CITY OF GRAND ISLAND

Working Together for a Better Tomorrow. Today.

BID SPECIFICATION PACKAGE

for

PLATTE GENERATING STATION TURBINE OVERHAUL 2023

C132692

Bid Opening Date/Time

July 11, 2023 at 2:15 p.m. (local time)
City of Grand Island, City Hall
100 East 1st Street, P.O. Box 1968
Grand Island, NE 68802-1968

Contact Information

Tylor Robinson
City of Grand Island – Utilities Department
Platte Generating Station
Email: trobinson@giud.com
Phone: 308/385-5496

Date issued: June 22, 2023

ADVERTISEMENT TO BIDDERS
FOR
PLATTE GENERATING STATION TURBINE OVERHAUL 2023
FOR
CITY OF GRAND ISLAND, NEBRASKA

Sealed bids for Platte Generating Station Turbine Overhaul 2023 will be received at the office of the City Clerk, 100 E. First Street, P.O. Box 1968, Grand Island, Nebraska 68802, until **Tuesday, July 11, 2023 at 2:15 p.m. local time,** FOB the City of Grand Island, freight prepaid. Bids will be publicly opened at this time in the Grand Island City Hall City Clerk's Office located on 1st floor of City Hall. **Submit an original and three copies if submitting by mail.** Bid package and any Addendas are also available on-line at www.grand-island.com under Business-Bids and Request for Proposals-Bid Calendar under the bid opening date. Bidding documents, plans and specifications for use in preparing bids may be downloaded from the QuestCDN website www.QuestCDN.com for a $42.00 fee. Submitting through QuestCDN requires one original document of the bid to be uploaded. **Bids received after the specified time will not be considered**.

The successful bidder will be required to comply with fair labor standards as required by Nebraska R.R.S.73-102 and comply with Nebraska R.R.S. 48-657 pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. Successful bidder shall maintain a drug free workplace policy. Every public contractor and his, her or its subcontractors who are awarded a contract by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

Each bidder shall submit with the bid a certified check, a cashiers check, or bid bond payable to the City of Grand Island Treasurer in an amount no less than five percent (5%) of the bid price which shall guarantee good faith on the part of the bidder and the entering into a contract within fifteen (15) days at the bid price if accepted by the City. **Your certified check, cashiers check or bid bond must be submitted in a separate envelope attached to the outside of the envelope containing the bid. Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information and correct number of copies in clearly marked and separate envelopes will result in your bid not being opened or considered.** Only surety companies authorized to do business in the State of Nebraska may issue bid bonds.

Bids will be evaluated by the Purchaser based on price, schedule, quality, adherence to schedule, plan and specifications, economy and efficiency of operation, experience and reputation of the bidder, ability, capacity, and skill of the bidder to perform contract required and adaptability of the particular items to the specific use intended.

The Purchaser reserves the right to reject any or all bids, to waive irregularities therein, and to accept whichever bid that may be in the best interest of the City, at its sole discretion.

No bidder may withdraw his/her bid for a period of thirty (30) days after date of bid opening.

RaNae Edwards, City Clerk

Advertised

(All bids must be submitted on this form)

PLATTE GENERATING STATION TURBINE OVERHAUL 2023
BID DATA FORM

CITY OF GRAND ISLAND
GRAND ISLAND, NE

THE undersigned Bidder, having examined the plans, specifications, general and special conditions, and other proposed contract documents, and all addenda thereto, and being acquainted with and fully understanding all conditions relative to the location, arrangement and specified materials and equipment for the proposed work, HEREBY proposes to identify and communicate the open, clean, and close services required for a medium steam turbine-generator inspection for a 45-day outage (breaker-to-breaker) FOB the City of Grand Island, freight prepaid, at the following price:

ITEM DESCRIPTION	EXTENDED COST
Base Bid:	
Material	$ _____
Labor	$ _____
Applicable Sales tax*	$ _____
Total Base Bid	**$ _____**

*** If bidder fails to include sales tax in their bid price or takes exception to including sales tax in their bid price, the City will add a 7.5% figure to the bid price for evaluation purposes; however, the City will only pay actual sales tax due.**

☐ **Exceptions Noted -** Bidder acknowledges there are *Exceptions* and/or *Clarifications* noted to the above bid, and those exceptions are fully explained on a separate sheet, clearly marked, and included with the Bid.

_____
Bidder Company Name Date

_____
Company Address City State Zip

_____
Print Name of Person Completing Bid Signature

Email:_____ Telephone No._____

According to Nebraska Sales and Use Tax Requirements, Section 1-017, Contractors, check which option you have selected to file with the Nebraska Department of Revenue:

Nebraska law provides a sales and use tax exemption on contractor labor charges for the construction, repair, or annexation of any structure used for the generation, transmission, or distribution of electricity. Separately stated contractor labor would be exempt, all materials are taxable according to the contractor's option.

Option 1 (Section 1-017.05)_____ Option 2 (Section 1-017.06)_____ Option 3 (Section 1-017.07)_____

If the Nebraska sales and use tax election is not filed or noted above, the contractor will be treated as a retailer under Option 1 for sales and use tax purposes.

☐ By checking this box, Bidder acknowledges the specified completion date of the project is **November 4, 2023** to align with the projected outage end date.

☐ By checking this box, Bidder acknowledges that Addenda Number(s) _____ were received and considered in Bid preparation.

Note: If Bidder supplies individual unit pricing information as supplemental pricing to the base material and labor cost above, said individual pricing is proprietary information and should not be released under a public records request. The total base bid is not considered proprietary information and will be released pursuant to City Procurement Code.

The City reserves the right to reject any bid section(s) submitted by the successful bidder. In submitting the bid, it is understood that the right is reserved by the City to reject any and all bids; to waive irregularities therein and to accept whichever bid that may be in the best interest of the City. It is understood that this bid may not be withdrawn by the bidder until after thirty (30) days from bid opening.

In submitting the bid, the bidder acknowledges the bid guarantee will be forfeited to and become the property of the City of Grand Island, Nebraska, as liquidated damages should this bid be accepted and a contract be awarded to them and they fail to enter into a contract in the form prescribed and to furnish the required bonds within fifteen (15) days, but otherwise the aforesaid bid guarantee will be returned upon signing the Contract and delivering the approved bonds.

Insurance: Bidder acknowledges that their bid includes compliance with the attached insurance requirements.

The Bidder agrees to furnish the required performance and payment bond and to enter into a contract within fifteen (15) days after acceptance of this Bid, and further agrees to complete all work covered by the foregoing bid in accordance with specified requirements. No work shall commence until the Certificate of Insurance and bonds (when required) are approved by the City and the Contract is executed. The proposed work can commence after the Contract is signed and the required bond is approved.

End of Bid Data Form

INSTRUCTIONS TO BIDDERS

1. GENERAL INFORMATION.

   The following instructions outline the procedure for preparing and submitting Bids. Bidders must fulfill all requirements as specified in these Documents.

2. TYPE OF BID.

   Bidders shall be required to submit prices for all items listed in the Bid Data Form.

3. PREPARATION OF BIDS.

   Bidders shall use only the Bid Data Form provided in these Documents. All blank spaces in the Bid Data Form must be filled in, preferably in BLACK ink, in both words and figures where required. No changes to the wording or content of the forms is permitted. Written amounts shall govern in case of discrepancy between the amounts stated in writing and the amounts stated in figures.

   Prices stated shall be f.o.b. with freight and full insurance paid by Bidder, to the job site located in Grand Island, Nebraska.

   The Bidder shall acknowledge receipt of all Addenda in the Bid Data Form. Bids received without acknowledgement or without the Addendum enclosed will be considered informal.

   Individual unit pricing as listed on the Bid Data Form or supplied as supplemental information may be deemed proprietary information and not be released under a public records request. The total amount of the bid is not considered proprietary information and will be released pursuant to City Procurement Code.

4. SUBMISSION OF BIDS.

   All Bids must be submitted intact with the correct number of copies no later than the time prescribed, at the place, and in the manner set forth in the ADVERTISEMENT FOR BIDS. Bids must be made on the Bid Data Form provided herein. Each Bid mailed must be submitted intact in a sealed envelope, so marked as to indicate its contents without being opened, and delivered in person or addressed and mailed in conformance with the instructions in the ADVERTISEMENT FOR BIDS.

5. BID SECURITY.

   Bids must be accompanied by cash, a certified check, or cashier's check drawn on a bank which is insured by the Federal Deposit Insurance Corporation, or a bid bond issued by a Surety authorized to issue such bonds in the state where the Work is located, in the amount of 5 percent of the bid amount payable to OWNER. This bid security shall be given as a guarantee that the Bidder will not withdraw their Bid for a period of thirty (30) days after bid opening, and that if awarded the Contract, the successful Bidder will execute the attached Contract within the time specified.

   The Attorney-in-Fact that executes this bond on behalf of the Surety must attach a notarized copy of his/her power of attorney as evidence of his/her authority to bind the Surety on the date of execution of the bond. Where State Statue requires, certification by a resident agent shall also be provided.

6. RETURN OF BID SECURITY.

   Within fifteen (15) days after the award of the Contract, the OWNER will return the bid securities to all Bidders whose Bids are not to be further considered in awarding the Contract. All other retained bid

securities will be held until the Contract has been finally executed, after which all bid securities, other than Bidders' bonds and guarantees which have been fortified, will be returned to the respective Bidders whose Bids they accompanied.

7. BASIS OF AWARD.

The award will be made by the OWNER on the basis of the Bid from the lowest responsive, responsible Bidder which, in the OWNER's sole and absolute judgment will best serve the interest of the OWNER. All Bids will be considered on the following basis:

- Delivery time
- Bid price
- Cost of installation
- Suitability to project requirements
- Conformance with the terms of the Bid Documents
- Responsibility and qualification of Bidder

The OWNER reserves the right to reject all Bids, or any Bid not in conformance with the intent of the Bid Documents, and to waive any informalities and irregularities in said Bids.

8. EXECUTION OF CONTRACT.

The successful Bidder shall, within fifteen (15) days after receiving notice of award, sign and deliver to the OWNER the Contract hereto attached together as required in these Bid Documents. Within fifteen (15) days after receiving the signed Contract from the successful Bidder, the OWNER's authorized agent will sign the Contract. Signature by both parties constitutes execution of the Contract.

9. TIME OF COMPLETION.

The time of completion of the Work to be performed under this Contract is the essence of the Contract. The time allowed for the completion of the Work is stated in the Bid Data Form.

10. GRATUITIES AND KICKBACKS.

City Code states that it is unethical for any person to offer, give, or agree to give any City employee or former City employee, or for any City employee or former City employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefor. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

11. FISCAL YEAR.

The City of Grand Island, Nebraska operates on a fiscal year beginning October 1st and ending on the following September 30th. It is understood and agreed that any portion of this agreement which will be performed in a future fiscal year is contingent upon the City Council adopting budget statements and appropriations sufficient to fund such performance.

CONTRACT AGREEMENT

THIS AGREEMENT made and entered into by and between **[SUCCESSFUL BIDDER]**, hereinafter called the Contractor, and the **CITY OF GRAND ISLAND, NEBRASKA**, hereinafter called the City.

WITNESSETH:

THAT, WHEREAS, in accordance with law, the City has caused contract documents to be prepared and an advertisement calling for bids to be published for *PLATTE GENERATING STATION TURBINE OVERHAUL 2023];* and

WHEREAS, the City, in the manner prescribed by law, has publicly opened, examined, and canvassed the bids submitted, and has determined the aforesaid Contractor to be the lowest responsive and responsible bidder, and has duly awarded to said Contractor a contract therefore, for the sum or sums named in the Contractor's bid, a copy thereof being attached to and made a part of this Contract;

NOW, THEREFORE, in consideration of the compensation to be paid to the Contractor and of the mutual agreements herein contained, the parties have agreed and hereby agree, the City for itself and its successors, and the Contractor for itself, himself/herself, or themselves, and its, his/her, or their successors, as follows:

ARTICLE I. That the following documents shall comprise the Contract, and shall together be referred to as the "Agreement" or the "Contract Documents";

1. This Contract Agreement.
2. City of Grand Island's Specification for this project.
3. [NAME OF SUCCESSFUL BIDDER] bid signed and dated [DATE OF BID].

In the event of any conflict between the terms of the Contract Documents, the provisions of the document first listed shall prevail.

ARTICLE II. That the Contractor shall (a) furnish all tools, equipment, superintendence, transportation, and other construction materials, services and facilities; (b) furnish, as agent for the City, all materials, supplies and equipment specified and required to be incorporated in and form a permanent part of the completed work; (c) provide and perform all necessary labor; and (d) in a good substantial and workmanlike manner and in accordance with the requirements, stipulations, provisions, and conditions of the Contract documents as listed in the attached General Specifications, said documents forming the Contract and being as fully a part thereof as if repeated verbatim herein, perform, execute, construct and complete all work included in and covered by the City's official award of this Contract to the said Contractor, such award being based on the acceptance by the City of the Contractor's bid;

ARTICLE III. That the City shall pay to the Contractor for the performance of the work embraced in this Contract and the Contractor will accept as full compensation therefore the sum (subject to adjustment as provided by the Contract) of **[DOLLAR AMOUNT] ($00.00)** for all services, materials, and work covered by and included in the Contract award and designated in the foregoing Article II; payments thereof to be made in cash or its equivalent in the manner provided in the General Specifications.

The total cost of the Contract includes:

Base Bid:	$	.00
Sales Tax on Materials/Equipment:	$	.00
Sales Tax on Labor:	$	.00
Total	$	.00

Contractor Tax Option _____

The City of Grand Island, Nebraska operates on a fiscal year beginning October 1st and ending on the following September 30th. It is understood and agreed that any portion of this agreement which will be performed in a future fiscal year is contingent upon the City Council adopting budget statements and appropriations sufficient to fund such performance.

