bolt heating services.		X
44	Remove/ install insulation as needed.		X
45	Provide blast cleaning, including equipment, material, and personnel.		X
46	Provide non-specialized rigging equipment (slings, etc.)		X
47	Provide lapping blocks and try bars.	X	
	Administrative		
48	Provide site outage organization chart and emergency numbers.	X	X
49	Provide personal protective equipment for Contractor's personnel.		X
50	Provide technical direction and advice to PLANT personnel.		X
51	Provide access to Toshiba design engineering support and drawings to Contractor through Toshiba TA	X	
52	Provide one point contact per shift.	X	X
53	Furnish liason to facilitate locating and supplying spare parts, etc., and to make decisions pertaining to unusual conditions or repairs found during the project.	X	
54	Manage and provide data sheets and documentation.		X
55	Provide a project schedule and daily onsite updates.		X
56	Provide progress reports for work completed and planned.		X
57	Provide Site Safety Orientations to all Contractors	X	
58	Attend mandatory Site Safety Orientations and adhere to the Site safety plan.		X
59	Complete Lockout/Tagout.	X	
60	Review Lockout/Tagout.		X
61	Provide Hotwork Permits	X	
62	Provide First 1 hour of Firewatch		X
63	Provide Last 3 hours of Firewatch	X	
64	Approve Extra Work Authorizations (EWA's), if necessary.	X	
65	Provide first aid supplies and facility.	X	
66	Provide access to an ambulance service.	X	
	Waste Removal and Control		
67	Keep work area clean.	X	X

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68	Dispose of all fluids, solvents, and hazardous materials or wastes (solid and/or liquid) that are used in conjunction with or because of the project.	X	
69	Responsible for all asbestos insulation or asbestos material identification, removal, and disposal.	X	
70	Responsible for removal and disposal of all lead paint.	X	
71	Disposal of scrap parts.	X	
	Demobilization		
72	Arrange for the return shipping of all Contractor tools and equipment.		X

3.008 Work included under these specifications. Contractor will be responsible for supplying the following materials, equipment, and services in addition to the division of responsibilities above. See Appendix A for further detailed outage scope.

General:

- Ensuring the safety of the existing plant equipment during the overhaul processes
- Arrangements and transportation for any outside machine shop or repair facility for component(s) repair needed to complete project. Costs of transportation by Owner.
- Conduct any rotating equipment balancing refinement required
- Perform any unit alignment changes if required.
- Removal and replacement of lagging.
- Remove and re-install insulation. If existing insulation is determined to be unusable, the supply of new insulation will be handled on a change order basis.

Project Management: Provide planning, scheduling, coordination, and full-time supervision of all work being performed on the units’ turbine, valves, controls and associated equipment as specified. The Contractor’s team will manage the following tasks to ensure all checks are completed:

- Project planning, scheduling and manpower projection, using computer-based planning and scheduling tools. A Critical Path Method (CPM) schedule will be provided to the Owner for review at least 60 days before commencement of overhaul.
- Coordinate turbine and component open, inspection, and closing. Engineering recommendation and modifications as required by this scope.
- Coordinate and work with Toshiba TAs and customer supplied personnel for successful and on time completion of the project.
- Coordination and supervision of all Contractor supplied personnel and/or subcontractors.
- Scheduling and coordination of blast cleaning, NDE, electrical testing and all other Contractor provided subcontractors, as supplied.
- Monitoring and evaluating activities to ensure the project is on track for schedule completion.

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- Provide competent project management personnel well versed in Toshiba Steam Turbine equipment engineering, maintenance and operating practices. A completed resume and job history will be provided for all contractor-supplied personnel (this is not required for craft labor).
- Collect necessary pre-outage performance data.

Turbine – Typical Open, Clean, and Close overhaul of the HP/IP and LP turbine with these additional items:

- Contractor to remove diaphragms from HP stages 2-13 and IP stages 14-19 and prepare for shipment. TA and Contractor will coordinate shipment to the Toshiba Milwaukee Service Center. Toshiba shop to remove existing diaphragm abradable seals and install new conventional seals. Once returned, Contractor to re-install.
- Replace Stages 14/15 diaphragms. Owner and Toshiba will be supplying fully machined diaphragms with packing rings and a spill strip.
- Inspection of Cross-Over
- IP Rotor Cooling Valve Inspection
- **Turning Gear Repair at Toshiba Milwaukee Service Center**
- **HP/IP Rotor Sent to Toshiba Milwaukee Service Center**

Alignment Checks – Alignment checks will be made as listed below. If major misalignment is indicated because of these checks, or because of major parts change-out, the required realignment will be handled as an extra cost item. All alignment and clearance checks are to be made with the unit cold unless otherwise noted.

- Gib key clearance checks.
- Rub check on radial steam baffles.
- Check points of axial rubbing.
- Check coupling alignment at assembly.
- Coupling alignment will be checked at disassembly if unit is cold.
- Diaphragm alignment

Rotor Position

- Check and record wheel, diaphragm, packing clearances and rotor position at disassembly.
- Spot check wheel, diaphragm packing clearances and rotor position at reassembly.

Bearings

- Check and record the condition of Babbitt, ball seat and journals (visual).
- Record bearing contact area (journal and thrust bearings).

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- Lightly clean bearing Babbitt surface(s) to remove any embedded foreign particles.
- Check and record journal clearances. Recommend corrective action as necessary.
- Visually examine bearing ring to ball seat and bearing cap contact. Check and record pinch on each bearing.
- Measure and record diameters of bearings.
- Measure and record bearing twist and tilt as required.
- Measure and bump check thrust bearing clearance. Taper and flatness checks per Toshiba specifications.
- Remove, disassemble, inspect reassemble and align thrust bearing wear detector.
- Check all oil strainers.

Turbine Rotors

- ~~Indicate and record rotor runouts.~~
- Remove turbine rotors.
- Make visual inspection of rotors.
- Record size and physical condition of journal surfaces.
- Visually examine condition of coupling face, rabbet fit and bolt holes. Measure and record coupling fits.
- Determine rub pattern and record.
- Visually examine notch block and bucket pins for evidence of movement.
- Examine balance weights; check for tightness; record position of weights in all rings.
- **Onsite Low Speed Balance of LP Rotor**

Diaphragms

- Remove diaphragms, as necessary.
- Make visual inspection of partitions, steam joints, keys and bridges.
- Record unusual erosion patterns.

Shells and Exhaust Hood (upper Halves Only, Removed)

- Visually examine upper and lower interior surfaces, ledges, struts, heat baffles, and companion fits for erosion, distortion and/or galling.
- Clean horizontal joints and examine for distortion.
- Examine (visual only) drain holes for blockage and/or erosion.
- Visually inspect atmospheric relief diaphragms.
- Visually inspect all bolting and record bolt extensions.
- Re-assemble using applicable high temperature joint compound and thread lubricant. Stress joint bolts as necessary and record stress valves.

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Packings

- Record condition of steam packing and springs.
- Record condition of diaphragm packing and springs.
- Sharpen teeth, as required.
- Clean, as required.

Oil Deflectors

- Record conditions.
- Clean, as required.
- Record clearances.

Valves – Normal inspection work will consist of visual examination and re-establishing design stem-to-bushing clearance by cleaning. Typical Open, Clean and Close overhaul the MS/CV and two Combined Reheat Stop/Intercept valves with these additional items:

- Main Stop and Control valve actuators will need to be sent into the OEM for refurbishment. Contractor to prepare for shipment. Owner to coordinate shipping and offsite repair.
- Combined Reheat Stop/Intercept valves have spare actuators onsite. Contractor to replace actuators and palletize old actuators for future refurbishment.

Main Stop Valve

- Disassemble steam side only for inspection.
- Check condition of discs and seats (visual) including contact check between seat and disc.
- Record clearances and check runout of stems (3 locations).
- Clean stems and bushing, as required per try bar test.
- Visually examine steam strainers.
- Record bolt extensions.

Control Valve

- Check condition of discs and seats (visual) including contact between seats and discs.
- Record clearances and check runout of stems (3 locations).
- Clean stems and bushings, as required by try bar tests.
- Inspect linkages, pins and bearings.

Combined Reheat Valves

- Disassemble steam side only for inspection.
- Check condition of discs and seats (visual) including contact check between seat and disc.

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- Record clearances and check runout of stems (3 locations).
- Clean stems and bushing, as required per try bar test.
- Inspect linkages, pins and bearings.
- Visually examine steam strainer.
- Record bolt extensions.

Turning Gear

- See Appendix 1 Section 13
- ~~Remove and prepare for shipment to Toshiba MSC~~
- ~~Examine gears for contact pattern and condition. — MSC Scope~~
- ~~Check clearance between clash gear and bull gear.~~
- ~~Check engaging mechanism.~~
- ~~Install new replacement hydraulic cylinder.~~

EHC System – Normal inspection work will consist of the following items:

- Visually inspect the power unit.
- Clean the fluid reservoir after the fluid has been removed.
- Remove and visually inspect strainers/ filters and replace as required.

Lubrication System

Oil Tank

- Visually inspect condition of oil tank, clean, if necessary, and check all unions and flanges for tightness.

Bearing & Seal Oil Pumps

- Disassemble impeller casing and check seal ring clearances.
- Visually inspect impeller and casing.
- Clean and inspect screens.

Emergency Bearing & Seal Oil Pump

- Disassemble pump and record bearing and seal ring clearances.
- Inspect condition of component parts.
- Clean and inspect screens.

Oil Flush

- Clean spare oil transfer tank prior before outage ends and transferring begins.
- A mini lube oil flush will be performed which consists of installing fine mesh screens, supplied by Purchaser, on the in-line bearing strainers and running the lube oil system

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

for a period not to exceed 24 hours total operation. Additional oil flushing, if required, will be an extra to the contract.

Seal Oil Skid

- Disassemble and inspect the differential pressure regulator.

Generator, Exciter, and Hydrogen Systems – These systems were inspected and overhauled in 2023. No work is necessary for these items.

Start-up and Check-out - Operational checks after completion of overhaul shall be made jointly with Contractor and Owner personnel.

Prior to Start-Up

- Check foundation for interference and expansion restrictions.
- Check operation of main stop, control and combined valves.
- Check operation of oil pumps.
- Check operation of non-return valves.
- Check all trips, drains, and run-backs.

During Start-Up

- Check vibration readings.
- Check unit temperatures.
- Check governor exerciser.
- Check thrust bearing wear detector settings.
- Check trip anticipator and/or backup overspeed trip.

Operation (Unit Synchronized)

- Check vibration readings
- Check valve testing devices for proper operation.
- Check performance data at same loads recorded prior to shut down.

Reporting – Contractor to provide a comprehensive written report that covers the inspection, conditions found, work performed, clearances and operational data recorded, rework of hardware and usage of spare and renewal parts.

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

1. *Before Mobilization*

- 1.1. The PLANT shall set up or otherwise have available air, power, and water supplies and connections for Contractor tooling and equipment.

2. *Mobilization and Pre-Outage*

- 2.1. Mobilize Contractors, tools, and equipment to PLANT.
- 2.2. Full crew to attend and pass the mandatory site safety orientation before beginning any work. The site safety orientation requires approximately one (1) hour.
- 2.3. Install floor covering as required (PLANT to provide materials).
- 2.4. Locate and stage cribbing (PLANT to provide materials).
- 2.5. Direct setup of scaffolding as needed (PLANT to provide scaffolding contractor).
- 2.6. Setup tools and review lay down area.
- 2.7. Obtain lockout/tagout and work permits from PLANT.

3. *On-site Valve Inspection (6 total: MSV (1), CV (1), IV (2), RSV (2))*

- 3.1. Disconnect and/or remove instrumentation (PLANT scope).
- 3.2. Uncouple actuator from valve stem.
- 3.3. Remove and cap actuator hydraulic lines.
- 3.4. Remove actuator from yoke.
- 3.5. Prepare MS and CV actuators for shipment
- 3.6. Ship MS and CV actuators to OEM (PLANT scope)
- 3.7. Disconnect steam leak-off flanges.
- 3.8. Ring/Tap test head studs
- 3.9. Heat stretch and remove valve head fasteners.
- 3.10. Lift cartridge from valve casing and place on timbers.
- 3.11. Remove strainers.
 - 3.11.1. Clean debris from strainer and visually inspect welds and screen condition.
 - 3.11.2. Blast clean strainer.
 - 3.11.3. Perform MPI on strainer.
- 3.12. Inspect head bolting:
 - 3.12.1. Visual inspection
 - 3.12.2. Removal of tapped studs is not included in the base work scope but will be handled on a change order if necessary
 - 3.12.3. Repairs or replacement parts are not included in the base work scope but will be handled on a change order if necessary
- 3.13. Perform dimensional and runout inspection on valve stems
- 3.14. Perform try bar check on valve bushings
- 3.15. Perform PT of all Stellite seating surfaces and CRV seat seal weld.
 - 3.15.1. Lapping will be performed only if necessary and as an EWA on a Time and Materials basis.
 - 3.15.2. Provision of lap tooling is PLANT scope.
- 3.16. Contact (blue) check valve disc to casing seat.
 - 3.16.1. Provision of lap tooling is PLANT scope.
- 3.17. Contact (blue) check pressure seal head to casing.
 - 3.17.1. Lapping will be performed only if necessary and as an EWA on a Time and Materials basis.
 - 3.17.2. Provision of lap tooling is PLANT scope.
- 3.18. Install strainers.
- 3.19. Install valve cartridges and yokes.

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

- 3.20. Heat stretch valve head bolting.
- 3.21. Install electrical boxes actuators (PLANT scope).
- 3.22. Install actuator and hydraulic lines.
- 3.23. Install leak off piping.
- 3.24. Install instrumentation (PLANT scope).

4. *HP Turbine – Disassembly, Cleaning, and Inspection*

- 4.1. HP/IP Turbine Disassembly
 - 4.1.1. Remove HP/IP Turbine Enclosure and appearance lagging.
 - 4.1.2. Remove insulation around HP/IP turbine casing.
 - 4.1.3. Disassemble front standard.
 - 4.1.4. Collect as-found rotor position and clearance checks.
 - 4.1.5. Remove front standard control devices and instrumentation (PLANT scope).
 - 4.1.6. Collect and record oil deflector readings.
 - 4.1.7. Remove oil deflectors.
 - 4.1.8. Record oil bore measurements.
 - 4.1.9. Remove crossover pipe.
 - 4.1.10. Disassemble mid standard.
 - 4.1.11. Check and record rotor position and thrust clearances.
 - 4.1.12. Disassemble upper half (UH) packing casings.
 - 4.1.13. Remove axial centering keys.
 - 4.1.14. Replace running keys with assembly keys.
 - 4.1.15. Record oil bore measurements.
 - 4.1.16. Ring/Tap test outer casing horizontal joint hardware.
 - 4.1.17. Unfasten the UH outer casing.
 - 4.1.18. Gap check UH outer casing.
 - 4.1.19. Remove UH outer casing.
 - 4.1.20. Ring/Tap test of inner casing horizontal joint bolting.
 - 4.1.21. Unfasten the UH inner casing.
 - 4.1.22. Gap check inner casing.
 - 4.1.23. Remove UH inner casing.
 - 4.1.24. Disassemble and remove UH diaphragms.
 - 4.1.25. Chart rotor (radial clearances, axial clearances, and rotor position) and check rotor float.
 - 4.1.26. Disassemble 'A' coupling. Perform as-found 16 point coupling alignment measurements.
 - 4.1.27. Remove UH #1, #2, and thrust bearings.
 - 4.1.28. Remove HP/IP rotor.
 - 4.1.29. Inspect HP/IP inner and outer casing horizontal joint bolting.
 - 4.1.30. Visually inspect high-temperature major hardware.
 - 4.1.31. UT high-temperature major hardware.
 - 4.1.32. Hardness check on high-temperature hardware.
 - 4.1.33. Removal of tapped studs is not included in the base work scope but can be quoted as extra work.
 - 4.1.34. Repairs or replacement parts are not included in the base work scope will be treated as extra work
 - 4.1.35. Remove lower half (LH) #1 and #2 bearings.
 - 4.1.36. Remove LH packing heads, packing casings, and oil seals.
 - 4.1.37. Record LH diaphragm side slip and elevation checks.

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

- 4.1.38. Remove LH diaphragms.
- 4.1.39. Package, load, and truck transport diaphragms to TAES's repair facility in West Allis, WI.
- 4.1.40. Inspect outer casing sealing surfaces for erosion/damage.
- 4.1.41. Perform standard cleaning, measurements, NDE, and visual inspections of the HP/IP turbine components (hardware, coupling bolts, and rotor) per Toshiba standards.
- 4.1.42. Take fit dimensions for diaphragm crush pins and center slot.
- 4.1.43. Perform dimensional and visual inspections on rotor including:
 - 4.1.44. Journal Mapping
 - 4.1.45. Coupling Bolt Hole Diameters
 - 4.1.46. Blade Lift Check per TIC-TTIL-KS087001X
 - 4.1.47. Hardness readings of rotor surface, including coupling face, HP and IP inlet regions, and HP and IP exhaust regions.
 - 4.1.48. Rabbet Fit Diameters
 - 4.1.49. Oil Seal Land Diameters
 - 4.1.50. Gland Seal Land Diameters
 - 4.1.51. Visual Foil Inspections
- 4.1.52. Package, load, and truck HP/IP Rotor to Toshiba facility
- 4.1.53. Toshiba service shop inspection, testing, and reserved shop time
 - 4.1.53.1. Inspect
 - 4.1.53.2. Record runout readings
 - 4.1.53.3. Low Speed Balance
- 4.2. HP/IP Outer Casing Cleaning and Inspection
 - 4.2.1. Inspect IP cooling pipe for roundness and taper.
 - 4.2.2. Dye penetrant inspect IP cooling pipe Stellite overlays.
 - 4.2.3. Dimension diaphragm and packing head fits and centering pins
- 4.3. HP/IP Inner Casing Cleaning and Inspection
 - 4.3.1. Remove packing, retention pins/keys, and springs.
 - 4.3.2. Blast clean UH inner casing.
 - 4.3.3. Non-destructive examination
 - 4.3.4. Perform MPI on the UH casing
 - 4.3.5. Dimension diaphragm fits and centering pins.
 - 4.3.6. Hardness readings, including HP and IP inlet regions and HP and IP exhaust regions.
 - 4.3.7. Visual inspection of N-2 packing to check for embrittlement.

5. *HP and IP Diaphragm Inspections and Abradable Seal Replacement (Toshiba Scope)*

- 5.1. Ship Diaphragms to MSC (quantity: 19). Contractor Scope to Package and Ship, Owner to Cover Freight
- 5.2. Receive diaphragms at MSC and unload (quantity: 19).
- 5.3. Remove packing pins/keys and packing from diaphragms.
- 5.4. Blast clean – 100% of surfaces
- 5.5. NDE – MPI 100% of surfaces and PT all non-magnetic surfaces.
- 5.6. Incoming dimensional and visual inspections:
 - 5.6.1. Roundness.
 - 5.6.2. Drop Checks.
 - 5.6.3. Joint Gap Feeler Checks – Bolts Tight.
 - 5.6.4. Joint Flatness Checks – stages 16 and 17
 - 5.6.5. Hardness readings – stages 1, 13, 14, and 19.