ARTICLE IV. The Contractor hereby agrees to act as agent for the City in purchasing materials and supplies for the City for this project. The City shall be obligated to the vendor of the materials and supplies for the purchase price, but the Contractor shall handle all payments hereunder on behalf of the City. The vendor shall make demand or claim for payment of the purchase price from the City by submitting an invoice to the Contractor. Title to all materials and supplies purchased hereunder shall vest in the City directly from the vendor. Regardless of the method of payment, title shall vest immediately in the City. The Contractor shall not acquire title to any materials and supplies incorporated into the project. All invoices shall bear the Contractor's name as agent for the City. This paragraph will apply only to these materials and supplies actually incorporated into and becoming a part of the finished product of the PLATTE GENERATING STATION TURBINE OVERHAUL 2023.

ARTICLE V. That the Contractor shall start work as soon as possible after the Contract is signed and the required bonds and insurance are approved, and that the Contractor shall deliver the equipment, tools, supplies, and materials F.O.B. Platte Generating Station, and complete the work on or before ***November 4, 2023*** to align with the projected outage end date.

ARTICLE VI. The Contractor agrees to comply with all applicable State fair labor standards in the execution of this Contract as required by Section 73-102, R.R.S. 1943. The Contractor further agrees to comply with the provisions of Section 48-657, R.R.S. 1943, pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. During the performance of this Contract, the Contractor and all subcontractors agree not to discriminate in hiring or any other employment practice on the basis, of race, color, religion, sex, national origin, age or disability. The Contractor agrees to comply with all applicable Local, State and Federal rules and regulations. The Contractor agrees to maintain a drug-free workplace policy and will provide a copy of the policy to the City upon request. Every public contractor and his, her or its subcontractors who are awarded a contract by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

ARTICLE VII. Gratuities and kickbacks: City Code states that it is unethical for any person to offer, give, or agree to give any City employee or former City employee, or for any City employee or former City employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any

program requirement or a contract or subcontract, or to any solicitation or proposal therefor. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

[SUCCESSFUL BIDDER]

By_____ Date _____

Title_____

CITY OF GRAND ISLAND, NEBRASKA

By_____ Date _____
Mayor

Attest:_____
City Clerk

The Contract is in due form according to law and hereby approved.

_____ Date _____
Attorney for the City

REQUEST FOR BIDS - GENERAL SPECIFICATIONS

The Bid shall be in accordance with the following and with all attached BID DATA and DETAILED SPECIFICATIONS.

All prices are to be furnished and installed FOB, Grand Island, Nebraska. **All prices shall be firm, and shall include all sales and use taxes as lawfully assessed under laws and regulations of the State of Nebraska.** * If bidder fails to include sales tax in their bid price or takes exception to including sales tax in their bid price, the City will add a 7.5% figure to the bid price for evaluation purposes; however, the City will only pay actual sales tax due.

Mailed bids shall include the following on the **outside** of the mailing envelope: **"Platte Generating Station Turbine Overhaul 2023".** All bids submitted by mail must include **an original and three copies** of the bid. The bid specification and on-line bidding forms are also available at http://www.grand-island.com/business/bids-and-request-for-proposals/bid-calendar under the bid opening date and "Click here for bid document link" through QuestCDN for a $42.00 fee. If submitting through QuestCDN, **one** original document of the bid is required to be uploaded. No verbal bids will be considered. All sealed bids are due no later than Tuesday, **July 11, 2023 at 2:15 p.m. local time**. to:

Mailing Address: City Clerk
City Hall
P. O. Box 1968
Grand Island, NE 68802-1968

Street Address: City Clerk
City Hall
100 E. First Street
Grand Island, NE 68801

Bids will be opened at this time in the City Hall City Clerk's Office located on 1st floor of City Hall. Any bid received after the specified date will not be considered.

Bids will be evaluated by the Purchaser based on price, schedule, quality, adherence to schedule, plan and specifications, economy and efficiency of operation, experience and reputation of the bidder, ability, capacity, and skill of the bidder to perform contract required and adaptability of the particular items to the specific use intended.

The successful bidder will be required to comply with fair labor standards as required by Nebraska R.R.S.73-102 and comply with Nebraska R.R.S. 48-657 pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. Contractor shall maintain a drug free workplace policy. Every public contractor and his, her or its subcontractors who are awarded a contract by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

The equipment and materials must be new, the latest make or model, unless otherwise specified. Prior to approving the invoice for payment, the City reserves the right to thoroughly inspect and test the equipment to confirm compliance with specifications. Any equipment or material which does not meet the City's requirements will be returned at vendor's expense for correction. The invoice will be paid after approval at the next regularly scheduled City Council meeting and occurring after departmental approval of invoice; the City Council typically meets the second and fourth Tuesday of each month. Invoices must be received well in advance of Council date to allow evaluation and processing time.

Each bidder shall submit with the bid a certified check, a cashier's check, or bid bond payable to the City of Grand Island in an amount no less than five percent (5%) of the bid price which shall guarantee good faith on the part of the Bidder and the entering into a contract within fifteen (15) days at the bid price if accepted by the City. **Your certified check, cashier's check or bid bond must be submitted in a separate envelope attached to the outside of the envelope containing the bid. Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information and correct number of copies in clearly marked and separate envelopes will result in your bid not being opened or considered.** Only surety companies authorized to do business in the State of Nebraska may issue bid bonds.

Successful bidder shall comply with the City's insurance requirements; All bids shall be valid for at least thirty (30) working days after the bid deadline for evaluation purposes.

All bids must be on the bid form and must be signed and dated to be accepted. If exceptions and/or clarifications are noted to the bid, those exceptions must be fully explained on a separate sheet, clearly marked, and included with the Bid. Any changes that are found made to the original bid specification, other than Owner generated Addendums, would result in your bid not being considered. Please contact Tylor Robinson at 308-385-5495 or email trobinson@giud.com for questions concerning this specification.

PLATTE GENERATING STATION TURBINE OVERHAUL 2023
DETAILED/TECHNICAL SPECIFICATION
SCOPE OF WORK

Specification ID: TG-1

Description: Open, Clean, Inspect, and Close Unit

Plant ID: Platte Generating Station Unit 1–122 MWs

Project Location:

City of Grand Island

Platte Generating Station

1035 W. Wildwood Drive

Grand Island, NE 68801

Outage Start Date: September 21, 2023

Projected Outage End Date: November 4, 2023

Table of Contents

1. Introduction

The component scope will include the following:

1.1. Hp/Ip Turbine

1.1.1. Main Stop Valve

1.1.2. Control Valves & Bypass Valve

1.1.3. Combined Reheat Stop Valves

1.1.4. Blowdown Valve

1.1.5. Steam Seal Regulator

1.1.6. Ventilator Valve

1.2. LP A Turbine

1.3. Generator

1.4. Hydrogen Coolers

1.5. Exciter

2. Purpose

This bid specification is to identify and communicate the open, clean, and close services required for a medium steam turbine-generator inspection for Platte Generating Station Unit 1 for a 45-day outage (breaker-to-breaker).

3. Scope

The scope of work to be performed to include:

3.1. Major main turbine inspections. Work includes component disassembly, cleaning, dust-blasting, dimensional, visual, non-destructive inspections, and assembly, but is not limited to the following or the base scope activities listed in Appendix A:

3.1.1. Hp/Ip rotor and/or diaphragms maybe shipped to a shop for cleaning, inspection, and repair.

3.1.2. Includes laser alignment.

3.2. Major Generator, field out, inspection, cleaning, visual, non-destructive inspections, and testing, and assembly, but not limited to the following or the base scope activities listed in Appendix A:

3.3. Support for loading, shipping, receiving, and unloading turbine - generator components as required.

3.4. Support for other Contractors as required.

3.4.1. Most repairs other than cutting off nuts during disassembly will be by others to focus OCC Contractor on just the OCC scope.

3.5. Support for mobilization and demobilization as specified in this document.

4. Bidders

Bidders are to quote all work on a Time & Material basis and include all supervision, labor, subcontracts, materials, tools, and equipment necessary to perform the work per the bid specification, unless furnished by City of Grand Island.

5. Definitions

Bidder: The entity submitting a proposal to perform the scope of work in accordance with this specification.

Contractor: The person, partnership, or corporation entering contract for the performance of the work.

Owner: City of Grand Island

Purchaser: The appropriate Supply Chain contact identified in the RFP document.

O/C/C: Open, Clean, Close of various components for inspection, and repair by others.

SPOC: City of Grand Island Site Point of Contact.

Lock Out/Tag Out: Practice and procedures to protect workers from the release of hazardous energy.

Change Request: A formal proposal for an alteration to a product or system, submitted 24 hours in advance.

Confined Space: A step that may require a confined space permit.

Critical Lift: Lift requiring rigging review and pre-job briefing with all involved.

Special Tooling: Originally supplied turbine generator tooling from the OEM or equivalent.

Primavera Milestone: Activities in the schedule that represents the most important deadlines, deliveries, startups, or drop-dead dates for the project.

Work: The scope of work including labor, tools, and material to be performed.

6. Project Timing:

Preliminary, though key, project milestone dates are defined below. Bidders should be aware that these outage dates are subject to change based on grid system operator demands.

Activity	Responsibility	Target Date
Release RFB	Purchaser	6/22/23
Zoom Call	Purchaser	6/30/23
Submit Bid	Bidders	7/11/23

Verbal Contract Award	Purchaser	7/18/23

7. Name Plate Information

Platte Generating Station 1 is an indoor unit:

OEM:	General Electric
Model:	Lynn 3 Bearing Steam Turbine
Turbine SN:	197789
Generator Serial Number:	316X282
Last HP/IP Turbine Inspection:	Fall 2017
Last LP Turbine Inspection:	Fall 2017
Last Generator Inspection:	Fall 2017

8. Job Plan

Develop a job plan to include, but not limited to, the following.

8.1.1. Laydown plan as described in Section 10.1

8.1.2. Schedule as described in Section 14

8.1.3. Quality Program as described in Section 12

8.1.4. Organization and Staffing plan as described in Section 16

9. Mobilization and Job Set Up

Contractor Site Lead shall be on site on the first day of mobilization for final preparations including lay down drawing and schedule review.

9.1. Complete required site-specific training, orientation, and drug testing.

9.1.1. Plant Orientation: Approximately 45 minutes - 1 hour

9.1.2. Project Specific Orientation: **Approximately 90 minutes**, includes conference room discussion and an initial safety walk down.

9.2. The OCC Contractor will begin mobilization **10 days prior to the outage start date** and will be required to include the mobilization period in the schedule requested in Section 14.

9.2.1. OCC Contractor Superintendent, and a minimum of 4 Millwrights shall be used for mobilization on a 1-6-10 shift at a minimum.

9.2.2. All mobilization activities are to be completed **24 hours prior to unit trip**.

9.2.3. Remove required floor plugs, grating, etc. and stage appropriate barricades.

9.2.4. Install protective floor covering with City of Grand Island supplied materials and manage safe walkways and work areas.

9.2.5. Set up offices on turbine deck & break trailers on ground floor.

9.2.6. Setup dust blast area.

9.2.7. Set up tooling trailers or gang boxes.

9.2.8. Check parts inventory.

9.2.9. Set up break area, power rollers, parts area, tool area, hot work area set up, cleaning area, area for blast cleaning and nondestructive testing, diaphragm repair area, rotor stands, semi-trailers for large part storage, and sanitary facilities per the laydown plan.

9.2.10. Locate, inspect, stage, and request authorization for use of specialty tooling required the project per Section 10.2.1.

9.2.10.1. Try Bars – clean and measure.

9.2.10.2. Channel sealant pump – supply, clean and check operation.

9.2.10.3. Generator field slings.

9.2.10.4. Generator skid pan, tugger, and shoes.

9.2.10.5. Generator field support tools.

9.2.10.6. Main turbine lifting beam.

9.2.10.7. Main turbine rotor stands.

9.2.11. Set up hose and cable bridges.

9.2.12. Laydown floor protection.

9.2.13. Set up and stage OCC Contractor's part storage bins and City of Grand Island equipment that is necessary for the outage.

9.2.14. Electrical power and wiring for offices, trailers, and equipment will be provided by City of Grand Island.

9.2.15. Remove HP/IP turbine enclosure and generator lagging.

9.3. Turbine Access and Preparation for Disassembly

9.3.1. Coordinate OCC Contractor support needs throughout the project with designated points of contact per the Division of Responsibility, Section 13.

9.3.2. Scaffolding will be built, modified, and removed by City of Grand Island.

9.3.3. Instrumentation will be removed and installed by City of Grand Island.

9.3.4. Insulation will be removed and installed by City of Grand Island.

9.4. Workman's Protection

City of Grand Island Lock-out Tag-out (LOTO) procedure will be used as a part of this project to assure the safety of all personnel involved in the work. Once the equipment is properly shut down and secured by City of Grand Island Operations, the OCC Contractor will be required to walk down the systems related to this scope of work, verify the isolation of the systems affecting this scope of work, and sign on to the LOTO.

9.5. Base Scope Activities – See Appendix A

9.6. Gage (Emergent) Work Scope – See Appendix B

9.7. Pricing – See Appendix C

10. Interface and Requirements

10.1. Laydown Plan:

10.1.1. The OCC Contractor will develop a final turbine floor lay down plan in co-operation with City of Grand Island and other groups. Overhead turbine building cranes and some turbine floor areas will be shared with other plant projects. Marked up copies of the scale drawings attached to this document shall be submitted to City of Grand Island representative.

10.1.2. OCC Contractor lay down plan will include locations of offices, break areas, tool storage, equipment storage, work areas, cleaning areas and turbine component laydown per floor loading requirements, overhead crane operation, and safe personnel passage.

10.1.3. OCC Contractor to provide all electric power requirements needed per machine voltage, amperage, and quantity with location defined by the laydown plan, two months prior to outage start.

10.2. Tools and Equipment:

10.2.1. OCC Contractor is required to provide all tools and equipment for the scope of work. OCC Contractor will specify as part of their bid, any turbine related specialty tools unique to this scope of work they will need to barrow from the owner as a part of the project. The City of Grand Island policy for lending of tools and equipment requires the contactor to confirm knowledge of safe and proper use of the requested tools and equipment before authorization can be provided. Contractor must obtain prior written authorization for use of these tools or equipment prior to their use.

10.2.1.1. A list of all special tools required is to be received 6 weeks prior to start of outage.

10.2.2. OCC Contractor shall not fabricate or use any tooling without a design review by City of Grand Island.

10.3. Work Scope Clarifications

10.3.1. OCC Contractor to provide list of cribbing needed with sizes, lengths, and quantity 6 weeks prior to mobilization. City of Grand Island will provide the cribbing specified.

10.3.2. OCC Contractor to provide general housekeeping and trash removal.

10.3.3. OCC Contractor to provide support required to service all labor support facilities such as, but not limited to offices, tools, etc.

10.3.4. OCC Contractor must include labor cost to support loading and unloading trucks to ship and receive turbine parts, tools, and related materials.

10.3.5. OCC Contractor will be provided access to all facility documentation necessary to perform the project work. At no time may OCC Contractor provide City of Grand Island supplied drawings, proprietary information, or any other confidential information to any other Contractor on site performing work, off site performing work on behalf of OCC Contractor or any sub-Contractor, parts supplier(s), or any entity without City of Grand Island specific consent.

10.3.6. OCC Contractor shall not permit reverse engineering of any City of Grand Island part or component without City of Grand Island's specific consent.

10.3.7. OCC Contractor must report all damaged and/or broken parts to the shift TG Technical Director within one shift of discovery to ensure replacements are ordered in a timely manner. Contractor to provide quantity needed and associated component for ordering purposes. The Technical Directors and TG Project Manager will maintain a running replacement parts list for the project with expected due dates to support assembly.

10.3.8. OCC Contractor to include all destructive removal of nuts as required to disassemble unit as base scope. Destructive removal of bolting will be by others.

10.3.9. OCC Contractor to protect all cleaned metal surfaces with Dykem layout bluing immediately after cleaning to prevent oxidation and to provide the consumable during mobilization.

10.4. Progress Reporting and Meetings

10.4.1. City of Grand Island TG Deck Manager, TGTS TG Project Manager, and OCC Contractor Superintendent must perform daily shift performance meetings with City of Grand Island representatives to provide verbal and written status of work performed each shift. Daily report shall include:

10.4.1.1. TGTS TG Project Manager will provide a written schedule activity updates as of 07:00 and 19:00 will be provided to City of Grand Island and OCC Contractor Superintendent.

10.4.1.2. TGTS TG Project Manager will provide OCC Contractor Superintendent and City of Grand Island a Shift Work List prior to the start of work to address schedule issues. Contractor Superintendent will supplement with support work list as needed.

10.4.1.3. LOTO Requests will be submitted by OCC Contractor Superintendent at the start of each shift at a minimum.

10.4.1.4. Support needs for scaffold, Insulation, electricians, technicians, and operational needs, etc. will be coordinated between the TGTS TG Project Manager and OCC Contractor Superintendent.

10.4.1.5. Anticipated deliveries and items leaving the plant will be coordinated between the OCC Contractor Superintendent and TGTS TG Project Manager.

10.4.1.6. Tracking and reporting current or anticipated problems likely to affect schedule will be performed by TGTS TG Project Manager with input from OCC Contractor Superintendent.

10.4.1.7. Update and provide a daily schedule in P6 format acceptable to City of Grand Island by TGTS TG Project Manager with agreement from OCC Contractor Superintendent.

10.4.1.8. Track, record, and report all job-related illness or injuries to City of Grand Island, by OCC Contractor and TGTS TG Project Manager.

10.4.1.9. Total cost updates of the following by 13:00 daily by the OCC Contractor Superintendent:

10.4.1.9.1. Base scope

10.4.1.9.2. All approved extra work

10.4.1.9.3. Daily time sheets

10.4.1.10. Weekly reports from TGTS TG Project Manager, with input from OCC Contractor Superintendent, shall include:

10.4.1.11. Master milestone status updates

10.4.1.12. Actuals vs Baseline

10.4.1.13. Critical Path

10.4.1.14. Plan and lead a 3 day look ahead meeting to include at minimum.

10.4.1.15. Critical path activities

10.4.1.16. Schedule impact risks.

10.4.1.17. Shop inspection and repair expectations.

10.4.1.18. 7-day look ahead

10.4.1.19. 24-hour window for lifts

10.4.2. Meetings

10.4.2.1. TGTS TG Project Manager and OCC Contractor to attend up to 4 pre-outage planning and scheduling meetings at the site.

10.4.2.1.1. Bidder Meeting On-site: ___TBD_____

10.4.2.1.2. Brown Paper Schedule Meeting On-Site: ____TBD____

10.4.2.1.3. Final Schedule Review Meeting (Zoom Conference) ___TBD____

10.4.2.1.4. Safety Meeting On-Site: _____TBD_____

10.4.2.2. TGTS TG Project Manager & OCC Contractor Superintendent are to attend daily progress and work coordination meetings as required.

10.4.2.3. TGTS TG Technical Director is to submit a final report to and approved by City of Grand Island.

10.4.2.4. TGTS TG Project Manager to provide detailed reports outlining the disassembly, repair, and reassembly process to City of Grand Island as required.

10.4.2.5. TGTS TG Technical Director to provide a detailed listing of all parts that were removed during the disassembly and reassembly process. Part numbers, descriptions, quantity, and serial numbers shall be recorded where appropriate.

10.4.2.6. TGTS TG Technical Director is to provide a detailed account of all observations and recommendations made, implemented, or deferred. All recommendations for future outages shall include part numbers, photos, drawings, and as left conditions.

10.4.2.7. TGTS TG Technical Director will provide final reports shall be received within 30 days after leaving site. City of Grand Island reserves the right to retain 10% of payment to OCC Contract, until a final outage report has been received and approved by City of Grand Island.

10.5. Best Practices

10.5.1. As a part of City of Grand Island's desire for continuous improvement, the OCC Contractor Superintendent shall participate in pre-outage planning, at site, to discuss past lessons learned that have resulted in best practices. Need approximate dates and durations.

10.5.2. Presentation of these initiatives can be included in our Risk Management discussions defined in Section 15.

10.5.3. OCC Contractor Superintendent will work with City of Grand Island to integrate their processes with City of Grand Island's.

10.6. Lessons Learned

10.6.1. As a part of City of Grand Island's continuous improvement initiative, the OCC Contractor Superintendent will be required to participate in a Lessons Learned Meeting following the outage, to assess our performance and define what improvements should be incorporated in future projects with City of Grand Island.

11. Environmental Health and Safety

11.1. General Requirements

11.1.1. OCC Contractor must provide training and certification records upon request from City of Grand Island for all employees on site.

11.1.2. OCC Contractor to provide certifications and training records of employees for any equipment operated on site.

11.1.3. OCC Contractor to provide certifications and training records of employees who are to operate the overhead crane.

11.1.4. OCC Contractor Superintendent shall provide a daily head count of all personnel on site for their company and subcontracted Contractors. This list will be given to the City of Grand Island onsite representative.

11.1.5. OCC Contractor Superintendent shall provide weekly safety statistics to City of Grand Island that includes:

Man Hours

Near Miss

First Aids

Recordable

Lost Work

11.1.6. Any safety related incidents or injuries must be reported to City of Grand Island representative immediately. The OCC Contractor's Superintendent must participate in and provide a written investigative report of the incident to City of Grand Island within 24 hours that an incident or injury is discovered. City of Grand Island will provide an example of acceptable incident report content.

11.2. OCC Contractor safety interface requirements during the outage:

Daily safety meetings: The OCC Contractor Site Safety Representative, or Safety Lead, will participate in a daily safety meeting at the start of the shift, with City of Grand Island project owners and Plant Management Team.

Weekly safety meetings: The OCC Contractor's Site Safety Representative, or Safety Lead, will participate in a weekly safety update to discuss outage related safety statistics and trends.

11.3. City of Grand Island Procedures

OCC Contractor shall comply with applicable City of Grand Island Procedures:

11.3.1. Cranes, Hoists, and Lifting Equipment – Procedure G4-63 Rev.1

11.3.1.1. OCC Contractor to provide critical lift plans for outer shell, inner shells, rotor, any dual crane evolution, or transporting a load over an operating unit during mobilization, for review and approval.

11.3.2. Other critical lift items will be identified during planning.

11.3.2.1. This will be reflected in the project & outage schedules and cost tracking.

11.3.3. OCC Contractor Safety – Procedure G4-06, Rev.0, Attachment 5:

11.3.3.1. The following information sets forth the minimum safety requirements City of Grand Island expects from OCC Contractors (including their subcontracted Contractors) in the performance of their operations. Each Contractor shall be responsible for ensuring that both OCC Contractor and subcontracted Contractor personnel comply with all applicable requirements. This document does not, however, address every conceivable practice or procedure that could affect safety at City of Grand Island facilities and locations.

11.3.3.2. It is the responsibility of each Contractor to implement and enforce any additional safety practices or procedures that may be necessary for the safe performance of operations by OCC Contractor and subcontracted Contractor personnel. City of Grand Island reserves the right to inspect and deny access or use of any equipment or substance brought on site.

11.3.4. Pre-Job Meeting

11.3.4.1. Complete understanding of the health and safety requirements of the job is critical to the overall success of the project. After awarding of bids, OCC Contractors will be required to attend a pre-job meeting to discuss Contractor Safety Requirements and job site safety/hazard information.

11.3.5. Reporting for Work

11.3.5.1. All Contractor personnel shall report to their appropriate supervisor upon arrival at a City of Grand Island work location. Contractor Management shall ensure that Contractor personnel are given safety orientations for familiarization with potential job site hazards and emergency procedures.

11.3.6. Accident, Injury, And Illness Reporting Procedures

11.3.6.1. All work-related accidents, injuries, and illnesses shall be reported immediately or as soon as is safely possible to the appropriate City of Grand Island representative. It is the responsibility of the Contractor's designated person-in-charge to ensure that documented reports for all accidents or serious near miss situations on City of Grand Island property involving personnel injury or illness, fire and/or explosions, property damage, hazardous material spills, and vehicles, if involving another party, are delivered to the appropriate City of Grand Island representative. The Contractor is also responsible to report Contractor's incidents to all applicable federal, state, and local governmental bodies and agencies having jurisdiction, as required.

11.3.6.2. OCC Contractor Responsibilities

11.3.6.2.1. For projects involving 25 or more OCC Contractor and subcontracted Contractor workers onsite, the OCC Contractor shall designate or provide a full-time "Site Safety Representative" to enforce City of Grand Island and Contractor safety requirements. For contracts involving less than 25 workers onsite, the OCC Contractor shall designate one onsite individual as the person responsible for supervision of Contractor safety.

11.3.6.2.2. OCC Contractor is to ensure that all Contractor personnel, including OCC Contractor's subcontracted Contractors, are qualified and trained to perform contracted services, i.e., DOT Operator Qualification, OSHA Power Generation, Transmission and Distribution Standard, Confined Space Entry, Respirator Protection, etc.

11.3.6.2.3. OCC Contractor is to provide its personnel with proper and well-maintained equipment and tools necessary for the job being performed, unless otherwise specified by contract language. The use of City of Grand Island equipment and tools is strictly prohibited, unless expressly permitted by City of Grand Island Facility Management.

11.3.6.2.4. Contractor is to adhere to all applicable federal, state, and local regulations pertaining to the services contracted.

11.3.6.2.5. Contractor is responsible for ensuring that all operations are conducted in a safe manner, and for promptly correcting and reporting to City of Grand Island and to Contractor's and subcontracted Contractor's employees all known or suspected hazards or unsafe conditions.

11.3.6.2.6. Contractor is to instruct its personnel to report any known or suspected hazards or unsafe conditions to the immediate supervisor. Contractor shall immediately notify the appropriate City of Grand Island representative if known or suspected hazards or unsafe conditions involve City of Grand Island equipment/personnel.

11.3.6.2.7. OCC Contractor is to ensure the work area is maintained in a clean and orderly fashion.

11.3.6.2.8. Contractor is responsible for supplying its personnel with all necessary personal protective equipment and other safety equipment, unless otherwise specified by contract language.

11.3.6.2.9. Contractor is responsible for enforcing City of Grand Island safe work policies, practices, and procedures, to provide a safe working environment.

11.3.6.2.10. Contractor personnel violating any City of Grand Island safety policy, practice, or procedure or applicable governmental regulation is subject to immediate removal by City of Grand Island from the City of Grand Island property.

11.3.6.3. Illegal Drugs, Unauthorized Material, Search and Screening

11.3.6.3.1. No illegal drugs, intoxicating beverages, unauthorized dangerous materials, firearms, or weapons allowed on this property.

11.3.6.3.2. Persons possessing or under the influence of drugs, chemical substances or alcohol are not allowed on this property. Violators are subject to removal and/or discharge.

11.3.6.3.3. All persons on City of Grand Island property are subject to search or drug and alcohol screening. Vehicles and other personal effects are also subject to search. Contractors are responsible for insuring they provide a drug free workforce and shall provide information as to their drug testing procedure. OCC Contractor employees on a City of Grand Island site may be part of a site random testing program where required by local procedures.

11.3.6.4. Personal Protective Equipment

11.3.6.4.1. This section lists general personal protective equipment requirements for Contractors working at City of Grand Island facilities and locations. Additional personal protective equipment or other special items may be specified by City of Grand Island facility requirements.

11.3.6.5. Head Protection

11.3.6.5.1. A non-conductive hard hat that meets the requirements of ANSI Z89.1 (Type 1, Class E) shall be worn in all work areas when a potential hazard of head injury exists or can be anticipated, or when required by City of Grand Island facility management.

11.3.6.6. Foot Protection

11.3.6.6.1. Safety toe shoes or boots in good condition and appropriate to the work being performed shall be worn in work areas designated by City of Grand Island facility management. Footwear is to meet ANSI Z41.1 requirement.