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

- 5.6.6. Visual inspection of stage 1 and 2 packing to check for embrittlement.
- 5.6.7. Crush Pin Sizes.
- 5.6.8. Center Slot Width.
- 5.7. Component evaluation report.
 - 5.7.1. Repairs will be quoted upon discovery as extra work.
- 5.8. Machine the seal grooves
- 5.9. Disassemble each diaphragm as required for seal installation
- 5.10. Prepare the replacement seals for installation
- 5.11. Install the replacement seals
- 5.12. Machine the seals
- 5.13. Perform as-left dimensional inspection of the replacement seals
- 5.14. Re-assemble each diaphragm
- 5.15. Clean and debur
- 5.16. Prep for shipping and load.
- 5.17. Transport to Whelan Energy Center.

6. *Cross-Over Pipe Inspection*

- 6.1. Perform **Visual Inspection Only** and Improvement of Crossover Pipes per TIC TTHL C082004X Rev0
- ~~6.2. Grind off the welded joints of both of the protection cylinders on the flow side and on the balance side.~~
- ~~6.3. Remove two protective cylinders~~
- ~~6.4. Move the protection cylinders to facilitate inspection of the bellows and the bellows welded joints~~
- ~~6.5. Clean the inside surfaces of the bellows and PT the surfaces~~
- ~~6.6. Polish the welded joints of the bellows to remove surface roughness and conduct PT~~
- ~~6.7. Clean the inside surfaces of the bellows and remount the protection cylinders~~

7. *LP Turbine Major Inspection*

- 7.1. Disassembly
 - 7.1.1. Remove turning gear & cover
 - 7.1.2. Remove coupling cover
 - 7.1.3. Remove gib keys (measure and record gib key clearance prior to removal)
 - 7.1.4. Remove LP hood horizontal flange bolting
 - 7.1.5. Remove outer hood
 - 7.1.6. Disconnect spray pipe
 - 7.1.7. Remove joint shield plates and hand holes
 - 7.1.8. Loosen and remove horizontal joint bolting
 - 7.1.9. Remove inner casing upper half
 - 7.1.10. Remove upper half diaphragms
 - 7.1.11. Block rotor and chart clearances
 - 7.1.12. Uncouple rotor and record “As Found” alignment
 - 7.1.13. Check rotor float
 - 7.1.14. Remove UH #3 & #4 bearings
 - 7.1.15. Remove rotor
 - 7.1.16. Remove LH #3 & #4 bearings
 - 7.1.17. Blast clean steam path components
 - 7.1.18. NDE steam path components, rotor

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

7.2. Assembly

- 7.2.1. Install LH nozzle diaphragms
- 7.2.2. Tops On/Off Alignment
 - ~~7.2.2.1. Assemble UH inner cylinder~~
 - ~~7.2.2.2. Assemble LP hood~~
 - ~~7.2.2.3. Perform tops on wire alignment check~~
 - ~~7.2.2.4. Disassemble LP hood~~
 - ~~7.2.2.5. Disassemble UH inner cylinder~~
 - 7.2.2.6. Perform tops off wire alignment check
 - 7.2.2.7. Install and adjust nozzle diaphragms
 - 7.2.2.8. Adjust packing heads
- 7.2.3. Install LH #3 & #4 bearings
- 7.2.4. Install rotor
- 7.2.5. Chart rotor (radial clearances, axial clearances and rotor position)
- 7.2.6. Move and make adjustment if required
- 7.2.7. Assemble UH nozzle diaphragms
- 7.2.8. Assemble UH inner cylinder
 - 7.2.8.1. Install UH #3 & #4 bearings
 - 7.2.8.2. Assemble LP hood
 - 7.2.8.3. Assemble UH packing heads

8. *Journal Bearings (2 Tilting Pad and 2 Elliptical) - Disassembly, Inspection, and Reassembly (4)*

- 8.1. Disassemble bearings
- 8.2. Blue check pad bore diameters to the mandrel.
 - 8.2.1. Mandrels to be supplied by PLANT.
- 8.3. Visually inspect all bearing surfaces for damage.
 - 8.3.1. Photo document the as-found wear patterns of all the bearings.
- 8.4. Perform dimensional inspections of pads and casing backside wear per TIC-TTIL-KS107001X.
- 8.5. Visually inspect bearing hardware.
- 8.6. Non-destructive examination:
 - 8.6.1. Dye penetrant test for Babbitt integrity and bond at the perimeter.
 - 8.6.2. Ultrasonic test for Babbitt bond.
- 8.7. Measure bores of bearings at disassembly
- 8.8. Measure and record as-left bores (if bearings rebabbitted)
- 8.9. Install LH bearings for a blue check of spherical pads/ball fits.
- 8.10. Reassemble bearings
- 8.11. Check tilt and twist at final assembly and adjust as required
- 8.12. Complete top pad to pedestal cover pinch check at final assembly (if applicable)

9. *Thrust Bearing - Disassembly, Inspection, and Reassembly (1)*

- 9.1. Disassemble and perform a visual and dimensional inspection of thrust bearing assembly
- 9.2. Clean and inspect thrust bearing components
- 9.3. Visually inspect and NDE all components
- 9.4. Ultrasonically examine bearing pads
- 9.5. Dimensionally inspect thrust bearing components

10. *Packing Casings (2) and Packing Heads (2) – Cleaning and Inspection*

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

- 10.1. Remove packing, retention pins/keys and springs.
 - 10.1.1. Lower Outer Gland Casings will remain in-place and be hand cleaned and visually inspected.
 - 10.1.2. Clean packing.
 - 10.1.3. Packing scraping to be performed only if necessary and as an EWA on a Time and Materials basis.
- 10.2. Blast clean packing heads and casings.
- 10.3. Magnetic particle inspection.
- 10.4. Dimensional Inspection
 - 10.4.1. Horizontal joint gap checks – bolts loose and tight
 - 10.4.2. Roundness
 - 10.4.3. Centering slot clearances (packing heads)
 - 10.4.4. Outer casing fit groove width (packing heads)
 - 10.4.5. Pressure area sealing diameters (packing heads)
- 10.5. Removal of all leveling hardware.
- 10.6. Cleaning and chasing threads.
- 10.7. Reinstall all leveling hardware.

11. Oil Deflectors (3) – Cleaning and Inspection

- 11.1. Hand Clean
- 11.2. Visually inspect oil deflector seal teeth
- 11.3. Dimensional Inspection
 - 11.3.1. Horizontal joint gap check
 - 11.3.2. Roundness
 - 11.3.3. Seal teeth diameters

12. Coupling Hardware (2 set)

- 12.1. Clean coupling hardware by hand.
- 12.2. Magnetic particle inspect all hardware.
- 12.3. Dimensionally inspect coupling bolts:
 - 12.3.1. Diameters
 - 12.3.2. Runout

13. HIP Turbine – Re-Assembly

- 13.1. Install diaphragms, packing heads, packing casings, and oil seals.
 - 13.1.1. Note Stage 14 & 15 will be new from Toshiba.
- 13.2. Install LH #1, #2 and thrust bearings.
 - 13.2.1. Check bearing tilt and twist, adjust as required.
 - 13.2.2. Complete top pad to pedestal cover pinch check as required.
- 13.3. Perform tops off laser alignment.
 - 13.3.1. Perform alignment check.
 - 13.3.2. Adjust diaphragms, packing heads, and packing casings, and oil seals.
 - 13.3.3. Perform final alignment check.
- 13.4. Install HP/IP rotor.
- 13.5. Chart rotor (radial clearances, axial clearances, rotor position, and swing checks).
- 13.6. Verify rotor float.
- 13.7. Move and make diaphragm adjustments if necessary.
 - 13.7.1. Record final clearances.

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

- 13.8. Assemble ‘A’ coupling. Perform as-left 16 point coupling alignment measurements.
- 13.9. Assemble UH diaphragms.
- 13.10. Assemble UH inner casing.
- 13.11. Assemble UH packing heads.
- 13.12. Assemble UH outer casing.
- 13.13. Assemble UH packing casings.
- 13.14. Install UH #1, #2 bearings.
- 13.15. Install front standard control devices and instrumentation (PLANT scope).
- 13.16. Assemble the front and mid standards.
- 13.17. Install crossover pipe.
- 13.18. Install UH oil deflectors.
- 13.19. Install remaining instrumentation (PLANT scope).
- 13.20. Install HP/IP turbine section enclosure and lagging.

14. Turning Gear – Updated Section

- 14.1. Disconnect turning gear electrically (PLANT scope)
- 14.2. Disassembly at Plant by Contractor
 - 14.2.1. Remove turning gear cover
 - 14.2.2. Remove UH and LH coupling covers
 - 14.2.3. Record as found dimensional checks
 - 14.2.4. Inspect horizontal joint flange
 - 14.2.5. Clean mating surfaces
 - 14.2.6. Prepare turning gear for transport
- 14.3. Transport to Milwaukee Service Center (PLANT Scope)
- 14.4. Disassembly and Inspection (Toshiba Scope)
 - 14.4.1. Receive, unload, and visually inspect turning gear
 - 14.4.2. Remove UH coupling covers/guards
 - 14.4.3. Disassemble turning gear, clean, and visually inspect components
 - 14.4.4. Examine gears for contact pattern and condition
 - 14.4.5. Check and record gear backlash
 - 14.4.6. Disassemble upper shafts and record shaft clearances
 - 14.4.7. Complete NDE dye penetrant of turning gear parts
 - 14.4.8. Disassemble, inspect, and adjust pinion engaging lever and gears
 - 14.4.9. Determine why turning gear won’t stay engaged, repair as necessary
 - 14.4.10. Reassemble turning gear. Check chain backlash.
 - 14.4.11. Prepare for shipping and load
- 14.5. Transport to Plant, receive, and unload (PLANT Scope)
- 14.6. Reassembly at Plant by Contractor
 - 14.6.1. Record as-left dimensional checks
 - 14.6.2. Install UH and LH coupling covers
 - 14.6.3. Install turning gear cover
 - 14.6.4. Examine bull gear for contact pattern and condition
 - 14.6.5. Check clearance between clash gear and bull gear
- 14.7. Connect turning gear electrically (PLANT Scope)

15. Demobilize.

- 15.1. Demobilize TA and Contractor personnel, equipment, and tooling.

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

**PUBLIC POWER GENERATION AGENCY
HASTINGS, NEBRASKA
ADDENDUM NO. 1
TURBINE AND VALVE OVERHAUL
WHELAN ENERGY CENTER, UNIT 2
Formal Contract No. PPGA 2026-01**

This addendum is to address bid questions, comments, and clarifications from prospective bidders and Toshiba.

Section 3.007 – Division of Responsibilities, Item 44, Insulation:

- Owner prefers to leave the insulation removal and reinstallation with the Contractor' scope. However, should the Contractor not want to do this work, please take exception to this item and state the exception on the Instructions to Bidders form.

Section 3.003 – Hours and Crew Makeup:

- Bidder stated that they did not believe a single shift is acceptable for the date range provided, given the scope of work and estimated offsite diaphragm modification duration (approximately 28 days). PPGA agrees. For clarification, the Contractor is to work the hours necessary to complete the project within the outage window. It is acceptable to work two shifts and/or to work seven days a week. PPGA was denied the planned outage extension, so no further time will be allotted without a forced outage. Depending on the Contractor's proposed schedules, a second Toshiba TA will be considered.

Appendix 1 – Section 6 – Cross-over Pipe Inspection:

- After discussions with Toshiba, this scope will reduce to a visual inspection only and not follow TTIL C082004X. There are concerns regarding risk of removing the outside plating. Any discovery work or additional inspection past visual will be handled on a T&M basis at the time of inspection.

Section 3.008 – Oil Flush

- Bidder inquired what type of oil flush PPGA wants quoted. For clarification, the lube oil system flush will be oil circulation with screens as per the specs. The EHC system will not have a flush and will be as per the specs.

Section 3.008 – Oil Pumps

- Bidder inquired if PPGA prefers the oil pumps to be sent offsite for inspection. For clarification, PPGA does not have an opinion if the pumps are inspected and potentially repaired onsite or offsite. This can be the contractor's choice based on their capabilities and standard practices.

Section 3.002 – Outage Dates

- Bidder inquired further detail on what the start date of Sunday, October 25th, 2026 means. For clarification, this is the outage window beginning time. The unit will likely be running until 23:59 on October 24th, 2026. At that point, PPGA will run out the coal silos, begin shutting off the unit, and put the turbine on turning gear. Our intention is that the Contractor is to be here near this date to begin setting up the turbine deck, tooling, offices, etc and to take vibration readings before the unit is offline and during shutdown. It is understood that there will be a 3-4 day window before full access to the turbine is possible.

**ALL ISSUED ADDENDUM(S) MUST BE ACKNOWLEDGED
& RETURNED WITH YOUR BID DOCUMENTS**

**PUBLIC POWER GENERATION AGENCY
HASTINGS, NEBRASKA
ADDENDUM NO. 1
TURBINE AND VALVE OVERHAUL
WHELAN ENERGY CENTER, UNIT 2
Formal Contract No. PPGA 2026-01**

Appendix 1 – Section 14 – Turning Gear & Section 3.008 – Turning Gear

Due to recent issues, the scope of the turning gear will change. The turning gear will need to go to Toshiba's shop. These sections have been updated accordingly.

Appendix 1 – Section 7.2 – Assembly and Alignment

Based on Toshiba recommendation, only a tops off alignment will be necessary.

Appendix 1 – Section 8 and 9 – Bearings

Clarified the missing two elliptical journal bearings and added new section for the thrust bearing.

Appendix 1 – Section 4 & 7 – Turbine Rotors & Section 3.008 – Turbine Rotors

After discussions with Toshiba, PPGA will change to scope to the following. For the HP/IP rotor, the Contractor is to perform typical inspection and sandblasting. After this is complete, the HP/IP rotor will be sent to Milwaukee Service center for additional inspection, repairs as necessary, runout testing, and low speed balancing. The LP rotor will remain onsite. There will be no runouts taken on the LP rotor, but an onsite low speed balancing will be performed by the Contractor.

Appendix 1 – Section 12 – Coupling

Clarified there are two couplings, not one, to inspect.

General Question – Does PPGA want help with Valve Calibration? No, plant personnel will perform.

General Question – The RFP mentions monitoring vibrations. Does PPGA want someone monitoring vibration for both startup and shutdown? Yes. PPGA would like a vibration tech available for shutdown and startup.

General Question – For startup, should we assume a few millwrights to stay until the unit successfully starts up? Yes. PPGA would like a small crew to remain onsite until the unit is online and running satisfactory.

General Question – The RFP mentions that the first hour of Firewatch is in the contractor's scope and the last three hours are in the plant scope. Is this correct? Yes, this is correct based on PPGA's hotwork policy. If a hot work permit is needed during the shift or day (cutting, grinding, welding, etc), at the conclusion of the work, 1 hour of fire watch will be the responsibility of the contractor. The hour begins when the hot work concludes, not when the shift concludes. If working back-to-back shifts, where there is no time gap between crews, the 1 hour will not be necessary.

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**PUBLIC POWER GENERATION AGENCY
HASTINGS, NEBRASKA
ADDENDUM NO. 1
TURBINE AND VALVE OVERHAUL
WHELAN ENERGY CENTER, UNIT 2
Formal Contract No. PPGA 2026-01**

Public Power Generation Agency

By Derek Pfeifer

Title Production Engineer

The undersigned bidder hereby certifies that the revision set forth in this addendum have been incorporated in their bid and are a part of the contract documents.

Signed: _____

Title: _____

Firm: _____

Date _____

**ALL ISSUED ADDENDUM(S) MUST BE ACKNOWLEDGED
& RETURNED WITH YOUR BID DOCUMENTS**

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

SECTION 3-0 GENERAL DESCRIPTION AND SCOPE OF WORK

3.001 General. Public Power Generation Agency is accepting bids to provide skilled craft labor with supervision for the overhaul of its Single Reheat, Double Flow 250 MW Toshiba Steam Turbine and Valves for Unit 2 at Whelan Energy Center, 4520 East South Street in Hastings, Nebraska.

The bidder is encouraged to visit the site prior to submitting a bid. The Bidder shall inform themselves of all conditions and factors which would affect the execution of the work. No claims for financial compensation or time extension, based on the lack of such prior information (or its effect on the cost of the work) will be permitted by the Owner.

Contractor's proposal shall include all skilled labor, management, tools, and equipment as necessary to meet the scheduled outage window. The proposal shall include all straight time, overtime, double time, travel, per diem, and taxes.

3.002 Schedule. This shall include the completion of various activities in accordance with the milestone time periods and dates listed.

Activity	Schedule
Bid Opening	January 30 th , 2026
Anticipated Contract Award Date	February 18 th , 2026
Outage Dates	October 25 th through December 8 th , 2026
Complete Work	End of Day December 6 th , 2026

3.003 Hours & Crew Makeup. The Contractor's proposal shall include an anticipated schedule, including proposed shifts, working hours, and crew size as necessary to meet the scheduled outage window.

3.004 Time & Material Rates. The Contractor's proposal shall include the T&M rate sheets for labor and equipment.

3.005 Technical Advisor Role. A Toshiba Technical Advisor will be provided by PPGA. The TA's schedule will be Monday through Saturday, 7am until 5pm. The TA will assist with coordinating with the Toshiba shop for stage 14/15 diaphragm work.

3.006 Non-Destructive Testing Examination. All non-destructive inspection must be performed by an ASNT Level II or Level III technician operating under current qualified NDE procedures in accordance with ASNT SNT-TC-1A. Contractor to provide qualification records and procedures to Owner prior to conducting examinations.