11.3.6.7. Eye/Face Protection

11.3.6.7.1. Eye protection shall be worn in all work areas when known or potential eye or face injury hazard exists or can be anticipated, or when required by City of Grand Island Management. Minimum protective eyewear shall be clean safety glasses. City of Grand Island facility management will inform Contractor of side shield requirements. All eye / face protection shall meet the requirements of ANSI Z87.1.

11.3.6.7.2. Face shields must be worn over, protective eyewear for work that involves a potential for corrosive / caustic chemical splash to the face, or when required by City of Grand Island management.

11.3.6.7.3. Hearing Protection

11.3.6.7.4. Hearing protection devices that meet the standards of OSHA 1910.95 shall be worn in all posted high noise areas, or when required by City of Grand Island Management. (Hearing protection is required in all known or suspected areas where noise levels exceed 85 dB).

11.3.6.8. Work Clothing

11.3.6.8.1. The minimum clothing suitable for work at the facility or job location will be determined and communicated by City of Grand Island facility management.

11.3.6.8.2. Protective clothing shall be worn when handling hazardous materials or chemicals, when specified by the applicable Safety Data Sheet (SDS), or when required by City of Grand Island Management. Protective clothing that becomes contaminated with hazardous materials or chemicals must be decontaminated at the end of the work shift and/or disposed of properly.

11.3.6.8.3. Fire Retardant Clothing (FRC) made of Nomex, or other approved fire-retardant material shall be worn as an outer garment in all “designated FRC areas” or when required by City of Grand Island facility management.

11.3.6.8.4. Contractor personnel involved in spray painting, coating, or abrasive blasting operations shall wear an outer garment of disposable Tyvek or similar material to prevent contamination of personal clothing or FRC worn underneath.

11.3.6.8.5. Jewelry or loose clothing that may become entangled in tools or equipment, must be secured. Jewelry that may contact energized electrical equipment, must be made non-conductive by removal, or covered with PPE.

11.3.6.9. Hand Protection

11.3.6.9.1. Protective gloves shall be worn where there is a risk of exposure to high temperatures, electricity, sharp edges, chemicals, or any other conditions or materials that may cause injury to the hands, or when required by City of Grand Island Management.

11.3.6.10. Fall Protection

11.3.6.10.1. All work performed 4’ above ground level, or where a fall hazard of 4’ exists, will be conducted in accordance with the applicable requirements of OSHA 1926 Subpart M - Fall Protection and City of Grand Island requirements.

11.3.6.10.2. Work performed from ladders will be minimized whenever possible. Scaffolding, boson chairs, crane-operated personnel baskets, or bucket trucks shall be used to perform work at elevated locations. Crane-operated personnel baskets are not recommended for use; but if such apparatus must be used, Contractor shall strictly conform to all requirements of OSHA 1926.550 (g).

11.3.6.10.3. All ladders must conform to OSHA requirements. Makeshift ladders are not permissible. Ladders must be properly secured. Stepladders shall not be used as straight or extension ladders. Non-conductive ladders must be used around electrical conduit or energized equipment. Personnel working from ladders will not overextend their reach. PERSONNEL SHALL MOVE LADDERS TO PROVIDE PROPER ACCESS.

11.3.6.10.4. Scaffolding must meet the requirements of OSHA 1910.28 - Safety Requirements for Scaffolding and OSHA 1926.451 - Scaffolding must be inspected/approved and tagged by Contractor personnel, who are a competent person under OSHA’s scaffolding requirements, certifying compliance before its use.

11.3.6.11. Respiratory Protection Equipment

11.3.6.11.1. Respiratory protection equipment shall be utilized whenever work activities involve potential exposure to atmospheres that are oxygen-deficient or contain air contaminants that may be harmful to health, or when required by City of Grand Island Management.

11.3.6.11.2. The Contractor’s respiratory protection equipment shall be selected, inspected, maintained, and used in accordance with OSHA 1910.134 - Respiratory Protection, and City of Grand Island requirements.

11.3.6.11.3. The Contractor shall ensure that personnel using respiratory protection equipment have received appropriate medical clearance, fit testing, and respiratory protection training. Documentation of the above shall be available upon request.

11.3.6.11.4. Breathing air used in supplied air or self-contained respiratory protection equipment must meet or exceed the standards of Grade “D” air, as specified in OSHA 1910.134. A laboratory analysis or manufacturer’s certificate verifying Grade “D” breathing air shall be available for inspection upon request.

11.3.6.11.5. Compressors used to provide breathing air must be equipped with a high temperature alarm, carbon monoxide (CO) monitor / alarm, and air cleaning / filtering devices as needed to produce Grade “D” quality breathing air. A laboratory analysis verifying Grade “D” output air for breathing shall be available for inspection upon request.

11.3.6.12. Personal Flotation Device (PFD)

11.3.6.12.1. Contractors working or traveling over water shall have access to U. S. Coast Guard approved personal flotation device (PFD).

11.3.6.12.2. The PFD must be worn when riding anywhere other than inside the cabin of a boat. PFD must be always worn, when riding or working in a small, open boats.

11.3.6.12.3. When working within a properly guard railed platform, a PFD need not be worn. If the work is being done outside of a guardrail, or if there is no guardrail, each person must wear a PFD.

11.3.6.12.4. A PFD shall be worn by any person involved in transfers between vessels and structures and while working on barge or boat decks.

11.3.6.13. Other Personal Protective Equipment

11.3.6.13.1. Special situations may require the use of additional personal protective equipment. Each Contractor shall be solely responsible for recognizing when such equipment is required and shall be responsible to provide such equipment. Additional personal protective equipment requirements may also be specified by City of Grand Island Facility Management

11.3.6.14. Safe Work Practices

11.3.6.14.1. Safety Meetings

11.3.6.14.2. Prior to beginning an unfamiliar, hazardous, or major project, Contractor personnel must conduct a documented safety meeting to discuss safe procedures and work practices.

11.3.6.14.3. Contractors shall conduct daily “Tool-Box” safety meetings to discuss the day’s work assignments and proper safety precautions.

11.3.6.15. Smoking

11.3.6.15.1. Smoking is absolutely prohibited at all facilities except in designated smoking areas. Daily and weekly safety walkdowns to include monitoring smoking.

11.3.6.16. Signs

11.3.6.16.1. Contractor personnel shall be familiar with and comply with all signs posted throughout City of Grand Island facilities.

11.3.6.17. Lockout/Tagout

11.3.6.17.1. All Contractors are required to be familiar with and comply with City of Grand Island site-specific lockout/tagout procedures while working on powered equipment, when performing confined space entry operations, or when engaged in other work activities where the control of hazardous energy is necessary to ensure personnel safety.

11.3.6.18. Permit to Work Systems

11.3.6.18.1. All Contractors must be familiar with and comply with all permit requirements when working at City of Grand Island facilities. Permits, if required, must be issued prior to the work beginning, and may only be issued by City of Grand Island personnel.

11.3.6.19. Confined Space Entry

11.3.6.19.1. All Contractors performing work involving “Confined Space Entry” must comply with requirements in OSHA 29 CFR and shall be familiar with and comply with City of Grand Island confined space entry permit procedures.

11.3.6.20. Hot Work

11.3.6.20.1. All Contractors conducting “Hot Work” (welding, cutting, etc.) must comply with requirements in OSHA 29 CFR and shall be familiar with and comply with City of Grand Island hot work permit procedures.

11.3.6.21. Hazard Communication

11.3.6.21.1. All Contractor personnel shall be familiar with and comply with City of Grand Island’s site-specific Hazard Communication Program requirements and procedures.

11.3.6.21.2. City of Grand Island will provide to Contractor, upon request, an appropriate Safety Data Sheet (SDS) for hazardous chemicals that the Contractor could come, in contact with.

11.3.6.21.3. Contractor shall maintain onsite an appropriate SDS for any hazardous material or chemical that Contractor brings or uses onsite. Contractor is to submit an SDS, to the City of Grand Island Representative, for every hazardous material brought on site. Such hazardous materials or chemicals will be properly stored and labeled in accordance with safety and environmental regulations.

11.3.6.22. Potential Exposure to Toxic Materials

11.3.6.22.1. All work involving the potential exposure to toxic materials (Hydrogen Sulfide, arsenic, lead, benzene, etc.) must be conducted in accordance with applicable state or federal regulations, and City of Grand Island requirements.

11.3.6.22.2. Depending upon the nature of the work to be performed and whether the presence of toxic materials is anticipated. Training, respiratory protection equipment, gas detection / alarm equipment, and other protective measures may be required.

11.3.6.23. Excavation

11.3.6.23.1. All excavation related work must be conducted in accordance with OSHA 1926 Subpart P - Excavations, and City of Grand Island requirements.

11.3.6.24. Fire Prevention and Control

11.3.6.24.1. Smoking is permitted only in designated smoking areas approved by City of Grand Island Facility Management.

11.3.6.24.2. Welding and cutting is prohibited outside of designated safe welding areas unless controlled by a hot work permit. A fire watch is required for all hot work unless the work takes place inside a designated safe welding area.

11.3.6.24.3. Contractor shall provide all portable fire extinguishers for all Contractor engaged hot work, open flames, or use of flammable gas / liquids presenting a risk of fire. Personnel designated to utilize fire extinguishers must be familiar with their proper use and limitations. Fire extinguishers must be maintained in good working order and inspected in accordance with state or federal regulations.

11.3.6.24.4. Good housekeeping is an important part of fire prevention and must be strictly enforced. Oily rags, debris, trash, and other unnecessary material must be picked up and disposed of regularly. Trash receptacles must be available in the area and emptied on a regular basis.

11.3.6.24.5. Minor spills or leaks of flammable / combustible liquids must be cleaned up promptly, and the source of spill / leak repaired.

11.3.6.24.6. Bulk transporters or tank trucks loading or unloading flammable liquids must utilize grounding / bonding equipment to prevent ignition of flammable vapors due to static electrical discharge.

11.3.6.24.7. The potential for static electrical discharge must be considered for other flammable liquid transfers, such as filling drums, buckets, or other small containers. Use of bonding equipment and other precautions to prevent ignition of flammable vapors will be utilized whenever appropriate.

11.3.6.24.8. Gasoline is a fuel and must not be used as a cleaning agent. Gasoline and other flammable liquids must not be stored in glass or plastic containers. U.L./F.M. approved metal safety cans are recommended.

11.3.6.24.9. Portable tanks and drums for flammable liquid storage must be:

11.3.6.24.10. Constructed of metal unless the liquid is corrosive to metal.

11.3.6.24.11. Adequately vented with flame arresting capability whenever possible.

11.3.6.24.12. Equipped with self-closing spouts to prevent spillage.

11.3.6.24.13. Located as far as feasibly possible from electrical and mechanical equipment or other ignition sources.

11.3.6.25. Vehicle Operations

11.3.6.25.1. Contractors must operate vehicles in full compliance with all applicable federal, state, and local regulations.

11.3.6.25.2. No motor-powered vehicle will be left running if the operator leaves the operating position, except for using power-take-off equipment.

11.3.6.25.3. STAY WITHIN POSTED SPEED LIMITS. On rights-of-way or other roadways which do not have posted speed limits, SLOW DOWN and be alert for other vehicles, pedestrians, livestock, wildlife, etc.

11.3.6.25.4. Seat belt use is mandatory for all persons riding vehicles that are equipped with seat belts.

11.3.6.25.5. Always DRIVE DEFENSIVELY

11.3.6.25.6. All Contractor vehicle accidents that occur on City of Grand Island property must be reported promptly to the City of Grand Island Facility Management.

11.3.6.26. Emergency Drills

11.3.6.26.1. Contractor personnel must become familiar with their prescribed assignments in an emergency and participate in drills conducted on City of Grand Island facilities, when requested.

11.3.6.27. Entry into Water

11.3.6.27.1. Non-rescue entry into the water from a City of Grand Island facility is strictly prohibited, unless specifically authorized by City of Grand Island to perform services (i.e., diving).

11.3.6.28. Equipment Operator Qualifications

11.3.6.28.1. Any Contractor employee required to operate a crane, forklift, or other heavy equipment, shall be qualified to operate the equipment, and comply with applicable OSHA and City of Grand Island operating procedures. All operator qualifications are subject to approval by City of Grand Island.

11.3.6.28.2. No motor-powered vehicle will be left running if the operator leaves the operating position unless operating power-take-off (PTO) driven equipment.

11.3.6.29. Protection of Openings

11.3.6.29.1. All hole and floor openings will be constantly attended while opened and not barricaded.

11.3.6.29.2. All hole and floor opening barricades must be constructed to prevent accidental entry.

11.3.6.30. Temporary Structures

11.3.6.30.1. Trailers and temporary buildings will be secured by anchors. If electrical power is used, the building must be grounded.

11.3.6.31. Ground Fault Protection

11.3.6.31.1. The Contractor shall establish and maintain electrical ground fault protection by using either Ground Fault Circuit Interrupters or implementing an Assured Electrical Equipment Grounding Conductor Program. The program will cover all cord sets and receptacles that are not a part of the permanent wiring of a building or structure. Including equipment connected by cord and plug that are available for use or are used by Contractor employees. This program will comply with the minimum standards set forth in 29 CFR Part 1926.404b.

11.3.6.32. Training

11.3.6.32.1. The Contractor is responsible for conducting and documenting all Contractor employee (including Contractor's subcontracted Contractors) training required by federal, state, or local safety and health regulations. Such documentation may be subject to review by City of Grand Island at any time prior to, during or after completion of any project or work.

11.3.6.33. Process Safety Management

11.3.6.33.1. Contractors working at City of Grand Island facilities covered by OSHA 1910.119 - Process Safety Management and whose work involves plant process areas, product storage areas, or other “covered processes” (as defined by OSHA) must:

11.3.6.33.2. Establish procedures to properly conduct Contractor performed maintenance activities that affect process safety.

11.3.6.33.3. Contractor must document that each Contractor employee has been trained in the work practices necessary to safely perform his/her job.

11.3.6.33.4. Contractor must document that each Contractor employee has been instructed in the known and potential fire, explosion, or toxic release hazards related to his/her job and the process.

11.3.6.33.5. Document that each Contractor employee has been instructed in the applicable provisions of the facility Emergency Action Plan.

11.3.6.33.6. Assure that each Contractor employee follows all applicable safety rules of the facility or work location.

11.3.6.33.7. Advise City of Grand Island of any unique hazards presented by the Contractor’s work, and any hazards identified by the Contractor or its employees during the work.

11.3.6.33.8. Documentation required above must include the name of each Contractor employee, the date of training, and the means utilized to verify that the employee understood the training.

12. Quality Program

12.1. City of Grand Island Quality Program

12.1.1. Activities to be verified during the execution of the outage to assure no activities are left incomplete.

12.1.2. A definition of record keeping required that shall be included in the final report submitted by the Contractor at the end of the project. Records will include:

Data Point: Measurement data to be clearly documented on data sheets for “as found” or “as left” conditions, complete with positive identification of the component being measured, date taken, and name of person taking the data. A copy of the Data Point data sheets will be made available to City of Grand Island TG Deck Manager and/or TGTS TG Technical Director the day the data is taken and included in the final report.

Photo Point: A step requiring a photo to be included in the final report. The Photo must include written identification of the contents of the photograph.

Witness Point: A step where City of Grand Island or City of Grand Island’s designee will be consulted for observation of the condition of a component or work practice.

Hold Point: A mandatory verification point that work cannot proceed without approval by City of Grand Island TG Deck Manager or City of Grand Island’s designee.

Close Out Form: Document requiring completion and submittal of a final close-out verification of any equipment.

12.2. OCC Contractor Quality Program

12.2.1. OCC Contractor will provide a detailed definition and presentation of their Quality Program that integrates the City of Grand Island QA/QC Document on this project.

12.3. Foreign Material Exclusion (FME)

12.3.1. Contractor shall provide an FME plan, FME barriers and supporting materials. All openings are to be covered and a log maintained to account for all covers.

12.3.1.1. Once the TE and EE upper half end bells have been removed the area will be considered a **Zone 1 FME Area** requiring tool control, fencing, and self-monitoring until the upper half end bells have been installed. Refer to City of Grand Island FME policy.

12.3.2. Contractor is responsible for close out inspections of all oil and steam lines and any foreign object removal associated with the OCC Contractor's work. City of Grand Island or their designee will witness all final close-out inspections.

12.4. Frequency of Reporting

12.4.1. All records, data points, photo points, witness points, hold points, close out forms, and other documentation shall be supplied, by the OCC Contractor, to the TGTS Technical Director and City of Grand Island in real time throughout the project. These real-time quality records will include both initial and final quality records. In no circumstance shall this time, of reporting, exceed the shift in which the quality item occurred.

12.4.2. All quality forms shall be included in a packet supplied to City of Grand Island prior to the Contractor demobilizing from site.

12.4.3. All quality forms shall be included in the final report.

13. Division of Responsibility

13.1. City of Grand Island Pre-outage Responsibilities

Unless otherwise noted, OCC Contractor shall notify City of Grand Island TG Deck Manager in writing with a minimum of 5 business days advanced notice for all support services, as defined by Table in Section 13.2 required to support the Contractors work scope.

Example: Mobilization needs for crane support to set tools and offices in place prior to the outage, and for electricians to connect power and internet services.

13.2. City of Grand Island Execution Responsibilities

OCC Contractor shall notify City of Grand Island TG Deck Manager in writing with a minimum of 36 hours advanced notice for all support services, as defined by in table below, required to support the Contractors work scope.

Example: Instrumentation disconnect and reconnect will be performed by City of Grand Island I&C upon request with 24 hours written notice.

Type	Item No.	Description	Bidder	City of Grand Island	Comment
Services & Utilities	**1**	Electrical Connections & Disconnections		**X**	
	2	Instrumentation Connections & Disconnections		**X**	
	3	Insulation Removal, Installation, & Materials		**X**	
	4	Scaffolding Erection, Removal, & Equipment		**X**	Includes carpenter support for boxes, pallets, etc.
	5	Fire System Disassembly & Restoration	**X**		City of Grand Island does electrical portion
	6	Welding, Certification, Procedures, Process Control, & Equipment		**X**	
	7	Heat Treating, Procedures, Process Control, & Equipment		**X**	
	8	Bolt Heating & Equipment	**X**		
	9	Tops-On Laser Alignment & Equipment	**X**		
	10	Heavy Rigging, Certification, Procedures, & Equipment		**X**	Bidder to support
	11	Trucking & Equipment		**X**	Bidder to support
	12	Dustblasting & Equipment	**X**		
	13	NDE, Certification, Procedures, & Equipment	**X**		
	14	Oil Circulation & Equipment		**X**	
	15	Support labor for Oil Circulation	**X**		
	16	EH Flush & Equipment		**X**	
	17	Support for EH Flush	**X**		

18	Asbestos Abatement, Monitoring, Process Control, & Equipment		**X**	
19	Lead Abatement, Monitoring, Process Control, & Equipment		**X**	
20	Scrap Removal & Equipment		**X**	Bidder to support
21	Certified Crane (Overhead/Pendant) & Forklift Equipment Operator	**X**		Can be Millwright with certification paperwork
22	Machine Shop - Off-site		**X**	
23	Machine Shop & Equipment - On-site		**X**	
24	Telephone Hook Ups		**X**	City of Grand Island to wire
25	Internet Access		**X**	City of Grand Island to wire
26	Fire Water		**X**	
27	Necessary electrical power including 120 and 240 single phase and 240 and 480 three phase up to 200 amps to be identified on successful bidder's lay down plan by date specified above.		**X**	Bidder to notify City of Grand Island before outage of additional requirements
28	Service Water & Drain Access		**X**	Bidder to support
29	First Aid - On-site	*	*	
30	Sanitary Facilities (Toilet & Hand Wash)		**X**	City of Grand Island will provide facilities on site and contactor will provide labor to unload, load, and any movements required for servicing of the facilities during the outage.
31	Trash Removal & Containers		**X**	Bidder to support
32	Disposal of Hazardous Materials		**X**	Bidder to support
33	Qualified Craft Labor	**X**		
34	Craft Labor Supervision	**X**		
35	Clerical & Administrative Support	**X**		

	36	Scheduling & Planning		**X**	To be in Primavera P6.xer format
	37	TG Project Manager		**X**	GE TE & PM Background
	38	TG Technical Director - Day Shift		**X**	GE TE Background
	39	TG Technical Director - Night Shift		**X**	GE Generator Specialist & TE Background
	40	Balance Engineer and Start-up Support		**X**	
Equipment	**41**	Office Trailers		**X**	City of Grand Island to wire
	42	Break Trailers		**X**	City of Grand Island to wire
	43	Fork & Man Lifts		**X**	City of Grand Island to Supply
	44	OEM Supplied Special Tooling & Rigging		**X**	Bidder to support
	45	Tooling & Rigging for Work Crews Defined by Work Scope	**X**		
	46	Overhead Crane & Inspection		**X**	Bidder to support
	47	Expendable Material Defined by Work Scope		**X**	Bidder to support
	48	Power Rollers Defined by Work Scope		**X**	HP rotor & Gen Field
	49	Timbers, Skids, & Pallets		**X**	Bidder to support
	50	Floor Protection		**X**	Bidder to support
	51	Renewal Parts & Materials		**X**	Bidder to support
	52	Necessary oxygen, acetylene gas, hydrogen, carbon dioxide, and argon		**X**	Bidder to support
	53	Valve Lapping Tools		**X**	Specialty Contractor
	54	Valve Try Bars		**X**	
	55	Bearing Mandrels		**X**	
Duties	**56**	Review the scope of work and schedule	**X**		

57	Develop scope specific work packages (remain bidder's property)	**X**		
58	Bidder shall inventory special tooling and may use such tooling owned by the plant with permission. All other needs will be fulfilled by bidder.	**X**		
59	Bidder shall provide City of Grand Island with list of joint compounds, thread compounds, sealing compounds, lubrication products, cleaning products, etc. with SDS sheets.	**X**		
60	Lay down space as necessary		**X**	Bidder to support
61	Receive and inventory parts on turbine floor during site mobilization of the supplier	**X**		
62	Schedule updates input to City of Grand Island Project Manager	**X**		
63	Load out and receive turbine components onto trucks	**X**		
64	Cutting of new gaskets.	**X**		
65	Remove broken bolting up to and including 1" OD		**X**	
66	Final Report		**X**	Due within 30 days of demobilization

*** Indicates outage specific responsibilities**

14. Project Schedule

14.1. Project Scheduling Requirements - City of Grand Island

14.1.1. Schedule Structure – milestones listed in Section 19 will be used to establish the schedule.

14.1.2. Directly following bid award, City of Grand Island will request information from the TGTS TG Project Manager who will have access to update their schedule daily. Bidder may support development of a level 3 resource loaded City of Grand Island schedule. The schedule will be in Primavera P6 scheduling platform. Schedule will have critical path and the next two near critical paths clearly defined for the project.

14.1.3. The schedule shall contain all work scope and key turn over milestones and / or hold points as described in the work scope section of this package. If the awarded, OCC Contractor has subcontracted Contractors doing work, the subcontracted Contractors work must be incorporated and tied correctly within the main schedule.

14.1.4. The City of Grand Island network will be the only schedule which is valid for the OCC Contractor and the outage. No side or parallel schedules will be of any significance or allowed.

14.2. Schedule Development - City of Grand Island

14.2.1. Milestone Requirement Overview

14.2.1.1. Major milestones to include in the schedules are start milestones for accepting present LOTO protection and finish milestones for final release of the LOTO for all work completed and any others called out within the RFQ. The schedules will be task driven with true logic. The project's critical path, 2nd most critical and 3rd most critical paths will be clearly defined for the project. Soft logic ties for the 2nd and 3rd of the previous mentioned paths are not acceptable. Resource constrained paths may be considered acceptable for 2nd or 3rd near critical paths, if City of Grand Island gives consent to the conditions associated with the logic.

14.2.1.2. Schedule Development Requirements

14.2.2. Schedule Project Standards are as follows:

14.2.2.1. Duration Type = Fixed Durations and Units/Time

14.2.2.2. The Percent Complete Type = Duration.

14.2.2.3. The activity Type = Task Dependent.

14.2.3. Every Project Schedule will contain at minimum:

14.2.3.1. Pre-Outage activities-Site Mobilization

14.2.3.2. Material due activity list

14.2.3.3. Outage execution activities by bidder and others in support of bidder's work.

14.2.3.4. Post Outage activities, Clean Up, & Demobilization activities.

14.2.3.5. Job cleanup and putting tools away should not be in the boundaries of a LOTO. They should be separate line items in the schedule and not in the logic path to returning LOTO.

14.2.3.6. Every project schedule will have its own project calendars assigned to each activity and milestones to reflect the work in the field. If the work calendar needs to be changed during execution, it is the responsibility of the Contractor to pass that information along to the outage scheduler.

14.2.3.7. Every activity must have at least one predecessor and a successor except for the start and the finish activities.

14.2.3.8. The use of activity constraints and lag will be minimal. Every activity with a constraint or lag will be accompanied by a justification statement and agreed upon by TGTS TG Project Manager and Outage Scheduler.

14.2.3.9. Each activity must be defined in such a way that is easily understood by anyone. The activity can stand alone without the use of the WBS.

14.2.3.10. Major Risk mitigation activities – Activities required to mitigate work scope identified in the RFQ as "High Risk" shall be included in the schedule and properly logic tied with predecessors and successors. The Original Duration of these activities will remain at ZERO until such time the risk is confirmed, and a repair plan has been communicated to and approved by City of Grand Island.

14.2.3.11. If more than one resource is required to execute an activity, the major resource should be assigned to the activity and a second activity generated. The Second activity name should start with Support-XXXXXXX. And the second resource assigned there. Specific activities for support work assigned to City of Grand Island within the Division of Responsibilities will include but is not limited to controls & Instrumentation technicians, electricians, scaffold services, and insulation services. The City of Grand Island project manager will validate the schedule length for said activities.

14.2.3.12. Any activities requiring a major piece of equipment for its execution must be tagged as a resource. Such as –Main Turbine Crane- Any picks OCC Contractor utilizes the crane must be coded as such to be sure the crane is not being utilized for more than one thing at a time. The activities requiring such equipment should have the equipment called out as a resource with 0 units/hour.

14.2.3.13. As new work is added to the work scope of the OCC Contractor by TGTS TG Project Manager & City of Grand Island Turbine Deck Manager's approval, the new work must be added to the schedule and tied properly within 24 hours of notice.

14.2.3.14. As materials are ordered for the project, a schedule line item must be added to the schedule with its best guess date and time of onsite arrival. These material due activities would then be tied appropriately to the work they are required for to show the impact if any of the materials arrival.

14.2.4. Activity Scheduling Rules

14.2.4.1. If any task/step of an activity has a separate successor / predecessor create a different activity.

14.2.4.2. If an activity is with in X hours of critical path all subtasks should be broke out as an activity. And the activity length should be less than or equal to 4 hours. X = # of Outage Days = # of hours and represented as hours…for a 36-day outage the time frame would be 36 hours.

14.2.4.3. If a different resource is needed or the # of resources changes for a given step of an activity create separate activities

14.2.4.4. Use the QCP activity for activities that have hold points / inspection points as defined in the RFP's, etc. If there is not an activity that matches hold points…create one.

14.2.4.5. No Activity longer than 24 hours

14.2.4.6. Any work scope step that requires a crane should be a separate activity with separate successors and predecessors.

14.2.4.7. If an activity is high risk item/impact, tie it to a discovery milestone.

14.2.4.7.1. Every Project Schedule Activity must contain:

14.2.4.7.2. Resource assignment- craft assigned to perform the activity.

14.2.4.7.3. The number of people required to carry out the activity.

14.2.4.7.4. Duration to perform the activity.

14.2.4.7.5. The 3 above combined derive the Budgeted Labor Units per

14.2.4.7.6. Daily Schedule Updates

14.2.4.8. Daily Schedule Update Requirements

14.2.4.8.1. TGTS TG Project Manager will update the schedule and any of the OCC Contractor activities daily before 09:00, starting two weeks prior to the outage start date and throughout the project to completion including clean up and demobilization.