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

3.007 Division of Responsibilities.

No.		PLANT	CONTRACTOR
	Mobilization and Pre-Outage Site Preparation		
1	Set up staging area for tooling and materials with 100 feet of work area.	X	
2	Provide parking for Contractor personnel near the work site.	X	
3	Set up laydown space within 100 feet of work area.	X	
4	Install protective floor covering.		X
5	Protective floor covering material.	X	
6	Provide a temporary site office with phone near work area.		X
7	Provide guest internet wifi access for the site office	X	
8	Set up craft labor break and change facilities near work area.		X
9	Provide restroom facilities in the form of portable toilets and wash stations	X	
10	Provide drinking water for employees		X
11	Receive, off-load, and stage Contractor tools and equipment.		X
12	Stage replacement parts in accessible location for Contractor.	X	
13	Provide electrical service to the work area and make connections as needed.	X	
14	Provide and connect temporary lighting for the laydown and work area.	X	
15	Route service water to work area as needed.	X	
16	Provide compressed air to work area as needed.	X	
17	Provide suitable containers for trash and disposal of trash from containers as required.	X	
18	Provide wood for timbers, skids, cribbing, pallets, work benches, etc.	X	
19	Fitness for Duty (drug and alcohol testing) program and implementation for Contractor labor.		X
	Outage Support Functions		
20	Provide, install, and remove OSHA approved scaffolding, as needed. Contractor to provide direction as needed to PLANT.	X	
21	Disconnect/reconnect instrumentation and instrumentation lines as needed.	X	
22	Disconnect/reconnect hydraulic lines as needed.		X
23	Operating personnel to perform shutdown, startup, draining and filling of oil system, and other normal operating functions.	X	
24	Inspect, repair, and calibrate all pressure and temperature indicating gauges, switches, transducers etc.	X	
25	Local machine shop facilities and on-site machining are available for smaller items.	X	
26	Provide crane(s) as necessary for work during the time Contractor is on site. This includes both the overhead crane and any manual gantry cranes.	X	
27	Provide trained crane operator(s) as needed.		X
28	Provide pre-outage certification of overhead crane.	X	
29	Provide welding and stress relief equipment and service, as necessary, at PLANT.	X	
30	Provide oxygen, acetylene, hydrogen, carbon dioxide, argon, and others, as necessary.	X	
31	Provide NDE equipment and personnel.		X

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

32	Provide new and replacement parts.	X	
33	Provide solvents and appropriate rags.		X
34	Provide all electrical disconnects/reconnects for removal/installation as needed.	X	
35	Repaint components as necessary.	X	
36	Remove and install fire protection piping as necessary.		X
	Work Scope Specific Responsibilities		
37	Manage FME program and associated equipment.		X
38	Provide confined space program, equipment, watch personnel, and air monitoring.		X
39	Provide plant specific tools originally supplied by the OEM (lifting devices, special wrenches, rigging, etc.).	X	
40	Provide gaskets and gasket materials as required.	X	
41	Provide fork trucks and electric pallet jack if needed.	X	
42	Provide fork truck operator if needed.	X	
43	Provide bolt heating services.		X
44	Remove/ install insulation as needed.		X
45	Provide blast cleaning, including equipment, material, and personnel.		X
46	Provide non-specialized rigging equipment (slings, etc.)		X
47	Provide lapping blocks and try bars.	X	
	Administrative		
48	Provide site outage organization chart and emergency numbers.	X	X
49	Provide personal protective equipment for Contractor's personnel.		X
50	Provide technical direction and advice to PLANT personnel.		X
51	Provide access to Toshiba design engineering support and drawings to Contractor through Toshiba TA	X	
52	Provide one point contact per shift.	X	X
53	Furnish liason to facilitate locating and supplying spare parts, etc., and to make decisions pertaining to unusual conditions or repairs found during the project.	X	
54	Manage and provide data sheets and documentation.		X
55	Provide a project schedule and daily onsite updates.		X
56	Provide progress reports for work completed and planned.		X
57	Provide Site Safety Orientations to all Contractors	X	
58	Attend mandatory Site Safety Orientations and adhere to the Site safety plan.		X
59	Complete Lockout/Tagout.	X	
60	Review Lockout/Tagout.		X
61	Provide Hotwork Permits	X	
62	Provide First 1 hour of Firewatch		X
63	Provide Last 3 hours of Firewatch	X	
64	Approve Extra Work Authorizations (EWA's), if necessary.	X	
65	Provide first aid supplies and facility.	X	
66	Provide access to an ambulance service.	X	
	Waste Removal and Control		
67	Keep work area clean.	X	X

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

68	Dispose of all fluids, solvents, and hazardous materials or wastes (solid and/or liquid) that are used in conjunction with or because of the project.	X	
69	Responsible for all asbestos insulation or asbestos material identification, removal, and disposal.	X	
70	Responsible for removal and disposal of all lead paint.	X	
71	Disposal of scrap parts.	X	
	Demobilization		
72	Arrange for the return shipping of all Contractor tools and equipment.		X

3.008 Work included under these specifications. Contractor will be responsible for supplying the following materials, equipment, and services in addition to the division of responsibilities above. **See Appendix A** for further detailed outage scope.

General:

- Ensuring the safety of the existing plant equipment during the overhaul processes
- Arrangements and transportation for any outside machine shop or repair facility for component(s) repair needed to complete project. Costs of transportation by Owner.
- Conduct any rotating equipment balancing refinement required
- Perform any unit alignment changes if required.
- Removal and replacement of lagging.
- Remove and re-install insulation. If existing insulation is determined to be unusable, the supply of new insulation will be handled on a change order basis.

Project Management: Provide planning, scheduling, coordination, and full-time supervision of all work being performed on the units’ turbine, valves, controls and associated equipment as specified. The Contractor’s team will manage the following tasks to ensure all checks are completed:

- Project planning, scheduling and manpower projection, using computer-based planning and scheduling tools. A Critical Path Method (CPM) schedule will be provided to the Owner for review at least 60 days before commencement of overhaul.
- Coordinate turbine and component open, inspection, and closing. Engineering recommendation and modifications as required by this scope.
- Coordinate and work with Toshiba TAs and customer supplied personnel for successful and on time completion of the project.
- Coordination and supervision of all Contractor supplied personnel and/or subcontractors.
- Scheduling and coordination of blast cleaning, NDE, electrical testing and all other Contractor provided subcontractors, as supplied.
- Monitoring and evaluating activities to ensure the project is on track for schedule completion.

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

- Provide competent project management personnel well versed in Toshiba Steam Turbine equipment engineering, maintenance and operating practices. A completed resume and job history will be provided for all contractor-supplied personnel (this is not required for craft labor).
- Collect necessary pre-outage performance data.

Turbine – Typical Open, Clean, and Close overhaul of the HP/IP and LP turbine with these additional items:

- Contractor to remove diaphragms from HP stages 2-13 and IP stages 14-19 and prepare for shipment. TA and Contractor will coordinate shipment to the Toshiba Milwaukee Service Center. Toshiba shop to remove existing diaphragm abradable seals and install new conventional seals. Once returned, Contractor to re-install.
- Replace Stages 14/15 diaphragms. Owner and Toshiba will be supplying fully machined diaphragms with packing rings and a spill strip.
- Inspection of Cross-Over
- IP Rotor Cooling Valve Inspection
- **Turning Gear Repair at Toshiba Milwaukee Service Center**
- **HP/IP Rotor Sent to Toshiba Milwaukee Service Center**

Alignment Checks – Alignment checks will be made as listed below. If major misalignment is indicated because of these checks, or because of major parts change-out, the required realignment will be handled as an extra cost item. All alignment and clearance checks are to be made with the unit cold unless otherwise noted.

- Gib key clearance checks.
- Rub check on radial steam baffles.
- Check points of axial rubbing.
- Check coupling alignment at assembly.
- Coupling alignment will be checked at disassembly if unit is cold.
- Diaphragm alignment

Rotor Position

- Check and record wheel, diaphragm, packing clearances and rotor position at disassembly.
- Spot check wheel, diaphragm packing clearances and rotor position at reassembly.

Bearings

- Check and record the condition of Babbitt, ball seat and journals (visual).
- Record bearing contact area (journal and thrust bearings).

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

- Lightly clean bearing Babbitt surface(s) to remove any embedded foreign particles.
- Check and record journal clearances. Recommend corrective action as necessary.
- Visually examine bearing ring to ball seat and bearing cap contact. Check and record pinch on each bearing.
- Measure and record diameters of bearings.
- Measure and record bearing twist and tilt as required.
- Measure and bump check thrust bearing clearance. Taper and flatness checks per Toshiba specifications.
- Remove, disassemble, inspect reassemble and align thrust bearing wear detector.
- Check all oil strainers.

Turbine Rotors

- ~~Indicate and record rotor runouts.~~
- Remove turbine rotors.
- Make visual inspection of rotors.
- Record size and physical condition of journal surfaces.
- Visually examine condition of coupling face, rabbet fit and bolt holes. Measure and record coupling fits.
- Determine rub pattern and record.
- Visually examine notch block and bucket pins for evidence of movement.
- Examine balance weights; check for tightness; record position of weights in all rings.
- **Onsite Low Speed Balance of LP Rotor**

Diaphragms

- Remove diaphragms, as necessary.
- Make visual inspection of partitions, steam joints, keys and bridges.
- Record unusual erosion patterns.

Shells and Exhaust Hood (upper Halves Only, Removed)

- Visually examine upper and lower interior surfaces, ledges, struts, heat baffles, and companion fits for erosion, distortion and/or galling.
- Clean horizontal joints and examine for distortion.
- Examine (visual only) drain holes for blockage and/or erosion.
- Visually inspect atmospheric relief diaphragms.
- Visually inspect all bolting and record bolt extensions.
- Re-assemble using applicable high temperature joint compound and thread lubricant. Stress joint bolts as necessary and record stress valves.

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

Packings

- Record condition of steam packing and springs.
- Record condition of diaphragm packing and springs.
- Sharpen teeth, as required.
- Clean, as required.

Oil Deflectors

- Record conditions.
- Clean, as required.
- Record clearances.

Valves – Normal inspection work will consist of visual examination and re-establishing design stem-to-bushing clearance by cleaning. Typical Open, Clean and Close overhaul the MS/CV and two Combined Reheat Stop/Intercept valves with these additional items:

- Main Stop and Control valve actuators will need to be sent into the OEM for refurbishment. Contractor to prepare for shipment. Owner to coordinate shipping and offsite repair.
- Combined Reheat Stop/Intercept valves have spare actuators onsite. Contractor to replace actuators and palletize old actuators for future refurbishment.

Main Stop Valve

- Disassemble steam side only for inspection.
- Check condition of discs and seats (visual) including contact check between seat and disc.
- Record clearances and check runout of stems (3 locations).
- Clean stems and bushing, as required per try bar test.
- Visually examine steam strainers.
- Record bolt extensions.

Control Valve

- Check condition of discs and seats (visual) including contact between seats and discs.
- Record clearances and check runout of stems (3 locations).
- Clean stems and bushings, as required by try bar tests.
- Inspect linkages, pins and bearings.

Combined Reheat Valves

- Disassemble steam side only for inspection.
- Check condition of discs and seats (visual) including contact check between seat and disc.

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

- Record clearances and check runout of stems (3 locations).
- Clean stems and bushing, as required per try bar test.
- Inspect linkages, pins and bearings.
- Visually examine steam strainer.
- Record bolt extensions.

Turning Gear

- See Appendix 1 Section 13
- ~~Remove and prepare for shipment to Toshiba MSC~~
- ~~Examine gears for contact pattern and condition. — MSC Scope~~
- ~~Check clearance between clash gear and bull gear.~~
- ~~Check engaging mechanism.~~
- ~~Install new replacement hydraulic cylinder.~~

EHC System – Normal inspection work will consist of the following items:

- Visually inspect the power unit.
- Clean the fluid reservoir after the fluid has been removed.
- Remove and visually inspect strainers/ filters and replace as required.

Lubrication System

Oil Tank

- Visually inspect condition of oil tank, clean, if necessary, and check all unions and flanges for tightness.

Bearing & Seal Oil Pumps

- Disassemble impeller casing and check seal ring clearances.
- Visually inspect impeller and casing.
- Clean and inspect screens.

Emergency Bearing & Seal Oil Pump

- Disassemble pump and record bearing and seal ring clearances.
- Inspect condition of component parts.
- Clean and inspect screens.

Oil Flush

- Clean spare oil transfer tank prior before outage ends and transferring begins.
- A mini lube oil flush will be performed which consists of installing fine mesh screens, supplied by Purchaser, on the in-line bearing strainers and running the lube oil system

SECTION 3 - GENERAL DESCRIPTION AND SCOPE OF WORK – REVISION 1

for a period not to exceed 24 hours total operation. Additional oil flushing, if required, will be an extra to the contract.

Seal Oil Skid

- Disassemble and inspect the differential pressure regulator.

Generator, Exciter, and Hydrogen Systems – These systems were inspected and overhauled in 2023. No work is necessary for these items.

Start-up and Check-out - Operational checks after completion of overhaul shall be made jointly with Contractor and Owner personnel.

Prior to Start-Up

- Check foundation for interference and expansion restrictions.
- Check operation of main stop, control and combined valves.
- Check operation of oil pumps.
- Check operation of non-return valves.
- Check all trips, drains, and run-backs.

During Start-Up

- Check vibration readings.
- Check unit temperatures.
- Check governor exerciser.
- Check thrust bearing wear detector settings.
- Check trip anticipator and/or backup overspeed trip.

Operation (Unit Synchronized)

- Check vibration readings
- Check valve testing devices for proper operation.
- Check performance data at same loads recorded prior to shut down.

Reporting – Contractor to provide a comprehensive written report that covers the inspection, conditions found, work performed, clearances and operational data recorded, rework of hardware and usage of spare and renewal parts.

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

1. *Before Mobilization*

- 1.1. The PLANT shall set up or otherwise have available air, power, and water supplies and connections for Contractor tooling and equipment.

2. *Mobilization and Pre-Outage*

- 2.1. Mobilize Contractors, tools, and equipment to PLANT.
- 2.2. Full crew to attend and pass the mandatory site safety orientation before beginning any work. The site safety orientation requires approximately one (1) hour.
- 2.3. Install floor covering as required (PLANT to provide materials).
- 2.4. Locate and stage cribbing (PLANT to provide materials).
- 2.5. Direct setup of scaffolding as needed (PLANT to provide scaffolding contractor).
- 2.6. Setup tools and review lay down area.
- 2.7. Obtain lockout/tagout and work permits from PLANT.

3. *On-site Valve Inspection (6 total: MSV (1), CV (1), IV (2), RSV (2))*

- 3.1. Disconnect and/or remove instrumentation (PLANT scope).
- 3.2. Uncouple actuator from valve stem.
- 3.3. Remove and cap actuator hydraulic lines.
- 3.4. Remove actuator from yoke.
- 3.5. Prepare MS and CV actuators for shipment
- 3.6. Ship MS and CV actuators to OEM (PLANT scope)
- 3.7. Disconnect steam leak-off flanges.
- 3.8. Ring/Tap test head studs
- 3.9. Heat stretch and remove valve head fasteners.
- 3.10. Lift cartridge from valve casing and place on timbers.
- 3.11. Remove strainers.
 - 3.11.1. Clean debris from strainer and visually inspect welds and screen condition.
 - 3.11.2. Blast clean strainer.
 - 3.11.3. Perform MPI on strainer.
- 3.12. Inspect head bolting:
 - 3.12.1. Visual inspection
 - 3.12.2. Removal of tapped studs is not included in the base work scope but will be handled on a change order if necessary
 - 3.12.3. Repairs or replacement parts are not included in the base work scope but will be handled on a change order if necessary
- 3.13. Perform dimensional and runout inspection on valve stems
- 3.14. Perform try bar check on valve bushings
- 3.15. Perform PT of all Stellite seating surfaces and CRV seat seal weld.
 - 3.15.1. Lapping will be performed only if necessary and as an EWA on a Time and Materials basis.
 - 3.15.2. Provision of lap tooling is PLANT scope.
- 3.16. Contact (blue) check valve disc to casing seat.
 - 3.16.1. Provision of lap tooling is PLANT scope.
- 3.17. Contact (blue) check pressure seal head to casing.
 - 3.17.1. Lapping will be performed only if necessary and as an EWA on a Time and Materials basis.
 - 3.17.2. Provision of lap tooling is PLANT scope.
- 3.18. Install strainers.
- 3.19. Install valve cartridges and yokes.

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

- 3.20. Heat stretch valve head bolting.
- 3.21. Install electrical boxes actuators (PLANT scope).
- 3.22. Install actuator and hydraulic lines.
- 3.23. Install leak off piping.
- 3.24. Install instrumentation (PLANT scope).

4. *HP Turbine – Disassembly, Cleaning, and Inspection*

- 4.1. HP/IP Turbine Disassembly
 - 4.1.1. Remove HP/IP Turbine Enclosure and appearance lagging.
 - 4.1.2. Remove insulation around HP/IP turbine casing.
 - 4.1.3. Disassemble front standard.
 - 4.1.4. Collect as-found rotor position and clearance checks.
 - 4.1.5. Remove front standard control devices and instrumentation (PLANT scope).
 - 4.1.6. Collect and record oil deflector readings.
 - 4.1.7. Remove oil deflectors.
 - 4.1.8. Record oil bore measurements.
 - 4.1.9. Remove crossover pipe.
 - 4.1.10. Disassemble mid standard.
 - 4.1.11. Check and record rotor position and thrust clearances.
 - 4.1.12. Disassemble upper half (UH) packing casings.
 - 4.1.13. Remove axial centering keys.
 - 4.1.14. Replace running keys with assembly keys.
 - 4.1.15. Record oil bore measurements.
 - 4.1.16. Ring/Tap test outer casing horizontal joint hardware.
 - 4.1.17. Unfasten the UH outer casing.
 - 4.1.18. Gap check UH outer casing.
 - 4.1.19. Remove UH outer casing.
 - 4.1.20. Ring/Tap test of inner casing horizontal joint bolting.
 - 4.1.21. Unfasten the UH inner casing.
 - 4.1.22. Gap check inner casing.
 - 4.1.23. Remove UH inner casing.
 - 4.1.24. Disassemble and remove UH diaphragms.
 - 4.1.25. Chart rotor (radial clearances, axial clearances, and rotor position) and check rotor float.
 - 4.1.26. Disassemble 'A' coupling. Perform as-found 16 point coupling alignment measurements.
 - 4.1.27. Remove UH #1, #2, and thrust bearings.
 - 4.1.28. Remove HP/IP rotor.
 - 4.1.29. Inspect HP/IP inner and outer casing horizontal joint bolting.
 - 4.1.30. Visually inspect high-temperature major hardware.
 - 4.1.31. UT high-temperature major hardware.
 - 4.1.32. Hardness check on high-temperature hardware.
 - 4.1.33. Removal of tapped studs is not included in the base work scope but can be quoted as extra work.
 - 4.1.34. Repairs or replacement parts are not included in the base work scope will be treated as extra work
 - 4.1.35. Remove lower half (LH) #1 and #2 bearings.
 - 4.1.36. Remove LH packing heads, packing casings, and oil seals.
 - 4.1.37. Record LH diaphragm side slip and elevation checks.

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

- 4.1.38. Remove LH diaphragms.
- 4.1.39. Package, load, and truck transport diaphragms to TAES’s repair facility in West Allis, WI.
- 4.1.40. Inspect outer casing sealing surfaces for erosion/damage.
- 4.1.41. Perform standard cleaning, measurements, NDE, and visual inspections of the HP/IP turbine components (hardware, coupling bolts, and rotor) per Toshiba standards.
- 4.1.42. Take fit dimensions for diaphragm crush pins and center slot.
- 4.1.43. Perform dimensional and visual inspections on rotor including:
 - 4.1.44. Journal Mapping
 - 4.1.45. Coupling Bolt Hole Diameters
 - 4.1.46. Blade Lift Check per TIC-TTIL-KS087001X
 - 4.1.47. Hardness readings of rotor surface, including coupling face, HP and IP inlet regions, and HP and IP exhaust regions.
 - 4.1.48. Rabbet Fit Diameters
 - 4.1.49. Oil Seal Land Diameters
 - 4.1.50. Gland Seal Land Diameters
 - 4.1.51. Visual Foil Inspections
- 4.1.52. Package, load, and truck HP/IP Rotor to Toshiba facility
- 4.1.53. Toshiba service shop inspection, testing, and reserved shop time
 - 4.1.53.1. Inspect
 - 4.1.53.2. Record runout readings
 - 4.1.53.3. Low Speed Balance
- 4.2. HP/IP Outer Casing Cleaning and Inspection
 - 4.2.1. Inspect IP cooling pipe for roundness and taper.
 - 4.2.2. Dye penetrant inspect IP cooling pipe Stellite overlays.
 - 4.2.3. Dimension diaphragm and packing head fits and centering pins
- 4.3. HP/IP Inner Casing Cleaning and Inspection
 - 4.3.1. Remove packing, retention pins/keys, and springs.
 - 4.3.2. Blast clean UH inner casing.
 - 4.3.3. Non-destructive examination
 - 4.3.4. Perform MPI on the UH casing
 - 4.3.5. Dimension diaphragm fits and centering pins.
 - 4.3.6. Hardness readings, including HP and IP inlet regions and HP and IP exhaust regions.
 - 4.3.7. Visual inspection of N-2 packing to check for embrittlement.