14.2.4.8.2. OCC Contractor to review schedule provided and make changes as required and return in Primavera (.xer) format.

14.2.4.8.3. Daily progress captured will be from 07:00 on the day progress updates are due to include the last 24 hours prior or 07:00 the previous day.

14.2.4.8.4. The daily schedule updates will include actual start dates and times, actual finish dates and times, and if the activity is started but not completed a realistic expected finish dates and times must be filled in.

14.2.4.8.5. The daily schedule update must also include total budgeted man-hours spent per activity for the last 24 hr. period that was worked on the activity. Example 2 People x 4hrs = 8 budgeted man hours accrued for the last 24 hr. period. This information is important to collect earned value.

14.2.4.8.6. Following daily schedule updates and progress being completed, the project data date shall be changed to the present date & time for the outage. It is the TGTS TG Project Manager and OCC Contractor's responsibility to ensure the result of the updates is reflected correctly within the schedule for posting purposes.

14.2.4.8.7. The TGTS TG Project Manager is responsible for the integrity and the logic the schedule contains as well as the accuracy of the daily updates. As the project progresses, if calendar changes or logic changes are needed to reflect work changes in the field, it is the responsibility of the OCC Contractor to meet with the TGTS TG Project Manager to make the required changes to the schedule. These changes in logic and scope different than the original baseline must be reviewed and approved by the outage scheduler and the project lead for the affected work. "What if" schedule scenarios may be built with the permission of City of Grand Island and after access to do so is granted.

14.2.5. Additional Work

14.2.5.1. Additional work which is awarded to the OCC Contractor pre-outage, following the initial award, and after the schedule import into the City of Grand Island network, the Contractor will have two weeks to develop and layout new work into their schedule and/or sit with the City of Grand Island Project Outage Scheduler, (if Contractor's schedule access has not yet been granted) to add the new work scope and activities into the preliminary schedule for review by the responsible Project Leads.

14.2.5.2. All schedules will be assigned a baseline prior to the outage start date. A Final integrated schedule baseline will be taken prior to the unit coming off-line. The final baseline taken will be the schedule utilized for project progress comparison throughout the life of the outage.

14.2.5.3. The OCC Contractor will be responsible to integrate additional work which is awarded to the Contractor during the outage within the City of Grand Island schedule. All additional work shall follow the activity rules defined within this work package.

15. Risk Management

15.1. City of Grand Island Risk Mitigation Plan

The Contractor will participate in a review of the City of Grand Island Project Risk Matrix which will identify known areas of concern related to this scope of work. The Contractor shall support the Risk Mitigation Plan

15.1.1. Make recommendations of any additional risks related to the scope of work that are not already identified and include mitigation plans to avoid the risk or resolve the risk if it occurs.

15.1.2. Include risks identified as "High Risks" in the P6 schedule as defined in Schedule Section 14.

15.1.3. Provide updates on the status of these High-Risk Activities during the execution of the outage as each one is discovered and/or mitigated.

15.1.4. City of Grand Island will request Gage Pricing for potential work scopes identified by the Risk Mitigation Plans in preparation for the possibility they may be needed.

16. Organization Chart & Staffing

16.1. The City of Grand Island Project Team will consist of the following.

16.1.1. City of Grand Island Turbine Generator Deck Manager: The TG Deck Manager is the SPOC during the execution of the overall project. This person is responsible for all day-to-day work activities, both on and off site, and allocation of overhead cranes across Contractors and plant work groups.

16.1.2. Turbine Generator Project Manager: The TG Project Manager reports to the City of Grand Island Turbine Generator Deck Manager and is responsible for managing the Technical Directors and various site Contractors on the technical, and schedule issues.

16.1.3. Turbine Generator Technical Director: The TG Technical Director is responsible for providing OEM quality technical assistance as well as alternative options with pros and cons for pricing, schedule, and risk to all people involved with the project and the final report.

16.1.4. The OCC Contractor shall provide an ample force of workers and supervisors with enough equipment, tools, and facilities to perform the work at the rate of progress defined by the contract and project milestones at the minimum levels listed below:

16.1.5. Job management

16.1.5.1. 1 dayshift Superintendent

16.1.5.2. 1 nightshift Supervisor

16.1.6. Craft labor

16.1.6.1. 3 Millwright Journeymen + 1 Millwright Working Forman per shift on the Hp/Ip turbine - minimum.

16.1.6.2. 3 Millwright Journeymen + 1 Millwright Working Forman per shift on the LP A and B Turbines - minimum.

16.1.6.3. 3 Millwright Journeymen + 1 Millwright Working Forman per shift on the Generator and Alterex – minimum (if scope is performed)

16.1.6.4. 1 Rigging certified Millwright Journeyman + 1 Millwright Journeyman + 3 Millwright Journeymen with Gantry Crane certs + 2 Millwright Crane spotters full time on each shift at a minimum dedicated only for rigging and crane moves for the entire project.

16.1.6.5. 1 Millwright dedicated full time on each shift starting on the first day of the outage until all parts are cleaned, repaired, and ready for assembly.

16.1.6.6. 4 Millwright Journeymen per shift for disassembly and expected gage work.

16.1.7. Onsite job support structure

16.1.8. Offsite job support structure

16.1.9. Jobsite Tooling

16.1.9.1. Main Turbine tool set, bins, trailers, etc. staged on turbine deck near unit

16.1.9.2. Bolting heating equipment and back-up unit in case of freeze up issues (City of Grand Island)

16.1.9.3. Forklift and/or JLG manlift as required.

16.1.9.4. Auxiliary air compressor if plant air is inadequate.

16.1.9.5. Temporary power distribution centers

16.1.9.6. Compressed air manifolds

16.1.9.7. Hy Torq sets and sockets for GE type bolting.

16.1.9.8. Valve stands.

16.1.9.9. Work and welding tables

16.1.10. Identify team roles.

16.1.10.1. Identify who will fill roles.

16.1.10.2. Identify expectations of each role here.

16.1.10.3. Identify union or non-union labor for execution of the work.

16.1.10.4. If union – 100% Westinghouse Millwright Agreement.

17. Terms & Conditions (Master Purchase Order Agreement)

The City of Grand Island Supply Chain representative shall provide the appropriate City of Grand Island terms and conditions along with the Request for Proposal to be used, in connection with the Work. If you have a current Master Agreement already in place with City of Grand Island, it will be reviewed and if appropriate, may be used to cover such work as well.

18. Pricing Sheet

18.1. Base Work Scope

18.1.1. Bidder shall provide price quotations as defined in the Pricing Appendix located in Appendix B for the base scope of work. Pricing is T&M and by package only, then supplemented by Gage pricing for selected potential extra work.

18.1.2. Appendix B for T&M Pricing Tables

18.1.3. Appendix C for Gage Repair T&M Daily (2 shift) Pricing Tables

18.1.4. Bidder shall provide T&M Rates including Markups for Consumables, Materials, Transportation, Subcontracted Contractors, etc.

18.1.5. Straight time rate:

18.1.6. Overtime rate:

18.1.7. Tooling extras:

18.1.8. Other:

18.2. Optional Pricing

Bidder may submit optional pricing along with their base bid for such supplemental scope as known Technical Advisories, Service bulletins, Best Industry Practices, etc.

18.3. Small Tools

City of Grand Island will not accept invoices for small tools needed for emergent or extra work required during this Project. Therefore, Bidders are asked to ADD their estimated cost for small tools (generally valued at $1,200 or less) into their fixed gage pricing. Bidders should further include provision for same (e.g., + $ .50 hr.) in their T&M rates for EMERGENT, EXTRA WORK ONLY an adder for use of Small Tools. The attached Small Tool List – although not inclusive – is an example of such tools that could be utilized for such work.

18.4. Extra Work

18.4.1. Company may, at any time, request Contractor to perform additional work outside the specific scope authorized by this Agreement ("Extra Work"). Extra Work, except in the case of an emergency, will be initiated using an Extra Work Order Form that specifies the Extra Work requested. The request for Extra Work will be made by Company and issued to Contractor by Company's buyer. Within seven (7) days of receipt of the request for Extra Work, Contractor will submit to Company's buyer, in writing, a proposal for accomplishing the Extra Work, including the cost, start and completion date. Extra Work will be authorized to be performed only upon the execution of the Extra Work Order Form by the Contractor, Company's Contract Coordinator, and Company's Contract Administrator. Compensation for Extra Work will be in accordance with the Extra Work Rates listed below. Invoices will be submitted and paid after completion of outage.

18.4.2. Company's Contract Coordinator may, by oral request, ask Contractor to perform Extra Work, in the event of an emergency which threatens either life or property. In that event, Contractor agrees to perform the requested Extra Work based upon the Extra Work Rates listed below. Emergency Extra Work will be confirmed in a written Extra Work Order as soon as practical.

18.4.3. Supervision of extra work scopes that do not change the scheduled shift arrangement or outage length will be covered by the base bid.

18.4.4. All extra work will be approved through a Contractor generated Extra Work Authorization (EWA) program using forms approved by City of Grand Island.

18.4.5. EWAs should be submitted as either fixed cost or T&M not to exceed cost basis at City of Grand Island's preference, based on Contractor's T&M rates supplied in their proposal.

18.4.6. City of Grand Island will assign revised PO #s for any authorized EWAs.

18.4.7. EWAs can only be authorized by authorized City of Grand Island representatives. E-mail authorization is acceptable.

18.4.8. All time sheets must be submitted to be signed by the City of Grand Island representative on the shift during which work scope is performed.

18.4.9. A running total of costs, per authorized EWA, will be generated by the Contractor on a daily weekday basis. These reports will be available by 1:00 pm Central Time and include all charges up to the end of shift of the previous night, which in most cases will be 07:00 am Central Time of the same day.

18.4.10. Time and material rates shall be furnished with each proposal.

18.5. Proposal Expiration

18.5.1. This proposal shall be valid for a period of one year past the original outage start date defined on page 1 of this technical specification.

19. Execution Milestone Dates

The following is a list of execution milestones dates which align with defined work scope and or groups of work scopes identified within the work break down structure of this work package and others. This list is not intended to be all inclusive of the milestones which will be identified throughout the detail planning of the project. Note: "**S**" is defined as the outage start date listed on the title page of this specification. + are number of days beyond the designated day while – is dates prior.

19.1. Milestone Dates:

19.1.1. Job Plan Submitted: **S** – 30 days.

19.1.2. Final Laydown Plan Submitted: **S** – 12 days.

19.1.3. Mobilization Start: **S** – 14 days (TG TD & TD Contractor Only)

19.1.4. Mobilization Complete: **S** – 1 day.

19.1.5. LOTO Release to Work on Turbine: **S** + 1 day.

19.1.6. LOTO Release to Work on Generator: **S** + 2 days.

19.1.7. HP Disassembly Starts: **S** + 2 days.

19.1.8. Generator Disassembly Start: **S** + 3 days.

19.1.9. HP Rotor Out: **S** + 7 days.

19.1.10. All HP Diaphragms Out: **S** + 8 days.

19.1.11. HP Diaphragm Cleaning & Inspection Complete: **S** + 13 days.

19.1.12. HP Rotor Shop Cleaning & Inspection Complete: **S** + 14 days.

19.1.13. Generator Mechanical & Electrical Testing Complete: **S** + 15 days.

19.1.14. All Site Disassembly & Inspections Complete: **S** + 21 days.

19.1.15. HP Tops-On Laser Alignment Complete: **S** + 36 days.

19.1.16. HPIP-LPA Rotor In: **S** + 37 days.

19.1.17. HPIP Assembled: **S** + 40 days.

19.1.18. HP Alignment & Pedestals Complete: **S** + 45 days.

19.1.19. Unit on Oil and Turning Gear: **S** + 47 days.

19.1.20. Start-up Checks Complete: **S** + 49 days.

19.1.21. Full Release of Unit: **S** + 50 days.

19.1.22. Final Report Submitted: **S** + 80 days.

20. Milestone Invoicing

The Contractor shall invoice the following short of Liquidated Damages, if incurred, as addressed in Section 15 upon meeting satisfactory completion of key execution milestone dates and coming to the calendar date.

20.1. Job Plan Provided = 10%

20.2. Mobilization complete = 10%

20.3. All site disassembly & inspections complete = 40%

20.4. Full release of unit = 30%

20.5. Final report submitted = 10%

21. Cancellation Structure

In the event City of Grand Island elects to cancel the work package for convenience, after the work package has been awarded to the Contractor, at any time before the date that is 30 days prior to the Job Plan execution milestone, Contractor shall not be entitled to any compensation. After such date, termination by City of Grand Island for convenience will be governed by the City of Grand Island terms and conditions.

21.1. There will be no cancellation, escalation, or adder charges, in the event City of Grand Island choses to move the project to start within one (1) year from the defined project start date.

22. Warranty

All work covered under this scope shall be warrantied for a minimum of 1 year from project completion. This project shall be considered complete pending final report from TGTS. All warranties to be in accordance with the City of Grand Island terms and conditions.

23. Insurance

The Contractor shall comply with the City of Grand Island Insurance requirements.

24. Performance and Payment Bond

The Contractor shall file with the OWNER Performance and Payment Bonds in the full amount (100 percent) of the Contract price, as security for the faithful performance of the Contract and the payment of all persons supplying labor and materials for the Work under this Contract, and to cover all guarantees against defective workmanship or materials, or both, for a period of 1 year after the date of final acceptance of the Work by the Owner. The Surety furnishing these bonds shall have a record of service satisfactory to the OWNER, be authorized to do business in the State where the OWNER's project is locates and shall be named on the current list of approved Surety Companies, acceptable on Federal bonds as published by the Audit Staff, Bureau of Accounts, U.S. Treasury Department.

The Attorney -in-Fact (Resident Agent) who executes these bonds on behalf of the Surety must attach a notarized copy of their power-of-attorney as evidence of their authority to bind the Surety on the date of execution of the bond.

25. Reference and Experience

25.1. Please provide resumes of key staffing personnel

(Project Manager, Site Superintendent, Safety person, General Foreman, etc.) you will employ for the Work performed.

25.2. Please provide a list of similar work or projects for other Customers

Beginning with the most recent - including Customer name, key contact, title, phone no. and email address.

26. Drawings and Site Information

A selection of drawings has been provided with the bid package for reference only. Additional drawings are available for review at Platte Generating Station office. The Contractor is responsible for making such pre-bid site visits as required to obtain additional details for bidding and execution of the work and for clarification of any questions or concerns the bidder may have related to the work scope and site conditions.

27. Proposal format (Exceptions & Clarifications)

27.1. Bidder must provide a proposal that includes:

27.1.1. An identical structure of bullet points as listed in the Technical Specification document.

27.1.2. Additional services, support, and clarifications Bidder supplies should be clearly separated from Exceptions in the specific section.

27.1.3. The Bidder shall state in the proposal any, and all exceptions to spec.

27.1.4. If there are no exceptions, it shall be so stated in writing.

27.1.5. Pricing to be provided broken out into format in Appendix C for all bids.

27.1.6. Indicate your complete mailing address for our purchase order.

27.1.7. Proposed alternatives shall be identified. After award of the contract, should the Contractor desire to deviate from the specification, the Contractor shall present in writing the intended deviation and shall receive written approval from the contract manager prior to implementing the change. The Contractor is responsible for compliance with all the detailed requirements in the specification. Nothing in the specification shall relieve the Contractor of the responsibility for performing, in addition to the requirements of the specification, such tests, inspections, design checks, and other activities that the Contractor considers necessary to ensure the quality of the job. Any unapproved nonconformity with the specification shall be changed to complete conformity at the Contractor’s expense.

28. Appendix A – Base Scope Activities

1.1. HP/IP

1.1.1. Front Standard

Gib Key	**1.1.1.1.1.**	Disassembly	Y	Remove front standard gib key
T-1 Outer Oil Deflector	**1.1.1.1.1.**	Disassembly	Y	Unbolt & remove L/H T-1 outer oil deflector
T-1 Bearing Pedestal	**1.1.1.1.1.**	Disassembly	Y	Unbolt & remove front standard cover & install FME plug in drain
T-1 Bearing TSI	**1.1.1.2.1.**	Disassembly	Y	Measure gaps & remove T-1 bearing TSI - (City of Grand Island)
Front Standard TSI	**1.1.1.2.1.**	Disassembly	Y	Measure gaps & remove front standard TSI - eccentricity, speed, & TE DE - (City of Grand Island)
T-1 Bearing	**1.1.1.3.1.**	Disassembly	Y	Disassemble & remove U/H T-1 bearing
T-1 Bearing	**1.1.1.3.1.**	Disassembly	Y	Remove L/H T-1 bearing
Thrust Bearing	**1.1.1.3.1.**	Disassembly	Y	Perform opening bump check
Thrust Bearing	**1.1.1.3.1.**	Disassembly	Y	Disassemble unit thrust bearing
Main Shaft Oil Pump	**1.1.1.4.1.**	Disassembly	Y	Disassemble & remove MSOP
Steam Seal Regulator	**1.1.1.4.1.**	Disassembly	Y	Remove unit steam seal regulator. Prep for shipment and load on truck to vendor
Gib Key	**1.1.1.1.2.**	Cleaning	Y	Clean front standard gib key, & bolting
T-1 Bearing Pedestal	**1.1.1.1.2.**	Cleaning	Y	Clean, & stone front standard joints, fits, & bolting
T-1 Outer Oil Deflector	**1.1.1.1.2.**	Cleaning	Y	Clean, & stone T-1 outer oil seal joints, fits, & bolting
T-1 Bearing TSI	**1.1.1.2.2.**	Cleaning	Y	Clean T-1 bearing TSI - (City of Grand Island)
Front Standard TSI	**1.1.1.2.2.**	Cleaning	Y	Clean front standard TSI - (City of Grand Island)
T-1 Bearing	**1.1.1.3.2.**	Cleaning	Y	Clean T-1 bearing
Thrust Bearing	**1.1.1.3.2**	Cleaning	Y	Clean thrust bearing components
Main Shaft Oil Pump	**1.1.1.4.2.**	Cleaning	Y	Clean, & stone joints & fits of MSOP & bolting
Front Standard	**1.1.1.4.2.**	Cleaning	Y	Remove front standard sliding rails. Clean dried grease. Install rails and grease
Gib Key	**1.1.1.1.3.**	Inspection	Y	VT front standard gib key components & measure
T-1 Bearing Pedestal	**1.1.1.1.3.**	Inspection	Y	VT front standard components

	T-1 Outer Oil Deflector	**1.1.1.1.3.**	Inspection	Y	VT T-1 outer oil deflector & measure ID of seals & components
	T-1 Bearing TSI	**1.1.1.2.3.**	Inspection	Y	VT & electrically test T-1 bearing TSI - (City of Grand Island)
	Thrust Bearing TSI	**1.1.1.2.3.**	Inspection	Y	VT & electrically test thrust bearing TSI - (City of Grand Island)
	Front Standard TSI	**1.1.1.2.3.**	Inspection	Y	VT & electrically test front standard TSI - (City of Grand Island)
	T-1 Bearing	**1.1.1.3.3.**	Inspection	Y	VT, UT measure radial clearances,
	Thrust Bearing	**1.1.1.3.3.**	Inspection	Y	Vt, Inspect & perform dimensional inspections
	Main Shaft Oil Pump	**1.1.1.3.4.**	Inspection	Y	VT MSOP components
	Oil Piping	**1.1.1.7.3.**	Inspection	Y	VT front standard oil piping components
	Gib Key	**1.1.1.1.5.**	Assembly	Y	Adjust clearance & install front standard gib key
	T-1 Bearing Pedestal	**1.1.1.1.5.**	Assembly	Y	Remove FME plug, install front standard cover, & bolt
	T-1 Outer Oil Deflector	**1.1.1.1.5.**	Assembly	Y	Assemble, set, & bolt T-1 outer oil deflector
	T-1 Bearing TSI	**1.1.1.2.5.**	Assembly	Y	Assemble, gap, & checkout T-1 bearing TSI - (City of Grand Island)
	Front Standard TSI	**1.1.1.2.5.**	Assembly	Y	Assemble, gap, & checkout front standard TSI - (City of Grand Island)
	T-1 Bearing	**1.1.1.3.5.**	Assembly	Y	Install L/H T-1 bearing, blue to seat, & scrape as required
	T-1 Bearing	**1.1.1.3.5.**	Assembly	Y	Install U/H T-1 bearing & measure "as left" radial clearances
	Thrust Bearing	**1.1.1.3.5.**	Assembly	Y	Install thrust bearing and measure "as left" bump check
	Main Shaft Oil Pump	**1.1.1.4.5.**	Assembly	Y	Assemble MSOP
	Oil Piping	**1.1.1.7.5.**	Assembly	Y	Assemble front standard oil piping
	Steam Seal Regulator	**1.1.1.7.5.**	Assembly	Y	Receive steam seal regulator from repair vendor. Install regulator.
1.1.2.	**HP/IP Steam Path**				
	Insulation	**1.1.2.0.1.**	Disassembly	Y	Remove main steam inlets, shell & crossover joint insulation - (City of Grand Island)

Instrumentation	**1.1.2.1.1.**	Disassembly	Y	Remove shell thermocouples - (City of Grand Island)
Outer Shell	**1.1.2.3.1.**	Disassembly	Y	Erect scaffolding to main-steam inlet flanges & Crossover piping - (City of Grand Island)
Gib Key	**1.1.2.3.1.**	Disassembly	Y	Remove outer shell gib key
Gib Key	**1.1.2.3.1.**	Disassembly	Y	Remove scaffolding from main steam inlet flanges. (City Of Grand Island)
Outer Shell	**1.1.2.3.1.**	Disassembly	Y	Measure "Relaxed" outer shell horizontal joint gaps @ each bolt
Outer Shell	**1.1.2.3.1.**	Disassembly	Y	Receive, unload, & stage bolt heating contractor equipment by HP/IP
Outer Shell	**1.1.2.3.1.**	Disassembly	Y	Wire bolt heating contractor equipment - (City of Grand Island)
Crossover Piping	**1.1.2.4.1.**	Disassembly	Y	Weld shipping braces, unbolt, & remove crossover piping sections. (2) total
Outer Shell	**1.1.2.3.1**	Disassembly	Y	Unbolt & Remove (2) RHT Crossover pipes
Outer Shell	**1.1.2.3.1.**	Disassembly	Y	Unbolt outer HP shell, jack up, & remove
N-1 Bolt-On Steam Packing	**1.1.2.3.1.**	Disassembly	Y	Unbolt & remove U/H N-1 Bolt-On steam packing casing
N-3 Bolt-On Steam Packing	**1.1.2.3.1.**	Disassembly	Y	Unbolt & remove U/H N-3 Bolt-On steam packing casing
Outer Shell	**1.1.2.3.1.**	Disassembly	Y	Measure oil, gland bore, & axial rotor position readings @ N1, N3 locations
Main Steam Inlet Piping	**1.1.2.4.1.**	Disassembly	Y	Unbolt & separate main steam inlet flanges
#1 HP Inner Shell	**1.1.2.5.1.**	Disassembly	Y	Measure "Relaxed" #1 HP inner shell horizontal joint gaps @ each bolt
#1 HP Inner Shell	**1.1.2.5.1.**	Disassembly	Y	Unbolt #1 HP inner shell, jack up, & remove
#1 HP inner Shell	**1.1.2.5.1.**	Disassembly	Y	Turn #1 HP inner shell for diaphragm removal
#1 HP Inner Shell	**1.1.2.5.1.**	Disassembly	Y	Remove U/H HP diaphragms stages 2-9
#1 HP Inner Shell	**1.1.2.5.1.**	Disassembly	Y	Remove BDV pipe from L/H inner HP #1 shell
#1 HP Inner Shell	**1.1.2.5.1.**	Disassembly	Y	Remove 1st stage pressure tap & T/C pipes LWR Shell
#1 HP Inner Shell	**1.1.2.5.1.**	Disassembly	Y	Perform L/H diaphragm drop checks @ inner shell stages 2-9
#1 HP Inner Shell	**1.1.2.5.1.**	Disassembly	Y	Remove L/H diaphragms stages 2-9
# 1 HP Inner Shell	**1.1.2.5.1.**	Disassembly	Y	Remove HP diaphragm packing rings stages 2-9
#1 HP Inner Shell	**1.1.2.5.1.**	Disassembly	Y	Perform #1 HP inner shell to

				outer shell drop checks and remove L/H inner shell #1
#1 HP Inner Shell	**1.1.2.5.1.**	Disassembly	**Y**	Load #1 HP inner shell halves for shipment to vendor
#2, #3 IP Inner Shells	**1.1.2.5.1.**	Disassembly	**Y**	Measure "Relaxed" #2, #3 IP inner shell horizontal joint gaps @ each bolt
#2, #3 IP Inner Shells	**1.1.2.5.1.**	Disassembly	**Y**	Unbolt#2, #3 inner shells, jack up, & remove
#2, #3 IP Inner Shells	**1.1.2.5.1.**	Disassembly	**Y**	Turn #2 & #3 U/H inner IP shells for diaphragm removal
#2 #3 IP Inner Shells	**1.1.2.5.1.**	Disassembly	**Y**	Remove diaphragms from #2 & #3 U/H shells. Stages 10-18.
#2 #3 IP Inner Shells	**1.1.2.5.1.**	Disassembly	**Y**	Perform L/H RHT diaphragm drop checks @ inner shells stages 10-18
#2 #3 IP Inner Shells	**1.1.2.5.1.**	Disassembly	**Y**	Remove L/H diaphragms stages 10-18
#2 #3 IP Inner Shells	**1.1.2.5.1.**	Disassembly	**Y**	Perform IP #2 #3 inner shell to outer shell drop checks
#2, #3 IP Inner Shells	**1.1.2.5.1.**	Disassembly	**Y**	Unwire bolt heating contractor equipment - (City of Grand Island)
#2, #3 IP Inner Shells	**1.1.2.5.1.**	Disassembly	**Y**	Load out & ship bolt heating contractor equipment
N-1 Steam Packing	**1.1.2.5.1.**	Disassembly	**Y**	Unbolt & remove U/H N-1 steam packing casing
N-2 Steam Packing	**1.1.2.5.1**	Disassembly	**Y**	Unbolt & remove U/H N-2 steam packing casing
N-3 Steam Packing	**1.1.2.5.1.**	Disassembly	**Y**	Unbolt & remove U/H N-3 steam packing casing
N1, N2, N3 Packing	**1.1.2.5.1.**	Disassembly	**y**	Perform packing casing to shell drop checks
N-1 Steam Packing	**1.1.2.5.1.**	Disassembly	**Y**	Remove L/H N-1 steam packing casing
N-2 Steam Packing	**1.1.2.5.1**	Disassembly	**Y**	Remove L/H N-2 steam packing casing
N-3 Steam Packing	**1.1.2.5.1.**	Disassembly	**Y**	Remove L/H N-3 steam packing casing
#2, #3 IP Inner Shells	**1.1.2.5.1.**	Disassembly	**Y**	Remove RHT section diaphragm packing rings stages 10-18
Nozzle Plate – U/H	**1.1.2.6.1.**	Disassembly	**Y**	**Not being removed on site**
N-1 Steam Packing	**1.1.2.6.1**	Disassembly	**Y**	Remove N-1 steam packing rings
N-2 Steam Packing	**1.1.2.6.1.**	Disassembly	**Y**	Remove N-2 steam packing rings
N-3 Steam Packing	**1.1.2.6.1.**	Disassembly	**Y**	Remove N-3 steam packing rings