5. *HP and IP Diaphragm Inspections and Abradable Seal Replacement (Toshiba Scope)*

- 5.1. Ship Diaphragms to MSC (quantity: 19). Contractor Scope to Package and Ship, Owner to Cover Freight
- 5.2. Receive diaphragms at MSC and unload (quantity: 19).
- 5.3. Remove packing pins/keys and packing from diaphragms.
- 5.4. Blast clean – 100% of surfaces
- 5.5. NDE – MPI 100% of surfaces and PT all non-magnetic surfaces.
- 5.6. Incoming dimensional and visual inspections:
 - 5.6.1. Roundness.
 - 5.6.2. Drop Checks.
 - 5.6.3. Joint Gap Feeler Checks – Bolts Tight.
 - 5.6.4. Joint Flatness Checks – stages 16 and 17
 - 5.6.5. Hardness readings – stages 1, 13, 14, and 19.

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

- 5.6.6. Visual inspection of stage 1 and 2 packing to check for embrittlement.
- 5.6.7. Crush Pin Sizes.
- 5.6.8. Center Slot Width.
- 5.7. Component evaluation report.
 - 5.7.1. Repairs will be quoted upon discovery as extra work.
- 5.8. Machine the seal grooves
- 5.9. Disassemble each diaphragm as required for seal installation
- 5.10. Prepare the replacement seals for installation
- 5.11. Install the replacement seals
- 5.12. Machine the seals
- 5.13. Perform as-left dimensional inspection of the replacement seals
- 5.14. Re-assemble each diaphragm
- 5.15. Clean and debur
- 5.16. Prep for shipping and load.
- 5.17. Transport to Whelan Energy Center.

6. *Cross-Over Pipe Inspection*

- 6.1. Perform **Visual Inspection Only** and Improvement of Crossover Pipes per TIC TTHL C082004X Rev0
- ~~6.2. Grind off the welded joints of both of the protection cylinders on the flow side and on the balance side.~~
- ~~6.3. Remove two protective cylinders~~
- ~~6.4. Move the protection cylinders to facilitate inspection of the bellows and the bellows welded joints~~
- ~~6.5. Clean the inside surfaces of the bellows and PT the surfaces~~
- ~~6.6. Polish the welded joints of the bellows to remove surface roughness and conduct PT~~
- ~~6.7. Clean the inside surfaces of the bellows and remount the protection cylinders~~

7. *LP Turbine Major Inspection*

- 7.1. Disassembly
 - 7.1.1. Remove turning gear & cover
 - 7.1.2. Remove coupling cover
 - 7.1.3. Remove gib keys (measure and record gib key clearance prior to removal)
 - 7.1.4. Remove LP hood horizontal flange bolting
 - 7.1.5. Remove outer hood
 - 7.1.6. Disconnect spray pipe
 - 7.1.7. Remove joint shield plates and hand holes
 - 7.1.8. Loosen and remove horizontal joint bolting
 - 7.1.9. Remove inner casing upper half
 - 7.1.10. Remove upper half diaphragms
 - 7.1.11. Block rotor and chart clearances
 - 7.1.12. Uncouple rotor and record “As Found” alignment
 - 7.1.13. Check rotor float
 - 7.1.14. Remove UH #3 & #4 bearings
 - 7.1.15. Remove rotor
 - 7.1.16. Remove LH #3 & #4 bearings
 - 7.1.17. Blast clean steam path components
 - 7.1.18. NDE steam path components, rotor

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

7.2. Assembly

- 7.2.1. Install LH nozzle diaphragms
- 7.2.2. Tops On/Off Alignment
 - ~~7.2.2.1. Assemble UH inner cylinder~~
 - ~~7.2.2.2. Assemble LP hood~~
 - ~~7.2.2.3. Perform tops on wire alignment check~~
 - ~~7.2.2.4. Disassemble LP hood~~
 - ~~7.2.2.5. Disassemble UH inner cylinder~~
 - 7.2.2.6. Perform tops off wire alignment check
 - 7.2.2.7. Install and adjust nozzle diaphragms
 - 7.2.2.8. Adjust packing heads
- 7.2.3. Install LH #3 & #4 bearings
- 7.2.4. Install rotor
- 7.2.5. Chart rotor (radial clearances, axial clearances and rotor position)
- 7.2.6. Move and make adjustment if required
- 7.2.7. Assemble UH nozzle diaphragms
- 7.2.8. Assemble UH inner cylinder
 - 7.2.8.1. Install UH #3 & #4 bearings
 - 7.2.8.2. Assemble LP hood
 - 7.2.8.3. Assemble UH packing heads

8. *Journal Bearings (2 Tilting Pad and 2 Elliptical) - Disassembly, Inspection, and Reassembly (4)*

- 8.1. Disassemble bearings
- 8.2. Blue check pad bore diameters to the mandrel.
 - 8.2.1. Mandrels to be supplied by PLANT.
- 8.3. Visually inspect all bearing surfaces for damage.
 - 8.3.1. Photo document the as-found wear patterns of all the bearings.
- 8.4. Perform dimensional inspections of pads and casing backside wear per TIC-TTIL-KS107001X.
- 8.5. Visually inspect bearing hardware.
- 8.6. Non-destructive examination:
 - 8.6.1. Dye penetrant test for Babbitt integrity and bond at the perimeter.
 - 8.6.2. Ultrasonic test for Babbitt bond.
- 8.7. Measure bores of bearings at disassembly
- 8.8. Measure and record as-left bores (if bearings rebabbitted)
- 8.9. Install LH bearings for a blue check of spherical pads/ball fits.
- 8.10. Reassemble bearings
- 8.11. Check tilt and twist at final assembly and adjust as required
- 8.12. Complete top pad to pedestal cover pinch check at final assembly (if applicable)

9. *Thrust Bearing - Disassembly, Inspection, and Reassembly (1)*

- 9.1. Disassemble and perform a visual and dimensional inspection of thrust bearing assembly
- 9.2. Clean and inspect thrust bearing components
- 9.3. Visually inspect and NDE all components
- 9.4. Ultrasonically examine bearing pads
- 9.5. Dimensionally inspect thrust bearing components

10. *Packing Casings (2) and Packing Heads (2) – Cleaning and Inspection*

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

- 10.1. Remove packing, retention pins/keys and springs.
 - 10.1.1. Lower Outer Gland Casings will remain in-place and be hand cleaned and visually inspected.
 - 10.1.2. Clean packing.
 - 10.1.3. Packing scraping to be performed only if necessary and as an EWA on a Time and Materials basis.
- 10.2. Blast clean packing heads and casings.
- 10.3. Magnetic particle inspection.
- 10.4. Dimensional Inspection
 - 10.4.1. Horizontal joint gap checks – bolts loose and tight
 - 10.4.2. Roundness
 - 10.4.3. Centering slot clearances (packing heads)
 - 10.4.4. Outer casing fit groove width (packing heads)
 - 10.4.5. Pressure area sealing diameters (packing heads)
- 10.5. Removal of all leveling hardware.
- 10.6. Cleaning and chasing threads.
- 10.7. Reinstall all leveling hardware.

11. Oil Deflectors (3) – Cleaning and Inspection

- 11.1. Hand Clean
- 11.2. Visually inspect oil deflector seal teeth
- 11.3. Dimensional Inspection
 - 11.3.1. Horizontal joint gap check
 - 11.3.2. Roundness
 - 11.3.3. Seal teeth diameters

12. Coupling Hardware (2 set)

- 12.1. Clean coupling hardware by hand.
- 12.2. Magnetic particle inspect all hardware.
- 12.3. Dimensionally inspect coupling bolts:
 - 12.3.1. Diameters
 - 12.3.2. Runout

13. HIP Turbine – Re-Assembly

- 13.1. Install diaphragms, packing heads, packing casings, and oil seals.
 - 13.1.1. Note Stage 14 & 15 will be new from Toshiba.
- 13.2. Install LH #1, #2 and thrust bearings.
 - 13.2.1. Check bearing tilt and twist, adjust as required.
 - 13.2.2. Complete top pad to pedestal cover pinch check as required.
- 13.3. Perform tops off laser alignment.
 - 13.3.1. Perform alignment check.
 - 13.3.2. Adjust diaphragms, packing heads, and packing casings, and oil seals.
 - 13.3.3. Perform final alignment check.
- 13.4. Install HP/IP rotor.
- 13.5. Chart rotor (radial clearances, axial clearances, rotor position, and swing checks).
- 13.6. Verify rotor float.
- 13.7. Move and make diaphragm adjustments if necessary.
 - 13.7.1. Record final clearances.

APPENDIX A – OUTAGE SCOPE SUMMARY – REVISION 1

- 13.8. Assemble ‘A’ coupling. Perform as-left 16 point coupling alignment measurements.
- 13.9. Assemble UH diaphragms.
- 13.10. Assemble UH inner casing.
- 13.11. Assemble UH packing heads.
- 13.12. Assemble UH outer casing.
- 13.13. Assemble UH packing casings.
- 13.14. Install UH #1, #2 bearings.
- 13.15. Install front standard control devices and instrumentation (PLANT scope).
- 13.16. Assemble the front and mid standards.
- 13.17. Install crossover pipe.
- 13.18. Install UH oil deflectors.
- 13.19. Install remaining instrumentation (PLANT scope).
- 13.20. Install HP/IP turbine section enclosure and lagging.

14. Turning Gear – Updated Section

- 14.1. Disconnect turning gear electrically (PLANT scope)
- 14.2. Disassembly at Plant by Contractor
 - 14.2.1. Remove turning gear cover
 - 14.2.2. Remove UH and LH coupling covers
 - 14.2.3. Record as found dimensional checks
 - 14.2.4. Inspect horizontal joint flange
 - 14.2.5. Clean mating surfaces
 - 14.2.6. Prepare turning gear for transport
- 14.3. Transport to Milwaukee Service Center (PLANT Scope)
- 14.4. Disassembly and Inspection (Toshiba Scope)
 - 14.4.1. Receive, unload, and visually inspect turning gear
 - 14.4.2. Remove UH coupling covers/guards
 - 14.4.3. Disassemble turning gear, clean, and visually inspect components
 - 14.4.4. Examine gears for contact pattern and condition
 - 14.4.5. Check and record gear backlash
 - 14.4.6. Disassemble upper shafts and record shaft clearances
 - 14.4.7. Complete NDE dye penetrant of turning gear parts
 - 14.4.8. Disassemble, inspect, and adjust pinion engaging lever and gears
 - 14.4.9. Determine why turning gear won’t stay engaged, repair as necessary
 - 14.4.10. Reassemble turning gear. Check chain backlash.
 - 14.4.11. Prepare for shipping and load
- 14.5. Transport to Plant, receive, and unload (PLANT Scope)
- 14.6. Reassembly at Plant by Contractor
 - 14.6.1. Record as-left dimensional checks
 - 14.6.2. Install UH and LH coupling covers
 - 14.6.3. Install turning gear cover
 - 14.6.4. Examine bull gear for contact pattern and condition
 - 14.6.5. Check clearance between clash gear and bull gear
- 14.7. Connect turning gear electrically (PLANT Scope)

15. Demobilize.

- 15.1. Demobilize TA and Contractor personnel, equipment, and tooling.



Date: February 10th, 2026

To: PPGA Board of Directors

From: Engineering & Operations Committee

Re: Contract for Installation of Miscellaneous Platforms (PPGA 2026-02)

The PPGA Engineering & Operations (E&O) Committee met on Friday, February 6th, 2026, to discuss bids received for the installation of miscellaneous platforms at WEC2. Two valid bids were received for the project. The E&O Committee agrees with the operating agent that the bid of \$297,080.50 from DeWine Mechanical provides the lowest and best bid for PPGA.

The E & O Committee recommends that the PPGA Board of Directors approve Contract PPGA 2026-02 with DeWine Mechanical, in the amount of \$297,080.50, for installation of miscellaneous platforms at WEC2.



DATE : 2/04/26
TO : Micah McCaffery
FROM : Marina Richards
RE : Installation of Miscellaneous Platforms at WEC Unit 2 (PPGA 2026-02)

On January 28th, 2026, bids were opened for the Installation of Miscellaneous Platforms at WEC Unit 2 (PPGA 2026-02). A summary of the bids is given below:

BIDDER'S NAME	BID BOND	EXCEPTIONS	BID PRICE FOR ITEMS # 2&3
DeWine Mechanical	YES, 5%	NO	\$297,080.50
Judd Brothers	YES, 5%	NO	\$372,000.00

Bid packages were sent directly to several contractors and advertised in the Hastings Tribune. Only (3) three contractors responded to the bid request. Kiner' bid package arrived after the mandatory bid opening time; it was returned unopened.

The bid for this project has 5 items. In Proposal section of the specification for this project says that "PPGA may at its own discretion delete any project item prior to award of contract". After the bid evaluation, we decided to move forward with items 2&3 due to the budget. With these two items we are under the remaining budget of \$333,702.

The base scope of work for this contract includes all labor, management, tools, and equipment necessary to Install Miscellaneous Planforms for WEC Unit 2.

I recommend the award of Contract PPGA 2026-02 to DeWine Mechanical in the amount of \$297,080.50. This proposal is the lowest and best bid for PPGA.

I am available at your convenience to answer any questions you may have.

Sincerely,
 Marina Richards, PMP
 Structural Engineer





Date: February 10th, 2026

To: PPGA Board of Directors

From: Engineering & Operations Committee

Re: WEC2 DCS Evergreen & Engineers Certificate

The PPGA Engineering & Operations (E&O) Committee met on Friday, February 6th, 2026, to discuss the update of the WEC2 and common WEC1/2 DCS systems through the Evergreen Program and an Engineer's Certificate to allow single source supply of the software and services.

The E&O Committee agrees with the Operating Agent that due to the facts described in the Engineers Certificate, the equipment can only be sourced from Emerson and the use of the sealed bid process is impractical and unnecessary.

The E & O Committee recommends that the PPGA Board of Directors approve a contract with Emerson Process Management Power & Water for update of the WEC1 DCS and WEC1/2 common DCS, for the cost of \$1,042,193, not including sales tax, along with the associated Engineers Certificate.

Engineer's Certificate
Purchase of Emerson Ovation Evergreen
Whelan Energy Center Unit 2

Overview

The distributed control system (DCS) manufactured by Emerson Process Management Power & Water Solutions, Inc. (Emerson) is a critical component of Whelan Energy Center Unit 2 (WEC2) owned by PPGA. Emerson offers a service called an Evergreen Program. This program keeps the existing DCS up to date by managing and eliminating system obsolescence, by ensuring key elements of the control system are updated with the latest validated software, workstations, networks, I/O, security, and optimization technology. Public Power Generation Agency (PPGA) and Hastings Utilities (HU) utilize this update service at an approximately 7-year interval.

This Evergreen will update the DCS from Ovation 3.7 to 4.0 software, which will be a major update. The project takes approximately one year from start to finish.

There are five separate projects which impact the existing Emerson DCS: WEC1 DCS Evergreen, WEC1&2 Common Evergreen, WEC2 Evergreen, WEC2 Aux Boiler DCS addition, and WEC2 DCS Simulator Upgrades. The WEC1 DCS Evergreen's cost is covered by HU. The WEC1&2 Common Evergreen is covered by capacity share. The remaining three are solely owned by PPGA. These projects are all occurring congruently to ensure modifications to logic and updates to the DCS are similar to prevent re-work at the conclusion of each project.

Prudent Utility Practice dictates that PPGA enter into agreement with Emerson soon to begin the WEC2 DCS Evergreen and WEC1&2 Common DCS Evergreen to save cost and time on project management, standardize modifications, and eliminate cost escalations. These two projects will not be installed until the fall outage of 2027 but will include progress payments in 2026.

Under Nebraska Revised Statute Chapter 13, Section 13-824.01, Paragraph (5) that "...a joint entity may, without advertising or sealed bidding, purchase replacement parts or services relating to such replacement parts for any generating unit from the original manufacturer of such equipment upon certification by an engineer that such manufacturer is the only available source of supply for such replacement parts or services and that such purchase is in compliance with standards established by the governing body of the joint entity".

Factual Determination

1. The operator of WEC2, Hastings Utilities, must maintain the DCS as necessary to maintain reliable plant operation.
2. The existing WEC2 DCS was manufactured by Emerson (Contract 145300.64.0202).
3. The cost of an Evergreen update project with Emerson is a fraction of the cost to replace the DCS with a different vendor.
4. The Ovation DCS is an Emerson product, therefore making this a sole source solution.
5. Attached to this certification as Attachment "A" is a copy of the quotation associated with the WEC2 DCS Evergreen.
6. Attached to this certification as Attachment "B" is a copy of the quotation associated with the WEC 1 and 2 Common DCS Evergreen.
7. The purchase of the Evergreen from Emerson will help WEC2 maintain a reliable operation and provide electrical power to PPGA's members.

Conclusions

Given the Factual Determination, the undersigned as a registered engineer in the State of Nebraska hereby certifies pursuant to the Nebraska Revised Statute Chapter 13, Section 13-824.01 the following:
(a) the Evergreen project needed for the plant described above can only be sourced from Emerson and
(b) the use of the seal bid process for the purchase of the Evergreen for WEC2 is in my professional opinion impractical and not in the public interest.

Derek D Pfeifer, PE
February 3rd, 2026





Emerson
Power and Water Solutions
1000 Westinghouse Drive
Suite 500
Cranberry Township, PA 16066
USA

November 18, 2025

Public Power Generation Agency
Whelan Energy Center
4520 East South St.
Hastings, NE 68902

Subject: Whelan Energy Center – Unit 2 Ovation 3.7 to 4.X Evergreen Program
Emerson Firm Offer #CE250400491R1

Attention: Derek Pfeifer

Emerson Process Management Power & Water Solutions, Inc. (Emerson), part of the Emerson family of businesses, is pleased to submit this offer to Public Power Generation Agency for the Whelan Energy Center – Unit 2 Ovation 3.7 to 4.X Evergreen Program . This offer is based upon the attached commercial description and the contents within this submittal.

An Ovation Evergreen offers a convenient, cost-effective solution for managing and eliminating system obsolescence, by ensuring key elements of the control system are updated with the latest validated software, workstations, networks, I/O, security, and optimization technology. This upgrade will effectively protect your initial system investment, therefore prolonging and sustaining the system's life.

Features of an Ovation Evergreen:

- Extends the life of your investment by sustaining current, or incorporating new, technology in the system
- Addresses the changing needs of system security requirements
- Includes security features to comply with newly instituted regulations
- Avoids emerging maintenance issues caused by aging technology
- Adopts new I/O or digital bus technology and takes advantage of the associated asset maintenance and management tools
- Requires only short outages

The following Ovation Evergreen offer provides an overview of your system and the necessary planning needed for you to keep pace with advancements without budget overruns. Emerson looks forward to working with Public Power Generation Agency to achieve the highest levels of success for the Whelan Energy Center – Unit 2 Ovation 3.7 to 4.X Evergreen Program .

Thank you for the opportunity to submit this offer. If you should have any questions or require additional information, please feel free to contact me at (708)321-0244 or Quynh.Nguyen@emerson.com.

Best regards,

Quynh Nguyen

**Commercial Description for the Public Power Generation Agency Whelan Energy Center – Unit 2
Ovation 3.7 to 4.X Evergreen Program**

This document defines the commercial basis under which Emerson makes this offer.

Terms and Conditions	<p>All purchases of the Emerson offerings described in this offer document are subject to Emerson’s Standard Terms and Conditions of Sale located at https://www.emerson.com/en-us/my-account/terms-conditions (the “Terms”) unless the Parties have entered into a separate signed agreement that expressly covers the purchase of the software, goods, and services set forth in this offer document. Any such separate signed agreement or the Terms (as applicable) is hereinafter referred to as the “Governing Terms”.</p> <p>Some or all of the offerings in this Emerson offer are Software Offerings, which may include term-limited, subscription-based software licenses (“Subscription Offerings”) or perpetual software licenses (“Perpetual Offerings”) as indicated in this offer document. The license term for each Software Offering is as specified in this offer document (“License Term”). The License Term for Subscription Offerings may be automatically renewed in accordance with the Software License Agreement located at www.Emerson.com/Software-License-Agreement (the “Software License Agreement”). Notwithstanding anything to the contrary in any agreement between the parties, License Terms for Subscription Offerings are non-cancelable, and fees paid are non-refundable. If Licensee terminates the License Term prior to the end of the License Term, all amounts that would have become due for the remainder of the License Term shall accelerate and become immediately due and payable. Emerson’s provision of any software identified in a Software Offering is conditioned upon Licensee’s acceptance of the Software License Agreement. Notwithstanding anything to the contrary in the Governing Terms, Customer’s rights, and Emerson’s (and its affiliates) obligations, regarding Emerson software are governed solely by the Software License Agreement.</p>
Legal Name and Mailing Address	<p>Please use the following legal name and address for all purchase orders and contracts. Address hardcopy (or printed versions) to the same address if submitted by mail.</p> <p>Emerson Process Management Power & Water Solutions, Inc. 2507 Lovi Rd Building 3 / 3A Freedom, PA 15042-9395 USA</p> <p>Purchase orders sent by email should be addressed to your local representative.</p>
Purchase Order Requirements	<p>For Emerson to process a purchase order, the following must be included:</p> <ul style="list-style-type: none"> • Purchase order number • Emerson’s offer number, including revision number • Ship-to address • Bill-to address • Copy of tax certificate if your organization is tax exempt

Pricing	<p>Base Price</p> <p>The price for this Evergreen as offered is shown in the table below.</p> <p>Evergreen Pricing</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr style="background-color: #0056b3; color: white;"> <th style="text-align: center;">System</th> <th style="text-align: center;">Price</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Unit 2 DCS</td> <td style="text-align: center;">\$843,619</td> </tr> </tbody> </table> <p>Option Pricing</p> <p>Option pricing is only valid for purchase at the time of initial purchase order placement. Option work is intended to be executed at the same time as the Evergreen.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr style="background-color: #0056b3; color: white;"> <th style="text-align: center;">Option</th> <th style="text-align: center;">Price</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">In-House Training (4 Weeks)</td> <td style="text-align: center;">\$20,761</td> </tr> <tr> <td style="text-align: center;">On-Site Training (1 Week)</td> <td style="text-align: center;">\$64,285</td> </tr> <tr> <td style="text-align: center;">Recommended Spares</td> <td style="text-align: center;">\$63,288</td> </tr> </tbody> </table> <p>The prices shown are based on a 2027 installation.</p> <p>Taxes are not included in the price shown and will be added to each invoice. Delivery shall be FCA (Hastings, NE). Freight and handling charges will be added to the invoice.</p>	System	Price	Unit 2 DCS	\$843,619	Option	Price	In-House Training (4 Weeks)	\$20,761	On-Site Training (1 Week)	\$64,285	Recommended Spares	\$63,288
System	Price												
Unit 2 DCS	\$843,619												
Option	Price												
In-House Training (4 Weeks)	\$20,761												
On-Site Training (1 Week)	\$64,285												
Recommended Spares	\$63,288												
Terms of Payment	<p>Emerson’s offer is based exclusively upon the payment schedule below.</p> <p>Invoices will be issued for each of the milestones below. The amount of each invoice shall be calculated by applying the percentages (%) shown against the total order, including any changes. If the project is taxable, every invoice will include tax regardless of the milestone deliverables or definition. The tax amount is calculated using the taxable base on each invoice multiplied by the tax rate. For pro rata deliverables, Emerson reserves the right to submit multiple partial invoices proportionate to work completed associated with individual phases or deliveries.</p> <p>20% Upon Contract Award 30% Upon Initial DCS Hardware Drawings Submittal 40% Upon Shipment (on pro rata basis) 10% Upon Customer Acceptance (but in any event, no later than 90 days after last major product shipment)</p> <p>All payments are due Net 30 days from the date of the invoice. Payments to Emerson are to be direct bank transfer to the Emerson bank account stated in the contract or invoice, paid in either case from an account with a bank in the Public Power Generation Agency’s Country. Emerson may reject payment by any other method.</p>												

Delivery	<p>Standard delivery for an Evergreen is 36 Weeks after the formation of a contract for the purchase of the Emerson offerings.</p> <p>Delivery is based on current availability and will be confirmed after the formation of a contract for the purchase of the Emerson offerings.</p> <p>Emerson is committed to meeting the project schedule. However, in light of the current geopolitical, global supply chain and economic environment, some items in the bill of material may be substituted and/or the schedule may be impacted. Emerson will discuss these changes with Public Power Generation Agency before implementation.</p> <p>If, after the project has started, Public Power Generation Agency requests a delay in delivery, installation, or acceptance testing of any of the products or services purchased under this offer, then Emerson reserves the right to invoice for payment for all goods and services provided to date, and close out the project. Upon Emerson's request, Public Power Generation Agency will issue a new purchase order for any remaining scope of supply using the previously offered pricing.</p>
Hardware Exchange	<p>This Evergreen is based on hardware exchange, where the existing Ovation and WDPF components are returned to Emerson. For components not returned to Emerson, please note that the software (including any firmware) embedded in such components, is subject to Emerson's software license agreement, which specifies that the software is <u>non-transferable</u>. <u>Accordingly, Public Power Generation Agency may not resell, or otherwise transfer, any Ovation and WDPF components (e.g. controllers, I/O cards or modules, etc.), to the extent they include software, to a third party.</u></p>
Services	<p>Training included within this offer is available for up to ninety (90) days after complete system shipment.</p>
Bid Validity	<p>This offer shall remain valid for forty-five (45) days from the date of this letter, unless otherwise extended, modified, or withdrawn in writing by Emerson. The return of a purchase order acceptable to Emerson during such validity period will be sufficient to form an agreement based exclusively on the terms and conditions of this offer.</p>
Proprietary and Confidential Information	<p>This offer and any subsequent communications relative to this offer are considered to be proprietary and confidential information of Emerson. Accordingly, such proprietary and confidential information shall not be published, used, reproduced, transmitted, or disclosed to others outside your organization without prior written consent by Emerson.</p>
Questions & Support	<p>At Emerson, we value your feedback and are always looking for ways to improve our proposals. If you have any questions, comments, or need further clarification about the offer, please reach out to your sales representative or the offer owner. As an alternative, you can also contact us at our dedicated toll-free support line at 1-844-635-0100. Kindly reference the offer number in any correspondence for a quicker response.</p>



OFFER TO

PPGA Hastings Utilities

FOR THE

**Whelan Energy Center Unit 2
Ovation 3.7 to 4.X**

**OVATION™ AUTOMATION TECHNOLOGY
EVERGREEN PROGRAM
BILL OF MATERIALS**

**PROPOSAL NO. CE250400491 REVISION 1
DATE: 11/18/2025**

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1.0 CURRENT SYSTEM AND PROGRAM BASIS

According to our records, the current software level is Ovation 3.7 and consists of the hardware listed in the following table.

1.1 Current System Configurations

TABLE 1.1 UNIT 2 (SID: 0009-1107-3621)

Drop #	Hardware Type	Description	HW Exchanged/ HW Retained
225	Database Server	PowerEdge T550	HW Exchanged / Repurposed ¹
227	Ovation Process Historian (OPH)	PowerEdge T440	HW Exchanged
220	Operator Workstation / OPH Feeder (Dual)	OptiPlex 7050	HW Exchanged
221	OPC / Operator Workstation / OPH Feeder (Dual)	OptiPlex 7050	HW Exchanged
222	AMS / Operator Workstation / OPH Feeder (Dual)	OptiPlex 7050	HW Exchanged
223	Operator Workstation (Dual)	OptiPlex 7050	HW Exchanged
224	EDS Feeder / Remote Diagnosis / WAVE	OptiPlex 7050	HW Exchanged
232	Remote Data Server	OptiPlex 7050	HW Exchanged
235	Operator Workstation	OptiPlex 7050	HW Exchanged
236	Operator / Engineer Workstation	OptiPlex XE3	HW Exchanged
21/71	Redundant Controller	OCR1100	HW Exchanged
22/72	Redundant Controller	OCR1100	HW Exchanged
23/73	Redundant Controller	OCR1100	HW Exchanged
24/74	Redundant Controller	OCR1100	HW Exchanged
25/75	Redundant Controller	OCR1100	HW Exchanged
26/76	Redundant Controller	OCR1100	HW Exchanged
27/77	Redundant Controller (planned Aux Boiler Project 2025/2026)	OCR1100	HW Exchanged
ES1, ES2	Primary / Backup Root Switch	C2960+	HW Exchanged
ES3, ES4	Primary / Secondary Fanout Switch	C2960+	HW Exchanged
ES5	IP Traffic Switch	C2960+	HW Exchanged
-	Unconfigured Switch	C2960+	HW Exchanged
-	DMZ Router	ISR4321	HW Exchanged
-	(2) Field LAN Routers	ISR4321	HW Exchanged
-	(22) Media Converters	-	HW Exchanged
-	Media Converter Rack	-	HW Exchanged
-	Printer	HP4700	HW Retained

Notes:

1. The existing DB Server will be repurposed as the AV Server.

HW Exchanged – Existing hardware that will be upgraded with new hardware. The old, existing hardware will be returned to Emerson. This may include existing spare parts, if applicable.

HW Retained – Existing hardware that will be reused in the Evergreen program. All necessary software upgrades will be completed.

1.2 Major Changes Introduced in the Program

TABLE 1.2 MAJOR CHANGES

Item	Section	Description
System Hardware	2.0	<ol style="list-style-type: none"> Ovation controller upgrade Ovation workstation and monitor replacement Network architecture and media converter replacement
System Software	3.0	<ol style="list-style-type: none"> Upgrade the current Ovation system software to the latest Ovation software release at time of project implementation Upgrade the AMS Device Manager software to the latest version validated with the version of Ovation being installed at the time of project implementation Reconfigure and connect EDS feeders (Ovation Advanced Applications Group)
Simulator Services	5.0	<ol style="list-style-type: none"> Update Unit 2 Ovation Embedded simulator database Install and configure Curation Tool on Unit 2 Ovation Embedded simulator
Options	6.0	<ol style="list-style-type: none"> Ovation Evergreen Training Recommended Spares

2.0 SYSTEM HARDWARE

The existing Ovation system hardware that has been identified for exchange will be replaced with the most recently validated version of the hardware. Any changes or modifications to third-party/non-Emerson products and services included in this offer may have a material effect on important aspects of the offer, included, but not limited to, increased price and/or changes to the delivery schedule. The impact of such change(s) will be determined in Emerson's sole reasonable opinion, and a reasonable accommodation may be reached by mutual agreement of the parties.

Emerson is committed to meeting the project schedule. However, in light of the current geopolitical, global supply chain and economic environment, some items in the bill of material may be substituted and/or the schedule may be impacted. Emerson will discuss these changes with Public Power Generation Agency before implementation.

2.1 Ovation Controller

The OCR3000 Ovation controller series is the successor to the OCR1100 Ovation controller. The OCR3000 combines the processor and IOIC modules into a single module. The OCR3000 controller provides an interface for up to 16 branches of local I/O. The I/O interfaces remains identical to previous Ovation OCR controllers. The OCR3000 controller scans all 16 I/O branches in parallel, providing a significant performance increase.

TABLE 2.1 OVATION CONTROLLER

Item	Description	Qty
A	OCR3000 Redundant Ovation Controller Kit	7
B	Media Attachment Unit (MAU) Module (2 per redundant controller) ¹	12

Notes:

1. The OCR3000 also requires replacement of MAU modules. Remote IO has been identified on the following drops:
 - a. Drop 21/71 - 1 node
 - b. Drop 22/72 - 2 nodes
 - c. Drop 23/73 - 4 nodes
 - d. Drop 24/74 - 1 node
 - e. Drop 25/75 - 4 node
 - f. Drop 26/76 - 2 nodes

2.2 Workstations

The Evergreen workstation replacement is based on the principle of maintaining the same quantities and fundamental technologies as are currently being used. The workstations will be loaded with the operating system that is compatible with the Ovation software level being provided. The workstations listed below are for reference only and are subject to change at delivery. The actual models will be the standard product offerings from Emerson at the time of program execution.

TABLE 2.2 WORKSTATIONS

Item	Unit 2 Drop #	Qty	Description
A	225	1	Database Server / Engineering / Operator Workstation with: <ul style="list-style-type: none"> ▪ 1 – Dell Tower Server with 4 NIC Connections ▪ 1 – USB Optical Mouse & USB QWERTY Keyboard ▪ 1 – Internal DVD +/- RW Drive ▪ 4 – Internal 800GB Solid State Drives (RAID 1) ▪ 1 – Quad Head Graphics Card (Supports up to 4 Monitors, includes 4 mDP to DP adapters) ▪ 2 – Power Supplies (Redundant)
B	227	1	Ovation Process Historian / Engineering / Operator Workstation with: <ul style="list-style-type: none"> ▪ 1 – Dell Tower Server with 4 NIC Connections ▪ 1 – USB Optical Mouse & USB QWERTY Keyboard ▪ 3 – Internal 800GB Hot Swap Solid State Drives (RAID 5) ▪ 1 – Internal DVD +/- RW Drive ▪ 1 – Quad Head Graphics Card (Supports up to 4 Monitors, includes 4 mDP to DP adapters) ▪ 2 – Power Supplies (Redundant)
C	220 223 235 236	4	Operator Workstation with: <ul style="list-style-type: none"> ▪ 1 – Dell Mini-Tower Computer with 2 NIC Connections ▪ 1 – USB Optical Mouse & USB QWERTY Keyboard ▪ 1 – Internal DVD +/- RW Drive, Slimline ▪ 1 – Internal 512GB Solid State Drive ▪ 4 – On-board display ports, supports up to 4 Monitors ▪ 1 – Power Supply
D	221	1	OPC / Operator Workstation with: <ul style="list-style-type: none"> ▪ 1 – Dell Mini-Tower Computer with 3 NIC Connections ▪ 1 – USB Optical Mouse & USB QWERTY Keyboard ▪ 1 – Internal DVD +/- RW Drive, Slimline ▪ 1 – Internal 512GB Solid State Drive ▪ 4 – On-board display ports, supports up to 4 Monitors ▪ 1 – Power Supply
E	222	1	AMS / Operator Workstation with: <ul style="list-style-type: none"> ▪ 1 – Dell Mini-Tower Computer with 2 NIC Connections ▪ 1 – USB Optical Mouse & USB QWERTY Keyboard ▪ 1 – Internal DVD +/- RW Drive, Slimline ▪ 1 – Internal 512GB Solid State Drive ▪ 4 – On-board display ports, supports up to 4 Monitors ▪ 1 – Power Supply

Item	Unit 2 Drop #	Qty	Description
F	224	1	EDS Feeder / Remote Diagnostic / WAVE Workstation with: <ul style="list-style-type: none"> ▪ 1 – Dell Mini-Tower Computer with 3 NIC Connections ▪ 1 – USB Optical Mouse & USB QWERTY Keyboard ▪ 1 – Internal DVD +/- RW Drive, Slimline ▪ 1 – Internal 512GB Solid State Drive ▪ 4 – On-board display ports, supports up to 4 Monitors ▪ 1 – Power Supply
G	232	1	Remote Data Server Workstation with: <ul style="list-style-type: none"> ▪ 1 – Dell Mini-Tower Computer with 2 NIC Connections ▪ 1 – USB Optical Mouse & USB QWERTY Keyboard ▪ 1 – Internal DVD +/- RW Drive, Slimline ▪ 1 – Internal 512GB Solid State Drive ▪ 4 – On-board display ports, supports up to 4 Monitors ▪ 1 – Power Supply
H	-	14	LCD Monitor, 24"
I	-	2	LCD Monitor, 43" (Drop 223)
J	-	1	Desktop Synology Network Attached Storage (NAS, four 4TB drives)

2.3 Network – Fast Ethernet

The existing Ethernet switches will be replaced with the most recently validated Fast Ethernet switches. The new hardware will be placed in the existing network cabinet(s).

The network hardware listed in the table below will be configured per Emerson configuration standards. Any deviation from these standards, if requested or required, may result in additional engineering review and time added to the project schedule.

TABLE 2.3 NETWORK HARDWARE

Item	Description	Unit 2
A	Ethernet Switch, Root Switch	2
B	Ethernet Switch, Fanout Switch	2
C	Ethernet Switch, IP Traffic Switch	1
D	Ethernet Switch, Unconfigured Switch	1
E	Router, Field LAN	2
F	Router, DMZ	1
G	Media Converters	22
H	Media Converter Rackmount Chassis	1

Notes:

1. Network Architecture and Speed:
 - Second Generation
 - Speed: 100 Mbps

3.0 SYSTEM SOFTWARE

The Ovation system software will be upgraded from the current level to the latest Ovation 4.X software level. The workstations will be loaded with the operating system that is compatible with the upgraded Ovation software level.

TABLE 3.0 SYSTEM SOFTWARE

Item	Description	License Type	Unit 2
A	Ovation Database Server	Perpetual	1
B	Developer Studio and Control Builder	Perpetual	3
C	Graphics Builder – Ovation Legacy	Perpetual	3
D	Graphics Builder – Ovation View HMI	Perpetual	3
E	Operator License	Perpetual	10
F	Process Historian Base	Perpetual	1
G	Process Historian Point License – 25,000 Points	Perpetual	1
H	Process Historian Report Manager Server	Perpetual	1
I	Process Historian Report Builder	Perpetual	1
J	Process Historian Desktop Tools Base License (Excel Add-in)	Perpetual	1
K	Alarm Health Advisor	Perpetual	1
L	Data Server License	Perpetual	1
M	Remote Network Connection License	Perpetual	1
N	Ovation Redundant Controller	Perpetual	7
O	OPC Data Access Server	Perpetual	1
P	OPC Client Mapper	Perpetual	1
Q	ELC Protocol Analyzer Software License	Perpetual	1
R	ELC Configuration Software License	Perpetual	1
S	CPS Protocol for ELC: Modbus Master	Perpetual	1
T	SCADA Server License	Perpetual	1
U	SCADA Protocol: Turbine Control Interface Client	Perpetual	1
V	Turbine Control Interface	Perpetual	1
W	Server Client Access License (CAL), 5-pack	Perpetual	2
X	Antivirus Software	Perpetual	10
Y	Ovation Electronic Documentation (CD)	N/A	1

Note: The new Ovation View HMI graphics builder software is included in this offer. Engineering services to modernize existing graphics, or create new graphics, with Ovation View HMI are not included.

3.1 AMS Device Manager Update

The AMS Device Manager software update includes AMS Product Support services.

TABLE 3.1 AMS DEVICE MANAGER UPDATE (SID: 0002-0004-1530)

Item	Description	Part Number	Qty
A	AMS Device Manager Product Support; Version 14.X; English	AW7200V14XEN	1
B	Product Support for Returning Customers, with 24-Hour Telephone Support, 25 tags, 3 years	AW7040STRC0025-3	1

Note: AMS software updates are free of charge with active AMS Product Support. This offer assumes that an active AMS Product Support agreement will be in place at the time of installation.

4.0 ENGINEERING SERVICES

A key factor in the success of any project is experienced project management. Emerson has included time for an experienced project manager to plan, control, monitor, and report the status of the overall project.

During the kickoff meeting, the project schedule will be finalized, and the system hardware and application software freeze dates will be established. Any hardware and/or software change requested after the applicable freeze date may bring about additional scope of supply, and result in a contractual change (delivery schedule and/or price).

An outage will be required to upgrade the system. Each unit will need to be taken offline to perform the installation. This offer does not provide a phased installation nor mitigation plan.

TABLE 4.0 ENGINEERING SERVICES

Item	Description
Project Management	
A	Kickoff meeting at the customer site and back up/freeze the current application software
B	Order hardware and software
C	Contract administration
D	Monthly progress reports
Project Engineering	
E	Configure Domain Server with up to five (5) Domain User profiles
F	Upgrade the Ovation software to the latest current revision available at time of project implementation
G	Migrate existing Ovation database, control sheets, and graphics to the updated Ovation system
H	Upgrade the Ovation Process Historian (OPH) software to the latest revision available at time of project implementation
I	Upgrade the AMS Device Manager software to the latest revision validated with the revision of Ovation being installed at the time of project implementation
J	Configure and load the new controllers and workstations in factory
K	FAT at Emerson's Tinley Park office for up to five (5) days

4.1 On-Site Service

The total number of 8-hour field service days included in this offer are shown in the table below. Travel and living expenses are included. Additional days can be purchased at Emerson's prevailing rate at the time of execution or through a scheduled on-site service subscription.

TABLE 4.1.1 ON-SITE SERVICE DAYS

Item	Description	Days
A	Unit 2	20
B	EDS Feeder Configuration	1 Lot

TABLE 4.1.2 ON-SITE SERVICES

Item	Description
A	Replace all existing network switches with the current technology switches
B	Replace existing controllers with the current version Ovation controller
C	Replace media converters and rack
D	Replace the existing workstation PC's with current technology workstations and install the new stations at the same locations
E	Connect the new network hardware, controllers, workstations, and peripheral devices using the existing cables
F	Connect Emerson supplied equipment to the designated power source(s)
G	Transfer data from existing historian to the new OPH
H	Transfer existing reports into the new OPH
I	Reconfigure and connect EDS feeders (Ovation Advanced Applications Group)
J	Perform the system-wide testing before turning the system over to the customer <ul style="list-style-type: none"> ▪ Controller failover testing ▪ Switch failover testing ▪ Computer failover testing
K	Move the old system hardware to a designated area

Charges against the bank of days shall be as follows on a per field service engineer basis (no night shift differential will be charged).

Weekdays

First 8 hours that day @ 1 hour worked = 1 hour charged

Additional hours that day @ 1 hour worked = 1.5 hours charged

Saturdays

All hours that day @ 1 hour worked = 1.5 hour charged

Sundays & Holidays

All hours that day @ 1 hour worked = 2 hours charged

4.2 Customer Tasks

TABLE 4.2 CUSTOMER TASKS

Item	Description
A	Assist Emerson in identifying the hardware/software that will be upgraded
B	Assist Emerson in saving the application software and freeze the software
C	Assist Emerson in identifying where equipment will be installed
D	Install any required cabling (communications, power, etc.) needed to implement the Ovation system upgrade/change
E	Schedule removal of old system hardware from the plant site

5.0 SIMULATOR ENGINEERING SERVICES

This offer provides the following Simulator Engineering Services are part of the evergreen offer. These services are to be performed following the Unit 2 evergreen project

5.1 Update Unit 2 Ovation Embedded Simulator Database

The existing Unit 2 Ovation Embedded simulator will have the database updated with the Unit 2 evergreened database.

The total number of 8-hour field service days included in this offer are shown in the table below. Travel and living expenses are included.

TABLE 5.1 ON-SITE SERVICE DAYS (SID: 0009-1107-4705)

Item	Description	Days
A	Unit 2 Simulator Database Update	1 Lot (not to exceed 15 days)

5.2 Curation Tool Installation and Configuration Services

Simulator Engineering Services will install and configure the Curation Tool software on the Unit 2 Ovation Embedded simulator. These activities will be performed in conjunction with the Unit 2 Ovation Embedded simulator database update.

6.0 OPTIONS

The items in this section are not included in the base offer's scope of supply.

6.1 Optional – Ovation Evergreen Training

Emerson's Ovation training is conducted in a structured environment, balancing hands-on with lecture, regardless of where the training is conducted – in Pittsburgh (in-house) or at your location (on-site). The training requires the use of Ovation hardware systems.

- Training purchased as an option to the base scope of supply is available for up to 3 months after complete system shipment. Training not scheduled during this timeframe will expire and become unavailable. Please contact the Emerson training registrar (at the phone number listed below) for student registration.
- All on-site training is conducted 7:30 a.m. to 3:30 p.m. local time, Monday through Friday.
- Training may warrant the use of Ovation training rental equipment with a maximum of two students per rental station.
- Video recording of the training session is not permitted.
- Training contact information:
 - Please contact the Emerson training registrar at 800-445-9723, option 5, with any questions.
 - Course descriptions and schedules can be mailed, emailed or browsed at www.ovationusers.com.
- Please provide the registrar your project number when enrolling.

6.1.1 In-House Training

Four (4) weeks of in-house training are included in this option. In-house training will be conducted at Emerson's Training Center in Pittsburgh, PA, or an Emerson Regional Training Location (such as Charlotte, Chicago, Houston, Orlando, or Riverside). A full list of the Regional Training Locations, and the courses that are offered, can be found in the training brochure.

Recommended training courses for Evergreen customers are shown below. These courses are applicable for various plant personnel, such as plant managers, plant operators, engineers, and I&C technicians. Advanced or specialized courses are also available. Any combination of 5-day courses can be selected.

TABLE 6.1.1 IN-HOUSE TRAINING

Item	Description	Duration
A	OV230 – Ovation System Administration	5 days
B	OV301 – Ovation Best Practices	5 days
C	OV320 – Ovation Network Administration	5 days
D	OV360 – Ovation Security Administration	5 days

6.1.2 On-Site Training

One (1) week of on-site training is included in this option. Training will be performed on Ovation training rental equipment at the customer's site. The travel and living expenses of Emerson's training instructor are included.

TABLE 6.1.2 ON-SITE TRAINING

Item	Description	Duration
A	OV115 – Ovation Evergreen – Newest Features	5 Days

- OV115 is designed to teach the Ovation Windows 4.X software utility packages from a higher level. This course provides instruction on the Ovation Windows studio of application programs including the building of point records, control sheets, graphic displays, and the loading, saving, and downloading of each entity. Topics of discussion include: basic network, architecture and components, operator functions, Developer Studio features, control and graphics building, and basic system configuration
- Each session accommodates up to a maximum of six (6) students.
- Three (3) rental workstations with controllers will be provided for use during the classes and will be loaded with Emerson's standard training load set.

6.2 Optional – Recommended Spares

As part of any maintenance program, Emerson recommends having a supply of critical spare parts for the Ovation system. Spare parts can help save time and money when replacing a part during normal maintenance or in an emergency. The following table lists the recommended spare parts included in this option.

TABLE 6.2 RECOMMENDED SPARES

Item	Description	Qty
A	24-Port Ethernet Switch	1
B	DMZ Router	1
C	Field LAN Router	1
D	Desktop Server	1
E	Desktop Workstation	1
F	OCR3000 Ovation Controller	1



Emerson
Power and Water Solutions
1000 Westinghouse Drive
Suite 500
Cranberry Township, PA 16066
USA

December 23, 2025

Public Power Generation Agency
Whelan Energy Center
4520 East South St.
Hastings, NE 68902

Subject: Whelan Energy Center – Common Ovation 3.7 to 4.X Evergreen Program
Emerson Firm Offer #CE261100086R0

Attention: Derek Pfeifer

Emerson Process Management Power & Water Solutions, Inc. (Emerson), part of the Emerson family of businesses, is pleased to submit this offer to Public Power Generation Agency for the Whelan Energy Center – Common Ovation 3.7 to 4.X Evergreen Program . This offer is based upon the attached commercial description and the contents within this submittal.

An Ovation Evergreen offers a convenient, cost-effective solution for managing and eliminating system obsolescence, by ensuring key elements of the control system are updated with the latest validated software, workstations, networks, I/O, security, and optimization technology. This upgrade will effectively protect your initial system investment, therefore prolonging and sustaining the system's life.

Features of an Ovation Evergreen:

- Extends the life of your investment by sustaining current, or incorporating new, technology in the system
- Addresses the changing needs of system security requirements
- Includes security features to comply with newly instituted regulations
- Avoids emerging maintenance issues caused by aging technology
- Adopts new I/O or digital bus technology and takes advantage of the associated asset maintenance and management tools
- Requires only short outages

The following Ovation Evergreen offer provides an overview of your system and the necessary planning needed for you to keep pace with advancements without budget overruns. Emerson looks forward to working with Public Power Generation Agency to achieve the highest levels of success for the Whelan Energy Center – Common Ovation 3.7 to 4.X Evergreen Program .

Thank you for the opportunity to submit this offer. If you should have any questions or require additional information, please feel free to contact me at (708)321-0244 or Quynh.Nguyen@emerson.com.

Best regards,

Chi Nguyen

**Commercial Description for the Public Power Generation Agency Whelan Energy Center –
Common Ovation 3.7 to 4.X Evergreen Program**

This document defines the commercial basis under which Emerson makes this offer.

Terms and Conditions	<p>All purchases of the Emerson offerings described in this offer document are subject to Emerson's Standard Terms and Conditions of Sale located at https://www.emerson.com/en-us/my-account/terms-conditions (the "Terms") unless the Parties have entered into a separate signed agreement that expressly covers the purchase of the software, goods, and services set forth in this offer document. Any such separate signed agreement or the Terms (as applicable) is hereinafter referred to as the "Governing Terms".</p> <p>Some or all of the offerings in this Emerson offer are Software Offerings, which may include term-limited, subscription-based software licenses ("Subscription Offerings") or perpetual software licenses ("Perpetual Offerings") as indicated in this offer document. The license term for each Software Offering is as specified in this offer document ("License Term"). The License Term for Subscription Offerings may be automatically renewed in accordance with the Software License Agreement located at www.Emerson.com/Software-License-Agreement (the "Software License Agreement"). Notwithstanding anything to the contrary in any agreement between the parties, License Terms for Subscription Offerings are non-cancelable, and fees paid are non-refundable. If Licensee terminates the License Term prior to the end of the License Term, all amounts that would have become due for the remainder of the License Term shall accelerate and become immediately due and payable. Emerson's provision of any software identified in a Software Offering is conditioned upon Licensee's acceptance of the Software License Agreement. Notwithstanding anything to the contrary in the Governing Terms, Customer's rights, and Emerson's (and its affiliates) obligations, regarding Emerson software are governed solely by the Software License Agreement.</p>
Legal Name and Mailing Address	<p>Please use the following legal name and address for all purchase orders and contracts. Address hardcopy (or printed versions) to the same address if submitted by mail.</p> <p>Emerson Process Management Power & Water Solutions, Inc. 2507 Lovi Rd Building 3 / 3A Freedom, PA 15042-9395 USA</p> <p>Purchase orders sent by email should be addressed to your local representative.</p>
Purchase Order Requirements	<p>For Emerson to process a purchase order, the following must be included:</p> <ul style="list-style-type: none"> • Purchase order number • Emerson's offer number, including revision number • Ship-to address • Bill-to address • Copy of tax certificate if your organization is tax exempt

Pricing	<p>Base Price The price for this Evergreen as offered is shown in the table below.</p> <p>Evergreen Pricing</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr style="background-color: #2c5e8c; color: white;"> <th style="text-align: center;">System</th> <th style="text-align: center;">Price</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Common</td> <td style="text-align: center;">\$198,574</td> </tr> </tbody> </table> <p>Option Pricing Option pricing is only valid for purchase at the time of initial purchase order placement. Option work is intended to be executed at the same time as the Evergreen.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr style="background-color: #2c5e8c; color: white;"> <th style="text-align: center;">Option</th> <th style="text-align: center;">Price</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">In-House Training (4 Weeks)</td> <td style="text-align: center;">\$20,761</td> </tr> <tr> <td style="text-align: center;">On-Site Training (1 Week)</td> <td style="text-align: center;">\$64,285</td> </tr> </tbody> </table> <p>Notes:</p> <ol style="list-style-type: none"> 1. The prices shown are based on a 2027 installation. 2. The upgrade of Common Unit is in conjunction with Unit 2 Upgrade <p>Taxes are not included in the price shown and will be added to each invoice. Delivery shall be FCA (Hastings, NE). Freight and handling charges will be added to the invoice.</p>	System	Price	Common	\$198,574	Option	Price	In-House Training (4 Weeks)	\$20,761	On-Site Training (1 Week)	\$64,285
System	Price										
Common	\$198,574										
Option	Price										
In-House Training (4 Weeks)	\$20,761										
On-Site Training (1 Week)	\$64,285										
Terms of Payment	<p>Emerson’s offer is based exclusively upon the payment schedule below.</p> <p>Invoices will be issued for each of the milestones below. The amount of each invoice shall be calculated by applying the percentages (%) shown against the total order, including any changes. If the project is taxable, every invoice will include tax regardless of the milestone deliverables or definition. The tax amount is calculated using the taxable base on each invoice multiplied by the tax rate. For pro rata deliverables, Emerson reserves the right to submit multiple partial invoices proportionate to work completed associated with individual phases or deliveries.</p> <p>20% Upon Contract Award 30% Upon Initial DCS Hardware Drawings Submittal 40% Upon Shipment (on pro rata basis) 10% Upon Customer Acceptance (but in any event, no later than 90 days after last major product shipment)</p> <p>All payments are due Net 30 days from the date of the invoice. Payments to Emerson are to be direct bank transfer to the Emerson bank account stated in the contract or invoice, paid in either case from an account with a bank in the Public Power Generation Agency’s Country. Emerson may reject payment by any other method.</p>										

Delivery	<p>Standard delivery for an Evergreen is 36 Weeks after the formation of a contract for the purchase of the Emerson offerings.</p> <p>Delivery is based on current availability and will be confirmed after the formation of a contract for the purchase of the Emerson offerings.</p> <p>Emerson is committed to meeting the project schedule. However, in light of the current geopolitical, global supply chain and economic environment, some items in the bill of material may be substituted and/or the schedule may be impacted. Emerson will discuss these changes with Public Power Generation Agency before implementation.</p> <p>If, after the project has started, Public Power Generation Agency requests a delay in delivery, installation, or acceptance testing of any of the products or services purchased under this offer, then Emerson reserves the right to invoice for payment for all goods and services provided to date, and close out the project. Upon Emerson's request, Public Power Generation Agency will issue a new purchase order for any remaining scope of supply using the previously offered pricing.</p>
Hardware Exchange	<p>This Evergreen is based on hardware exchange, where the existing Ovation and WDPF components are returned to Emerson. For components not returned to Emerson, please note that the software (including any firmware) embedded in such components, is subject to Emerson's software license agreement, which specifies that the software is <u>non-transferable</u>. <u>Accordingly, Public Power Generation Agency may not resell, or otherwise transfer, any Ovation and WDPF components (e.g. controllers, I/O cards or modules, etc.), to the extent they include software, to a third party.</u></p>
Services	<p>Training included within this offer is available for up to ninety (90) days after complete system shipment.</p>
Bid Validity	<p>This offer shall remain valid for forty-five (45) days from the date of this letter, unless otherwise extended, modified, or withdrawn in writing by Emerson. The return of a purchase order acceptable to Emerson during such validity period will be sufficient to form an agreement based exclusively on the terms and conditions of this offer.</p>
Proprietary and Confidential Information	<p>This offer and any subsequent communications relative to this offer are considered to be proprietary and confidential information of Emerson. Accordingly, such proprietary and confidential information shall not be published, used, reproduced, transmitted, or disclosed to others outside your organization without prior written consent by Emerson.</p>
Questions & Support	<p>At Emerson, we value your feedback and are always looking for ways to improve our proposals. If you have any questions, comments, or need further clarification about the offer, please reach out to your sales representative or the offer owner. As an alternative, you can also contact us at our dedicated toll-free support line at 1-844-635-0100. Kindly reference the offer number in any correspondence for a quicker response.</p>



OFFER TO

PPGA Hastings Utilities

FOR THE

**Whelan Energy Center Common
Ovation 3.7 to 4.X**

**OVATION™ AUTOMATION TECHNOLOGY
EVERGREEN PROGRAM
BILL OF MATERIALS**

PROPOSAL NO. CE261100086 REVISION 0

DATE: 12/23/2025

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1.0 CURRENT SYSTEM AND PROGRAM BASIS

According to our records, the current software level is Ovation 3.7 and consists of the hardware listed in the following table.

1.1 Current System Configurations

TABLE 1.1 COMMON

Drop #	Hardware Type	Description	HW Exchanged/ HW Retained
190	AV Server	PowerEdge T440	HW Exchanged
198	Domain Controller	PowerEdge T440	HW Exchanged
197	Backup Domain Controller	PowerEdge T440	HW Exchanged
CS1, CS2	Primary / Backup Core Switch	C3560	HW Exchanged
-	GPS Clock	-	HW Exchanged

HW Exchanged – Existing hardware that will be upgraded with new hardware. The old, existing hardware will be returned to Emerson. This may include existing spare parts, if applicable.

HW Retained – Existing hardware that will be reused in the Evergreen program. All necessary software upgrades will be completed.

1.2 Major Changes Introduced in the Program

TABLE 1.2 MAJOR CHANGES

Item	Section	Description
System Hardware	2.0	<ol style="list-style-type: none"> Ovation workstation and monitor replacement Network architecture and media converter replacement
System Software	3.0	<ol style="list-style-type: none"> Upgrade the current Ovation system software to the latest Ovation software release at time of project implementation
Options	5.0	<ol style="list-style-type: none"> Ovation Evergreen Training Recommended Spares

2.0 SYSTEM HARDWARE

The existing Ovation system hardware that has been identified for exchange will be replaced with the most recently validated version of the hardware. Any changes or modifications to third-party/non-Emerson products and services included in this offer may have a material effect on important aspects of the offer, included, but not limited to, increased price and/or changes to the delivery schedule. The impact of such change(s) will be determined in Emerson's sole reasonable opinion, and a reasonable accommodation may be reached by mutual agreement of the parties.

Emerson is committed to meeting the project schedule. However, in light of the current geopolitical, global supply chain and economic environment, some items in the bill of material may be substituted and/or the schedule may be impacted. Emerson will discuss these changes with Public Power Generation Agency before implementation.

2.1 Workstations

The Evergreen workstation replacement is based on the principle of maintaining the same quantities and fundamental technologies as are currently being used. The workstations will be loaded with the operating system that is compatible with the Ovation software level being provided. The workstations listed below are for reference only and are subject to change at delivery. The actual models will be the standard product offerings from Emerson at the time of program execution.

TABLE 2.1 WORKSTATIONS

Item	Common Drop #	Qty	Description
A	197 198	2	Domain Controller with: <ul style="list-style-type: none"> ▪ 1 – Dell Tower Server with 4 NIC Connections ▪ 1 – USB Optical Mouse & USB QWERTY Keyboard ▪ 1 – Internal DVD +/- RW Drive ▪ 4 – Internal 800GB Solid State Drives (RAID 1) ▪ 1 – Quad Head Graphics Card (Supports up to 4 Monitors, includes 4 mDP to DP adapters) ▪ 2 – Power Supplies (Redundant)
B	190	1	AV Server <ul style="list-style-type: none"> ▪ Repurposed DB server (PowerEdge T550)
C	-	2	LCD Monitor, 24"

2.2 Network – Fast Ethernet

The existing Ethernet switches will be replaced with the most recently validated Fast Ethernet switches. The new hardware will be placed in the existing network cabinet(s).

The network hardware listed in the table below will be configured per Emerson configuration standards. Any deviation from these standards, if requested or required, may result in additional engineering review and time added to the project schedule.

TABLE 2.2 NETWORK HARDWARE

Item	Description	Common
A	Ethernet Switch, Core Switch	2
B	GPS Time Sync System	1

Notes:

1. Network Architecture and Speed:
 - Second Generation
 - Speed: 100 Mbps

3.0 SYSTEM SOFTWARE

The Ovation system software will be upgraded from the current level to the latest Ovation 4.X software level. The workstations will be loaded with the operating system that is compatible with the upgraded Ovation software level.

TABLE 3.0 SYSTEM SOFTWARE

Item	Description	License Type	Common
A	Ovation Domain Controller	Perpetual	2
B	Server Client Access License (CAL), 5-pack	Perpetual	1
C	Antivirus Software	Perpetual	3
D	Ovation Electronic Documentation (CD)	N/A	1

4.0 ENGINEERING SERVICES

A key factor in the success of any project is experienced project management. Emerson has included time for an experienced project manager to plan, control, monitor, and report the status of the overall project.

During the kickoff meeting, the project schedule will be finalized, and the system hardware and application software freeze dates will be established. Any hardware and/or software change requested after the applicable freeze date may bring about additional scope of supply, and result in a contractual change (delivery schedule and/or price).

An outage will be required to upgrade the system. Each unit will need to be taken offline to perform the installation. This offer does not provide a phased installation nor mitigation plan.

TABLE 4.0 ENGINEERING SERVICES

Item	Description
	Project Management
A	Kickoff meeting at the customer site and back up/freeze the current application software
B	Order hardware and software
C	Contract administration
D	Monthly progress reports
	Project Engineering
E	Configure Domain Server with up to five (5) Domain User profiles
F	Configure and load the new workstations in factory
G	FAT at Emerson's Tinley Park office for up to five (5) days

4.1 On-Site Service

The total number of 8-hour field service days included in this offer are shown in the table below. Travel and living expenses are included. Additional days can be purchased at Emerson’s prevailing rate at the time of execution or through a scheduled on-site service subscription.

TABLE 4.1.1 ON-SITE SERVICE DAYS

Item	Description	Days
A	Common	3

Note: Common and Unit 2 will be upgraded at the same time.

TABLE 4.1.2 ON-SITE SERVICES

Item	Description
A	Replace all existing network switches with the current technology switches
B	Replace the existing workstation PC’s with current technology workstations and install the new stations at the same locations
C	Connect the new network hardware, workstations, and peripheral devices using the existing cables
D	Connect Emerson supplied equipment to the designated power source(s)
E	Perform the system-wide testing before turning the system over to the customer <ul style="list-style-type: none"> ▪ Switch failover testing ▪ Computer failover testing
F	Move the old system hardware to a designated area

Charges against the bank of days shall be as follows on a per field service engineer basis (no night shift differential will be charged).

Weekdays

First 8 hours that day @ 1 hour worked = 1 hour charged
 Additional hours that day @ 1 hour worked = 1.5 hours charged

Saturdays

All hours that day @ 1 hour worked = 1.5 hour charged

Sundays & Holidays

All hours that day @ 1 hour worked = 2 hours charged

4.2 Customer Tasks

TABLE 4.2 CUSTOMER TASKS

Item	Description
A	Assist Emerson in identifying the hardware/software that will be upgraded
B	Assist Emerson in saving the application software and freeze the software
C	Assist Emerson in identifying where equipment will be installed
D	Install any required cabling (communications, power, etc.) needed to implement the Ovation system upgrade/change
E	Schedule removal of old system hardware from the plant site

5.0 OPTIONS

The items in this section are not included in the base offer's scope of supply.

5.1 Optional – Ovation Evergreen Training

Emerson's Ovation training is conducted in a structured environment, balancing hands-on with lecture, regardless of where the training is conducted – in Pittsburgh (in-house) or at your location (on-site). The training requires the use of Ovation hardware systems.

- Training purchased as an option to the base scope of supply is available for up to 3 months after complete system shipment. Training not scheduled during this timeframe will expire and become unavailable. Please contact the Emerson training registrar (at the phone number listed below) for student registration.
- All on-site training is conducted 7:30 a.m. to 3:30 p.m. local time, Monday through Friday.
- Training may warrant the use of Ovation training rental equipment with a maximum of two students per rental station.
- Video recording of the training session is not permitted.
- Training contact information:
 - Please contact the Emerson training registrar at 800-445-9723, option 5, with any questions.
 - Course descriptions and schedules can be mailed, emailed or browsed at www.ovationusers.com.
- Please provide the registrar your project number when enrolling.

5.1.1 In-House Training

Four (4) weeks of in-house training are included in this option. In-house training will be conducted at Emerson's Training Center in Pittsburgh, PA, or an Emerson Regional Training Location (such as Charlotte, Chicago, Houston, Orlando, or Riverside). A full list of the Regional Training Locations, and the courses that are offered, can be found in the training brochure.

Recommended training courses for Evergreen customers are shown below. These courses are applicable for various plant personnel, such as plant managers, plant operators, engineers, and I&C technicians. Advanced or specialized courses are also available. Any combination of 5-day courses can be selected.

TABLE 5.1.1 IN-HOUSE TRAINING

Item	Description	Duration
A	OV230 – Ovation System Administration	5 days
B	OV301 – Ovation Best Practices	5 days
C	OV320 – Ovation Network Administration	5 days
D	OV360 – Ovation Security Administration	5 days

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5.1.2 On-Site Training

One (1) week of on-site training is included in this option. Training will be performed on Ovation training rental equipment at the customer's site. The travel and living expenses of Emerson's training instructor are included.

TABLE 5.1.2 ON-SITE TRAINING

Item	Description	Duration
A	OV115 – Ovation Evergreen – Newest Features	5 Days

- OV115 is designed to teach the Ovation Windows 4.X software utility packages from a higher level. This course provides instruction on the Ovation Windows studio of application programs including the building of point records, control sheets, graphic displays, and the loading, saving, and downloading of each entity. Topics of discussion include: basic network, architecture and components, operator functions, Developer Studio features, control and graphics building, and basic system configuration
- Each session accommodates up to a maximum of six (6) students.
- Three (3) rental workstations with controllers will be provided for use during the classes and will be loaded with Emerson's standard training load set.



Date: February 10th, 2026

To: PPGA Board of Directors

From: Engineering & Operations Committee

Re: WEC2 7KV Protective Relay Replacement & Engineers Certificate

The PPGA Engineering & Operations (E&O) Committee met on Friday, February 6th, 2026, to discuss the purchase of replacement protective relays for the 7KV switchgear and an Engineer's Certificate to allow single source supply of the software and services.

The E&O Committee agrees with the Operating Agent that due to the facts described in the Engineers Certificate, the equipment is technologically complex and specialized, and the use of the sealed bid process is impractical and unnecessary.

The E & O Committee recommends that the PPGA Board of Directors approve a contract with SEL Engineering Services Inc. for the purchase of 7KV protective relay replacements, for the cost of \$216,347.27, including sales tax, along with the associated Engineers Certificate.

Engineer's Certificate
Purchase of 7KV Protective Relay Replacements
Whelan Energy Center Unit 2

Overview

On December 1st, 2024, Whelan Energy Center Unit 2 experienced a Boiler Feed Pump (BFP) motor failure after running approximately two days, which resulted in a fire. This was the third motor failure for this pump in less than six months. The BFP motor failure also caused the 7kV switchgear voltage to drop low enough to trip the Main Auxiliary transformer and other motors. Plant staff and Hastings Utilities (HU) Electrical Engineers immediately investigated the situation and had concerns about the protective relay settings. Staff hired Black and Veatch (B&V) to review the incident and evaluate the relay settings for both Switchgear 1 and 2 lineups.

B&V's incident investigation showed that the BFP motor fault was severe and generated a fault current value over 25kA. The BFP feeder breaker operated slowly, which extended the fault duration on the system and was likely the cause of the system voltages dropping significantly.

B&V's switchgear relay evaluation made recommendations to adjust the current imbalance settings, RTD alarm settings, and breaker failure settings.

After reviewing the B&V investigation and evaluation, HU Electrical Engineers are recommending that the plant replace the GE relays with Schweitzer relays. It was determined that the existing GE SR737, SR750, and SR469 relays have reached obsolescence, need replacement, and the settings need adjusted. Options were analyzed for cost, availability, and function. Schweitzer Engineering Laboratories (SEL) relays were chosen as the best replacement. The costs are very similar for GE and SEL. However, HU's electrical engineers are well versed in SEL's operation and programming from their substation responsibilities. Additionally, the SEL's offer readily available spares, time clock syncing capability with the DCS, review and modification of settings when actively protecting, and offer more granularity in the reporting of data. A similar replacement project was completed in 2024 for the WEC2 SUS relays, where SEL relays were installed. There are coordination and communication issues when mixing the GE and SEL relays, so this project would also standardize the relays in the switchgear room and mitigate any mis-operation and communication problems.

Prudent Utility Practice dictates that PPGA purchase the relays soon so that the new relays can be available for the fall 2026 outage. Although this project has readily available materials, there is a sizable amount of internal engineering design and plant coordination to successfully complete this project on time.

Under Nebraska Revised Statute Chapter 13, Section 13-824.01, Paragraph (3) that "...relating to sealed bids shall not apply to contracts entered into by a joint entity in the exercise of its rights and powers relating to radioactive material or the energy therefrom, any technologically complex or unique equipment, equipment or supplemental labor procurement from an electric utility or from or through an electric utility alliance, or any maintenance or repair if:

- (i) The engineer or engineers certify that, by reason of the nature of the subject matter of the contract, compliance with subsection (2) of this section would be impractical or not in the public interest;
- (ii) The engineer's certification is approved by a two-thirds vote of the governing body of the joint entity; and
- (iii) The joint entity advertises notice of its intention to enter into such contract, the general nature of the proposed work, and the name of the person to be contacted for additional information by anyone interested in contracting for such work."

Factual Determination

1. The operator of WEC2, Hastings Utilities, must address the protective relays to ensure the plant equipment has proper protection. Prudent practice is to replace them to mitigate further risk.
2. Protective relays are technologically complex items protecting millions of dollars of assets.
3. Due to engineering familiarity, readily available spares from the substation department, standardization efforts, and functionality, the selection of the equipment will not be solely cost based.
4. Due to the nature of this equipment, there are only two manufacturers HU would consider for this specialized equipment. The use of a sealed bid process is impractical and an unnecessary use of time and resources, and hence not in the public interest.
5. Attached to this certification as Attachment "A" is a copy of the quotation associated with the protective relay replacement.
6. Attached to the certification as Attachment "B" is a copy of the B&V Incident Investigation
7. Attached to the certification as Attachment "C" is a copy of the B&V Relay Setting Evaluation
8. The purchase of the relays from SEL will help WEC2 maintain a reliable operation and provide electrical power to PPGA's members.

Conclusions

Given the Factual Determination, the undersigned as a registered engineer in the State of Nebraska hereby certifies pursuant to the Nebraska Revised Statute Chapter 13, Section 13-824.01 the following: (a) due to the urgent circumstances associated with the WEC2 plant and based upon Prudent Utility Practice, the replacement relays needed for the plant described above should only be sourced from SEL and (b) the use of the seal bid process for the purchase of the protective relays for WEC2 is in my professional opinion impractical and not in the public interest.

Derek D Pfeifer, PE
January 31st, 2026





SEL Engineering Services, Inc.

City of Hastings

SEL Relay Replacement

SEL ES Project #: 039298.000.00 (Rev. 2)

Submitted: 5 Feb 2026

Customer: City of Hastings

Dale Reinhold

City of Hastings
101 4th Street East – City hall
Hastings, NE 55033
Office: +1.651.480.2350
Email: dreinhold@cityofhastings.org

Vendor: SEL Engineering Services, Inc.

Aprajita Sant, P.E

Senior Engineering Manager I
Office: +1.509.336.7158
Cell: +1.409.877.9845
Email: aprajita_sant@selinc.com

Kenny Barnett

Engineering Manager II
Office: +1.509.338.3790
Email: kenny_barnett@selinc.com

Additional Sales Contacts

Van Hough

Pro-Tech Power Sales
Office: +1.402.278.6647
Email: vough@pro-techpower.com

This proposal is valid for 60 days. SEL Engineering Services, Inc. (SEL ES) reserves the right to withdraw this offer if mutually accepted credit terms cannot be agreed upon.

This document, and all information contained herein, is proprietary to SEL Engineering Services, Inc. (SEL ES). Any unauthorized use, distribution, or reproduction of this document (in whole or in part) or of any information contained herein is specifically prohibited. This legend must appear on any authorized reproduction (in whole or in part).

All brand or product names appearing in this document are the trademark or registered trademark of their respective holders. No SEL trademarks may be used without written permission. SEL products appearing in this document may be covered by U.S. and Foreign patents.

SEL products referred to in the proposal are manufactured by Schweitzer Engineering Laboratories, Inc. (SEL)

Rev. 20251229

1 Purchase Order Instructions

SEL Engineering Services, Inc. (SEL ES) looks forward to partnering with you on this project. In order to accept and fully execute a purchase order (PO) for the scope of services and/or equipment included in this proposal, the following is provided to support the order process.

Please address PO to:

SEL Engineering Services, Inc.
2350 NE Hopkins Court
Pullman, WA 99163 USA

SEL ES Project/Quote Number: 039298.000.00

Terms and Conditions: By signing below, the Parties agree that this proposal is governed by SEL's standard terms and conditions located at: www.selinc.com/company/termsandconditions.

Payment Terms: Net 30 days after date of invoice

If your company does not have established credit terms sufficient to cover this purchase, SEL ES reserves the right to require any of the following: credit information, prepayment, letter of credit, or progress payments prior to acceptance.

Work cannot be initiated until adequate credit terms have been established.

PO Amount: _____

To accept this proposal and referenced terms, please return this sheet, signed and dated.

Customer: City of Hastings

Vendor: SEL Engineering Services, Inc.

Signature:

Signature:

Print Name:

Print Name:

Title:

Title:

Date:

Date:

2 Pricing

2.1 DRA Equipment Pricing

Scope Sec.	Part Number	Description	Price (USD)	Qty.	Ext. Price (USD)
3.1.1	7250-00120	Replace GE SR469 with eighteen (18) SEL-710 Motor Protection Relay Direct Replacement Assemblies (DRA)	\$10,623.00	18	\$191,214.00
3.1.1	7250-00155-0001	Replace GE SR750 with four (4) SEL-751 Feeder Protection Relay DRA	\$7,636.00	4	\$30,544.00
3.1.1	7250-00128-0002	Replace GE SR737 with one (1) SEL-751 relay DRA	\$5,760.00	1	\$5,760.00
Equipment Total (Fixed Fee)					\$227,518.00

2.2 Services Pricing

Scope Sec.	Description	Price (USD)
3.2.1	Protection Settings and ICTR Plan (Fixed Fee)	\$49,468.00
3.2.2	Bench Testing (Fixed Fee)	\$15,135.00
3.2.3	Design Changes for DRA Solution (Fixed Fee)	\$73,755.00
3.2.4	Demolition, Installation and Commissioning (Per Diem)	\$88,000.00
Services Total		\$226,358.00
Total Equipment and Services (Fixed Fee and Per Diem)		\$453,876.00

Note: This includes project management and administrative costs.

Option: Loose Relay Equipment Pricing

Scope Sec.	Part Number	Description	Price (USD)	Qty.	Ext. Price (USD)
3.1.2	071050E1A1B9X6X85A301 (Key 710#N0YX)	SEL-710 Motor Protection Relay	\$ 6,838.20	18	\$123,087.60
3.1.2	751001A1A6X7A85BD00 (Key 751#78GA)	SEL-751 Feeder Protection Relay	\$ 3,850.63	4	\$15,402.52
3.1.2	751001A2A0X0X851D00 (Key 751#6GDK)	SEL-751 Feeder Protection Relay	\$1,975.38	1	\$1,975.38
Total Option Product Price					\$140,465.50

2.3 Milestone Payment Schedule

No.	Description	Payment Milestone
Equipment Payment Schedule		
1	DRAs ordered	\$113,759.00
2	DRAs shipped	\$113,759.00
Services Payment Schedule		
3	Receipt of purchase order	\$40,000.00
4	Completion of bench testing	\$15,135.00
5	Issue for Construction (IFC) design drawings	\$33,755.00
4	Protection settings submitted	\$49,468.00
6	Completion of commissioning (Per Diem)	\$88,000.00
Total Project Price (USD)		\$453,876.00

2.4 Optional Loose Relays Payment Schedule

No.	Description	Payment Milestone
Equipment Payment Schedule		
1	Loose Relays ordered	\$70,232.50
2	Loose Relays shipped	\$70,233.00
Optional Total Price (USD)		\$140,465.50

All quoted prices are exclusive of any sales, value-added, or similar taxes, which will be added, if applicable, at the statutory rate(s) at the time of invoicing.

Unless indicated otherwise in this proposal, the price does not include the cost of any payment, performance, and/or warranty security instrument.

On-site work will be invoiced monthly on a per diem basis per Rate Table 1, Section 3.4.

3 Scope Detail

SEL direct-replacement assemblies (DRAs) are complete, preassembled retrofit kits—each designed to match the features, form-factor, and terminal block arrangement of a specific legacy relay. These assemblies combine field-proven SEL relays with specialized mounting plates, interposing terminal blocks, and other hardware to ensure quick and seamless upgrades. Each assembly is designed to fit the existing panel opening and mounting holes, minimizing the need for panel modifications. The terminal block arrangement and wiring designations closely match the prior installation, which dramatically reduces the impact on drawing sets, the likelihood of installation errors, and the time required for installation.

All SEL products are backed by a worldwide, ten-year warranty; no-charge diagnostic and repair services; and local technical support. In addition, SEL Engineering Services, Inc. (SEL ES) offers complete design, settings conversion, installation, and commissioning services—providing turnkey retrofit solutions.

3.1 EQUIPMENT

SEL ES will provide the following equipment to City of Hastings (“Customer”).

3.1.1 DRA Bill of Materials

- Eighteen (18) SEL-710-5 Motor Protection Relay Direct Replacement Assemblies. SEL sales item number: 710#N0YX, DRA part number: 7250-00120 replacing existing eighteen (18) GE SR469 relays.
- Four (4) SEL-751 Feeder Protection Relay Direct Replacement Assemblies. SEL sales item number: 751#78GA, DRA part number: 7250-00155-0001 replacing existing four (4) GE SR750 relays.
- One (1) SEL-751 relay Direct Replacement Assembly. SEL sales item number: 751#6GDK, DRA part number: 7250-00128-0002 replacing existing one (1) GE SR737 relay.

3.1.2 Loose Relays Bill of Materials

- Eighteen (18) SEL-710-5 Motor Protection Relay replacing existing eighteen (18) GE SR469 relays.
 - SEL Part Number: 071050E1A1B9X6X85A301 (Key 710#N0YX).
- Four (4) SEL-751 Feeder Protection Relay replacing existing four (4) GE SR750 relays.
 - SEL Part Number: 0751001A1A6X7A85BD00 (Key 751#78GA).
- One (1) SEL-751 Feeder Protection Relay replacing existing one (1) GE SR737 relay.
 - SEL Part Number: 751001A2A0X0X851D00 (Key 751#6GDK).

SEL-710-5 Motor Protection Relay

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Summary

Sales Item Number	710#NOYX <input type="checkbox"/>
Part Number	071050E1A1B9X6X85A301 <input type="checkbox"/>
Special Spec	None <input type="checkbox"/> RECONFIGURE (*SS*)

Standard Features

Protection

- Thermal Elements
- Overcurrent
- Over/Underfrequency
- Over/Undervoltage
- Breaker Monitoring
- Breaker Failure
- Broken Bar Detection

Hardware

- 3-Phase AC Current Inputs, Slot Z
- Neutral AC Current Input, Slot Z
- 3-Phase AC Voltage Inputs, Slot Z
- 2 Digital Inputs (DI), Slot A
- 3 Digital Outputs (DO), Slot A
- Multimode Fiber ST (Port 2), Slot B

Human-Machine Interface (HMI)

- Display
- Programmable Pushbuttons with Two Tri-Color LEDs each
- 8 Target Tri-Color LEDs (6 Programmable)
- Operator-Control Interface
- User-Configurable Labels
- EIA-232 (Port F)
- Multilanguage Support

Protocols

- Modbus RTU
- SEL ASCII and Compressed ASCII
- SEL Fast Meter, Fast Operate, Fast SER
- SEL Fast Message
- Ymodem File Transfer
- SEL MIRRORRED BITS Communications

Other

- ACSELERATOR QuickSet SEL-5030 Software
- User Configurable Labels

Selected Options

User Interface	English
Front Panel	5-inch Color Touchscreen With 8 Pushbuttons <i>acSELERATOR Bay Screen Builder SEL-5036 software is available with touchscreen models.</i>
Slot A Power Supply Voltage	110–250 Vdc (110–240 Vac)
Slot A Digital Input Voltage	125 Vdc/Vac
Slot B Ethernet (Port 1)	Single 10/100BASE-T <i>The protocols SNMP, IEEE 1588-2008 firmware-based PTP and Modbus TCP are included.</i>
Slot B Rear Serial Port (Port 3)	EIA-485
Slot B IRIG-B/PTC	IRIG-B
IEC 61850 Protocol	No
DNP3 Protocol	No
IEC 60870-5-103 Protocol	No
EtherNet/IP Protocol	No
Slot C	4 DI / 4 DO Electromechanical (Form A)
Slot C Digital Input Voltage	24 Vdc/Vac
Slot D	10 RTD Inputs
Slot D Digital Input Voltage	NA
Slot E	4 AI / 4 AO (±20 mA or ±10 V Range)
Slot E Digital Input Voltage	NA
Slot Z Current/Voltage Inputs	5 Amp Phase, 5 Amp Neutral, 3-Phase AC Voltages (300 Vac)
Conformal Coat	Yes

SEL-751 Feeder Protection Relay

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Summary

Sales Item Number	751#78GA
Part Number	751001A1A6X7A85BD00
Special Spec	None RECONFIGURE (*SS*)

Standard Features

Protection

- Overcurrent
- Over/Under Frequency
- Harmonic Blocking
- Breaker Monitoring
- Breaker Failure
- IEC Thermal Element

Hardware

- 3-Phase AC Current Inputs (Slot Z)
- Neutral AC Current Input (Slot Z)
- 2 Digital Inputs (DI) (Slot A)
- 3 Digital Outputs (DO) (Slot A)
- IRIG-B Time Code Input (Slot B)

Human Machine Interface (HMI)

- Display
- Programmable Pushbuttons with Two Tri-Color LEDs each
- 8 Target Tri-Color LEDs (6 Programmable)
- Operator Control Interface
- User Configurable Labels
- EIA-232 Port (Port F)
- Multi-Language Support

Protocols

- IEEE C37.118 Synchrophasors
- Modbus RTU
- SEL ASCII and Compressed ASCII
- SEL Fast Meter, Fast Operate, Fast SER
- SEL Fast Message
- Ymodem File Transfer
- SEL MIRRORRED BITS Communications
- Event Messenger

Other

- ACCELERATOR QuickSet SEL-5030 Software
- User Configurable Labels

Selected Options

Advanced Features	None
User Interface	English
Front Panel	5-inch Color Touchscreen With 4 Pushbuttons
Slot A Power Supply Voltage	110-250 Vdc (110-240 Vac); 50/60 Hz
Slot A Digital Input Voltage	125 Vdc/Vac
Slot B Ethernet (Port 1)	Single 10/100BASE-T Ethernet <i>The protocols SNMP, IEEE 1588-2008 firmware-based PTP and Modbus TCP are included.</i>
Slot B Multimode Fiber ST (Port 2)	No
Slot B Rear Serial Port (Port 3)	EIA-485
IEC 61850 Protocol	No
DNP3 Protocol	No
IEC 60870-5-103 Protocol	No
EtherNet/IP Protocol	No
Slot C	4 DI / 4 DO Electromechanical (Form A)
Slot C Digital Input Voltage	125 Vdc/Vac
Slot D	4 AI / 4 AO (± 20 mA or ± 10 V range)
Slot D Digital Input Voltage	NA
Slot E	Vsync (300 Vac) / Vbat (300 Vdc) / 7 DI <i>4 ACI / 3 AVI card required in Slot Z.</i>
Slot E Digital Input Voltage	125 Vdc/Vac
Slot Z Voltage Inputs	3-Phase AC Voltage (300 Vac)
Slot Z Current Inputs	5 Amp Phase, 5 Amp Neutral
Conformal Coat	No
DMA Bundle	No

SEL-751 Feeder Protection Relay

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Summary

Sales Item Number	751#6GDK <input type="checkbox"/>
Part Number	751001A2A0X0X851D00 <input type="checkbox"/>
Special Spec	None <input type="checkbox"/> RECONFIGURE (*SS*)

Standard Features

Protection

- Overcurrent
- Over/Under Frequency
- Harmonic Blocking
- Breaker Monitoring
- Breaker Failure
- IEC Thermal Element

Hardware

- 3-Phase AC Current Inputs (Slot Z)
- Neutral AC Current Input (Slot Z)
- 2 Digital Inputs (DI) (Slot A)
- 3 Digital Outputs (DO) (Slot A)
- IRIG-B Time Code Input (Slot B)

Human Machine Interface (HMI)

- Display
- Programmable Pushbuttons with Two Tri-Color LEDs each
- 8 Target Tri-Color LEDs (6 Programmable)
- Operator Control Interface
- User Configurable Labels
- EIA-232 Port (Port F)
- Multi-Language Support

Protocols

- IEEE C37.118 Synchrophasors
- Modbus RTU
- SEL ASCII and Compressed ASCII
- SEL Fast Meter, Fast Operate, Fast SER
- SEL Fast Message
- Ymodem File Transfer
- SEL MIRRORRED BITS Communications
- Event Messenger

Other

- ACSELERATOR QuickSet SEL-5030 Software
- User Configurable Labels

Selected Options

Advanced Features	None
User Interface	English
Front Panel	2x16 LCD With 4 Pushbuttons
Slot A Power Supply Voltage	110-250 Vdc (110-240 Vac); 50/60 Hz
Slot A Digital Input Voltage	125 Vdc/Vac
Slot B Ethernet (Port 1)	Single 10/100BASE-T Ethernet <i>The protocols SNMP, IEEE 1588-2008 firmware-based PTP and Modbus TCP are included.</i>
Slot B Multimode Fiber ST (Port 2)	No
Slot B Rear Serial Port (Port 3)	EIA-485
IEC 61850 Protocol	No
DNP3 Protocol	No
IEC 60870-5-103 Protocol	No
EtherNet/IP Protocol	No
Slot C	8 DO Electromechanical (Form A)
Slot C Digital Input Voltage	NA
Slot D	Empty
Slot D Digital Input Voltage	NA
Slot E	Empty
Slot E Digital Input Voltage	NA
Slot Z Voltage Inputs	3-Phase AC Voltage (300 Vac)
Slot Z Current Inputs	5 Amp Phase, 5 Amp Neutral
Conformal Coat	No
DMA Bundle	No

3.2 SERVICES

3.2.1 Protection Settings

SEL ES will convert existing GE relay settings and logic to SEL relay settings for the following relays. SEL relay settings will be provided in .rdb ACSELERATOR QuickSet® SEL-5030 format.

- Four (4) SEL-751 Feeder Protection Relays
- Eighteen (18) SEL-710 Motor Protection Relays
- One (1) SEL-751 Feeder Protection Relay

This does not include services to create new logic and can be provided upon customer request.

3.2.2 Bench Testing

SEL ES will bench test the following SEL relays for settings conversion from GE relays at the SEL ES facility in Lakewood, CO, and provide a report in Adobe Acrobat (.pdf) format for the relays listed in Section 3.2.1 This includes the cost for the use of Omicron test set.

SEL ES will also provide and/or complete the following:

- Relay Omicron or Doble Test Plans.
- Relay Omicron or Doble Test Reports.

3.2.3 DRA Solution Design Changes

SEL ES will modify as many as ninety-five (95) customer-provided existing .dwg or .dgn drawings to show demolition of existing GE relays and installation of SEL relays. SEL ES will provide text changes as applicable for as many as eighty-five (85) drawings to show demolition of existing GE relays and the installation of SEL relays. The following type of drawings will be modified:

- One-line drawing
- Three-line drawing
- Panel layouts
- ac/dc schematics
- Wiring Diagrams

The price does not include services to redraw existing .pdf, TIFF format drawings to CAD or MicroStation copies. If digital copies are unavailable, SEL ES will evaluate the effort to convert existing scanned or .pdf copies and may provide a cost impact.

Note: All drawings will be provided in AutoCAD format (.dwg) version 2013 unless otherwise noted.

Design change cost for loose relay solution can be provided upon request.

3.3 Installation, Testing, and Commissioning

SEL ES will provide up to twelve (12) days of onsite support by two (2) SEL ES Engineers/Technicians at the Customer's facility in Columbus, NE, to demolish existing GE relays and install and commission new SEL DRAs listed in section 3.2.1. This includes the cost of travel and related expenses, and the use of the Omicron test set and will be invoiced on a Per Diem basis. Support will be provided over two (2) mobilizations per SEL ES Engineer /Technician.

SEL ES will also provide and/or complete the following:

- Isolation, commissioning, testing, and restoration plan
- Relay Omicron or Doble test plans
- Relay Omicron or Doble test reports
- Relay Sequence of Events summary
- Triggered relay event reports after energization
- Relay meter report after energization
- As-left relay setting files
- Red-marked P&C drawings
- Field Service Report
- Drawing point-to-point wiring check markups
- Customer-specific required training for work at Customer facility

To learn more about how SEL ES will apply safety, human performance tools, energy control processes, as well as how we will handle emergent situations, please visit [Onsite Commissioning Services](#).

3.4 Per Diem/Unit Pricing

SEL ES will perform onsite work on a per diem basis unless the Customer and SEL ES agree on other arrangements. The party identifying a potential change in scope will request the change of scope to the other in writing (fax, email, or letter). SEL ES will identify any budget or schedule impact and submit it for approval. SEL ES will proceed with the work as soon as SEL ES receives written approval, in accordance with established contract provisions. Refer to Table 1 for the per diem rates.

Table 1 Per Diem Rate Table (USD)

Item	Description	Price (USD)
1	Mobilization fee per U.S. personnel	Distant (requires air travel) = \$5,850 Local (within 200 miles) = \$2,950
2	Daily rate per U.S. personnel	Weekday rate = \$2,950/day Saturday rate = \$4,425/day Sunday and holiday rate = \$5,900/day
3	SEL Test Equipment	\$450/day
4	SEL Vehicle	\$150/day

All quoted prices are exclusive of any sales, value-added, or similar taxes, which will be added, if applicable, at the statutory rate(s) at the time of invoicing.

The following details apply to Table 1:

- No receipts will be provided as part of the per diem rates.
- The mobilization fee is defined to include the labor and travel costs associated with transporting one person roundtrip to and from the Customer site.
- The daily rate is the charge per person, per day. Typical working hours are 8 a.m. to 6 p.m., Monday through Friday. Lunch shall be up to 60 minutes with two 15-minute breaks each day. If all the onsite work cannot be performed during typical working hours, then the daily per diem rate will be billed at 1.5 times the above rate for work performed Monday through Friday. Onsite work performed on Saturday, Sunday, or on a holiday shall be agreed upon between the Customer and SEL ES in advance and be subject to additional charges.
- Time spent by SEL ES personnel on site while waiting standby, training, or traveling to and from the site will be considered billable time.
- Per diem rates are valid for work performed within one year of the proposal date.
- Holidays observed for U.S. Offices include New Year’s Day (observed), Civil Rights Day, Memorial Day, Juneteenth, Independence Day (observed), Labor Day, Veterans Day, Thanksgiving Day, Thanksgiving Friday, and Christmas Day (observed).

4 Deliverables to SEL ES

4.1 Deliverables to SEL ES

The Customer will provide the following items to SEL ES:

1. An approved one-line and three-line drawing for the project.
2. Customer protection philosophy.
3. Power system model in Aspen, ETAP or SKM.
4. Manufacturer equipment/station drawings.
5. Manufacturer equipment nameplates.
6. A review and approval of the initial deliverable package.
7. Drawing index or drawing transmittal sheet that includes drawing number, revision number, and description.
8. An approved one-line and three-line drawing for the project.
9. Drawing templates, standards, and numbers. If not supplied, then the project will use SEL ES drawing templates, standards, and numbers.
10. Customer outage plan
11. Primary equipment switching steps and lockout/tagout procedure with dates
12. Customer example ICTR plans, if available.
13. Site-specific/Customer training requirements
14. Required personal protective equipment
15. Site point of contact information and site address

5 SEL ES Project Execution

5.1 Schedule

SEL ES will provide a schedule after the kickoff meeting with the Customer. For more information, please visit [Schedule](#).

In the event a delay involves a demobilization and remobilization, whether the same is due to a Customer request, SEL ES will implement its Suspension, Work During Disputes, and Termination policy. To learn more, please visit the [terms of this policy](#).

SEL ES is committed to the safety of its employees and customers, and our employees practice work rules to ensure compliance with industry standard safety methods and federally mandated requirements. To learn more, please visit [SEL ES Safety Program](#).

5.2 Quality

SEL ES strives to design, develop, and deliver dependable, quality solutions that exceed Customer expectations. To learn more, please visit [Project Quality Plan](#).

5.3 Cybersecurity – Project Passwords

To maintain security during the processes of engineering, fabrication, factory tests, shipment, delivery, onsite testing, and commissioning, the electronic devices in this system are assigned project passwords. They are specific to this project and are controlled at SEL ES on a strict need-to-know basis.

As part of the final deliverables from SEL ES, the Customer will receive documentation identifying the project passwords in each of the delivered products. SEL ES recommends that the Customer change the project passwords to Customer-defined passwords upon receipt of their products.

SEL ES policy is to change passwords; however, SEL ES will follow the Customer policy regarding passwords as advised.

6 Clarifications and Exceptions

SEL ES developed the scope of work, schedule, and price based on the information provided to us as listed in this proposal. Should additional or changed work be required, including such work resulting from unusual conditions or for any other reasons that are not evident from the information provided, changes to the price or schedule may result.

SEL ES will assign a project manager to the project. The project manager will oversee and maintain the schedule within SEL ES. The project manager will also be the point of contact with the Customer in order to maintain a smooth flow of information.

For safety reasons, SEL ES service personnel will not plan to work more than 10 hours per day. Should job requirements dictate work hours in excess of 10 hours per day, SEL ES and the Customer must review the requirements and agree on an appropriate plan that addresses safety concerns and the reasonableness of the hardship that the excessive hours place on SEL ES personnel.

6.1 Clarifications

1. Assemblies supplied as part of this proposal are standard SEL design. Special customizations or deviations from the standard assembly including relay MOT may be subject to additional cost.
2. For deliverable drawings, SEL ES has allowed for one (1) revision cycle based on Customer review; any additional revision cycles may result in an extra charge.
3. Commissioning schedule will be based on availability of staff at the time the outage dates are confirmed and locked in. Commissioning can be scheduled on holidays, weekends upon customer request for an additional cost.
4. As onsite commissioning support is provided as part of this proposal, SEL ES engineers will work under the direction of the Customer's engineer and will assist with technical issues that arise during commissioning.
5. The Customer shall provide a senior electrician, or otherwise qualified person, to assist with commissioning activities on site. This would include:
 - a. Assistance with point-to-point testing to verify correctness of wiring
 - b. Assistance with wiring corrections if any errors are encountered
6. The Customer will perform all lockout/tagout (LOTO) switching, grounding operations, and create all required switching orders and LOTO work permits.

6.2 Exceptions

None