Nozzle Plate – L/H	**1.1.2.6.1.**	Disassembly	Y	**Not being removed on site**
N-2 Steam Packing	**1.1.2.6.1.**	Disassembly	Y	Remove L/H N-2 steam packing rings
Rotor – HPIP-LPA	**1.1.2.9.1.**	Disassembly	Y	Chart "as found" rotor axial & radial clearances, outside references, & oil bores
Rotor – HPIP-LPA	**1.1.2.9.1.**	Disassembly	Y	**Rig & remove rotors (1) Lift**
Insulation	**1.1.2.0.2.**	Cleaning	Y	Clean up loose insulation, wires, lugs, & shielding - (City of Grand Island)
Instrumentation	**1.1.2.1.2.**	Cleaning	Y	Clean shell thermocouples - (City of Grand Island)
Instrumentation	**1.1.2.1.2.**	Cleaning	Y	Clean shell thermowells - (City of Grand Island)
Outer Shell	**1.1.2.3.2.**	Cleaning	Y	Receive, unload, & stage dustblast contractor equipment
Outer Shell	**1.1.2.3.2.**	Cleaning	Y	Wire dustblast contractor equipment - (City of Grand Island)
Outer Shell	**1.1.2.3.2.**	Cleaning	Y	Support dust blast outer shell joints, & fits
Outer Shell	**1.1.2.3.2.**	Cleaning	Y	Stone outer shell joints, & fits & clean bolting
Gib Key	**1.1.2.3.2.**	Cleaning	Y	Clean shell gib key & bolting
N-1 Bolt-On Steam Packing	**1.1.2.3.2.**	Cleaning	Y	Support dust blast N-1 bolt-on steam packing components
N-3 Bolt-On Steam Packing	**1.1.2.3.2.**	Cleaning	Y	Support dust blast N-3 bolt-on steam packing components
Main Steam Inlet Piping	**1.1.2.4.2.**	Cleaning	Y	Clean, & stone main steam inlet flanges joints, fits, & bolting
Crossover Piping	**1.1.2.4.2.**	Cleaning	Y	Clean, & stone crossovers flange joints, fits, & bolting
#1 HP Inner Shell	**1.1.2.5.2.**	Cleaning	Y	**Support shipment & receiving back from shop vendor**
N-1 Steam Packing	**1.1.2.5.2.**	Cleaning	Y	Support dust blast N-1 steam packing casing joints, fits, & components
N-2 Steam Packing	**1.1.2.5.1**	Cleaning	Y	Support dust blast N-2 steam packing casing joint, fits, & components
#2, #3 IP Inner Shells	**1.1.2.5.2.**	Cleaning	Y	Support dust blast #2 IP inner shell joints, fits, & components
N-3 Steam Packing	**1.1.2.5.2.**	Cleaning	Y	Support dust blast N-3 steam packing casing joints, fits, & components
HP Diaphragms	**1.1.2.5.2.**	Cleaning	Y	Support dust blast HP diaphragms stages 2-9
RHT Diaphragms	**1.1.2.6.2.**	Cleaning	Y	Support dust blast RHT diaphragms stages 10-18
Nozzle Pipes	**1.1.2.6.2.**	Cleaning	Y	Support dust blast nozzle pipes – pipes are lower portion of CV seats in OTR Shells

Rotor – HPIP-LPA	**1.1.2.9.2.**	Cleaning	Y	**Support dust blast coupled rotors. Prep bearing journals**
Rotor – HPIP-LPA	**1.1.2.9.2.**	Cleaning	Y	Clean, hone, & stone rotor coupling joints, fits, journals, & bolting
Insulation	**1.1.2.0.3.**	Inspection	Y	VT insulation - (City of Grand Island)
Instrumentation	**1.1.2.1.3.**	Inspection	Y	VT shell thermocouples - (City of Grand Island)
Instrumentation	**1.1.2.1.3.**	Inspection	Y	VT shell thermowells - (City of Grand Island)
Outer Shell	**1.1.2.3.3.**	Inspection	Y	VT, PT, & MT outer shell joints, fits, steam flanges & UT studs
Outer Shell	**1.1.2.3.3**	Inspection	Y	Clean & measure CV bonnet fit bores to verify ovality – (6) locations
Outer Shell	**1.1.2.3.3.**	Inspection	Y	Support CV #2 seat removal vendor. **Assume 20 MHRS.**
Gib Keys	**1.1.2.3.3.**	Inspection	Y	VT - measure outer shell gib key components
N-1 Bolt-On Steam Packing	**1.1.2.3.3.**	Inspection	Y	VT, PT, & MT N-1 bolt-on steam packing components
N-3 Bolt-On Steam Packing	**1.1.2.3.3.**	Inspection	Y	VT, PT, & MT N-3 bolt-on steam packing components
Main Steam Inlet Piping	**1.1.2.4.3.**	Inspection	Y	VT main steam inlet flanges components
Crossover Piping	**1.1.2.4.3.**	Inspection	Y	VT crossover flanges
N-1Steam Packing	**1.1.2.5.3.**	Inspection	Y	VT & MT N-1 steam packing components
#2, #3 IP Inner Shells	**1.1.2.5.3.**	Inspection	Y	VT & MT #2 IP inner shell joints, fits, & UT studs
N-3 Steam Packing	**1.1.2.5.3.**	Inspection	Y	VT & MT N-3 steam packing components
HP Diaphragms	**1.1.2.5.3**	Inspection	Y	VT & MT HP diaphragms stages 2-9
RHT Diaphragms	**1.1.2.6.3.**	Inspection	Y	VT & MT RHT diaphragm components stages 10-18
Nozzle Pipes	**1.1.2.6.3.**	Inspection	Y	Measure nozzle pipe diameters. Pipes are part of each CV seat (5) Total
Nozzle Pipes	**1.1.2.6.3.**	Inspection	Y	VT & MT nozzle pipes
N-2 Steam Packing	**1.1.2.8.3.**	Inspection	Y	VT & MT N-2 steam packing components
Rotors-HPIP-LPA	**1.1.2.9.3.**	Inspection	Y	Support VT, MT, & UT vendors. Assume 20 MHRS.
Rotors- HPIP-LPA	**1.1.2.9.3.**	Inspection	Y	VT, MT, & UT rotors
Rotors – HPIP-LPA	**1.1.2.9.3.**	Inspection	Y	Measure rotor "B" coupling & coupling bolt holes, journals, thrust runner. Oil deflector journals

Rotors – HPIP-LPA	**1.1.2.9.3.**	Inspection	Y	Support phased array vendor. **Assume 10 MHRS**.
Alignment – Tops on	**1.1.2.9.3.**	Inspection	Y	Support laser alignment vendor when taking readings **Assume 20 MHRS.**
Alignment – Tops on	**1.1.2.9.3.**	Inspection	Y	Install L/H inner HP #1 shell
Alignment – Tops on	**1.1.2.9.3.**	Inspection	Y	Install L/H HP section diaphragms stages 2-9
Alignment- Tops on	**1.1.2.9.3.**	Inspection	Y	Install L/H Inner RHT Shells #2 & #3
Alignment- Tops on	**1.1.2.9.3.**	Inspection	Y	Install U/H inner HP #1 shell, check joint gap, bolt to close joint
Alignment – Tops on	**1.1.2.9.3.**	Inspection	Y	Install L/H only N1-N3 packing casings
Alignment – Tops on	**1.1.2.9.3.**	Inspection	Y	Install L/H only RHT section diaphragms stages 10-18
Alignment – Tops on	**1.1.2.9.3**	Inspection	Y	Install U/H Inner RHT #2 & #3 shells, check joint gaps, bolt to close joint
Alignment – Tops on	**1.1.2.9.3.**	Inspection	Y	Install HPIP outer shell. Bolt to close joint.
Alignment – Tops off	**1.1.2.9.3.**	Inspection	Y	Remove HPIP outer shell & inner shells. Turn inner shells for installation of U/H diaphragms
Alignment – Top off	**1.1.2.9.3.**	Inspection	Y	Perform component alignment changes as directed by laser alignment specialist for final desired position
Insulation	**1.1.2.0.5.**	Assembly	Y	Install insulation - (City of Grand Island)
Instrumentation	**1.1.2.1.5.**	Assembly	Y	Install shell thermocouples & checkout. (City Of Grand Island)
Outer Shell	**1.1.2.3.5.**	Assembly	Y	Rig, level, set, & bolt U/H outer shell - measure "as left" joint gaps @ each bolt
Gib Key	**1.1.2.3.5.**	Assembly	Y	Install outer shell gib key
N-1 Bolt-On Steam Packing	**1.1.2.3.5.**	Assembly	Y	Install, set, & bolt U/H N-1 bolt-on steam packing
N-3 Bolt-On Steam Packing	**1.1.2.3.5.**	Assembly	Y	Install, set, & bolt U/H N-3 bolt-on steam packing
N1 & N3 bolt on steam packing	**1.1.2.3.5.**	Assembly	Y	Record final set oil & gland bores with rotor axial position
Main Steam Inlet Piping	**1.1.2.4.5.**	Assembly	Y	Install new gaskets & assemble main steam inlet flanges
Crossover Piping	**1.1.2.4.5.**	Assembly	Y	Install new gaskets & assemble crossover
#1 HP Inner Shell	**1.1.2.5.5.**	Assembly	Y	Set & align L/H #1 HP inner shell
#1 HP Inner Shell	**1.1.2.5.5.**	Assembly	Y	Record final L/H inner HP shell to HP outer shell drop checks
#1 HP Inner Shell	**1.1.2.5.5.**	Assembly	Y	Set & align L/H HP diaphragms stages 2-9. Record final drop

					checks
	#1 HP Inner Shell	**1.1.2.5.5.**	Assembly	Y	Install & set U/H HP diaphragms stages 2-9. Record final drop checks. Turn shell for installation
	N-1 Steam Packing	**1.1.2.5.5.**	Assembly	Y	Set & align L/H N-1 inner steam packing casing. Record final drop check
	N-2 Steam Packing	**1.1.2.5.5.**	Assembly	Y	Set & align L/H N-2 inner steam packing casing. Record final drop check
	N-3 Steam Packing	**1.1.2.5.5.**	Assembly	Y	Set & align L/H N-3 inner steam packing casing. Record final drop check
	#2, #3 IP Inner Shells	**1.1.2.5.5.**	Assembly	Y	Set & align L/H #2, #3 IP inner shells
	#2, #3 IP Inner Shells	**1.1.2.5.5.**	Assembly	Y	Record final L/H inner IP shells to HPIP outer shell drop checks
	#2, #3 IP Inner Shells	**1.1.2.5.5.**	Assembly	Y	Set & align L/H IP diaphragms stages 10-18. Record final drop checks
	#2, #3 IP Inner Shells	**1.1.2.5.5.**	Assembly	Y	Install & set U/H IP diaphragms stages 10-18. Record final drop checks. Turn shells for installation
	#1 HP Inner Shell	**1.1.2.5.5.**	Assembly	Y	Rig, level, set, & bolt U/H #1 HP shell - measure "as left" joint gaps @ each bolt
	#2, #3 IP Inner Shells	**1.1.2.5.5.**	Assembly	Y	Rig, level, set, & bolt U/H #2, #3 IP shells - measure "as left" joint gaps @ each bolt
	HP & IP Inner Shells	**1.1.2.5.5.**	Assembly	Y	Load in bolt heater Contractor.
	HP & IP Inner Shells	**1.1.2.5.5.**	Assembly	Y	Wire bolt heater Contractor. (City Of Grand Island)
	N-3 Steam Packing	**1.1.2.5.5.**	Assembly	Y	Install & bolt U/H N-3 steam packing casing
	N-2 Steam Packing	**1.1.2.8.5.**	Assembly	Y	Set & align L/H N-2 steam packing
	N-2 Steam Packing	**1.1.2.8.5.**	Assembly	Y	Install & bolt U/H N-2 steam packing
	Rotor – HPIP-LPA	**1.1.2.9.5.**	Assembly	Y	Rig, level, & set rotor (1) lift. Roll rotors for rubs
	Rotor	**1.1.2.9.5.**	Assembly	Y	Chart "as found" rotor axial & radial clearances, outside references, & oil bores
1.1.3.	**Mid Standard**				
	T2 outer bearing cover	**1.1.3.1.1.**	Disassembly	Y	Unbolt & remove T2 outer bearing cover with U/H oil deflectors. Install FME plug
	T-2 Oil Deflectors	**1.1.3.1.1.**	Disassembly	Y	Remove L/H T-2 outer oil deflectors

	T-2 Bearing TSI	**1.1.3.2.1.**	Disassembly	Y	Measure "as found" gaps & remove T-2 bearing TSI - (City of Grand Island)
	T-2 Bearing	**1.1.3.3.1.**	Disassembly	Y	Unbolt & remove U/H T-2 bearing
	T-2 Bearing	**1.1.3.3.1.**	Disassembly	Y	Remove L/H T-2 bearing
	T-2 Outer/Inner Oil Deflectors	**1.1.3.1.2.**	Cleaning	Y	Clean, & stone T-2, T3 outer oil seal joints, fits, & bolting
	T-2 Bearing Pedestal	**1.1.3.1.2.**	Cleaning	Y	Clean T-2 bearing pedestal
	T-2 Bearing TSI	**1.1.3.2.2.**	Cleaning	Y	Clean T-2 bearing TSI - (City of Grand Island)
	T-2 Bearing	**1.1.3.3.2.**	Cleaning	Y	Clean T-2 bearing. Clean support ring and bolting
	T-2 Oil Deflectors	**1.1.3.1.3.**	Inspection	Y	VT & measure T-2, T-3 oil deflectors seal bores & components
	T-2 Bearing Pedestal	**1.1.3.1.3.**	Inspection	Y	VT T-2, T-3 bearing pedestal components
	T-2 Bearing TSI	**1.1.3.2.3.**	Inspection	Y	VT and test T-2 bearing TSI - (City of Grand Island)
	T-2 Bearing	**1.1.3.3.3.**	Inspection	Y	VT, PT, UT, measure radial clearances
	T-2 Oil Deflectors	**1.1.3.1.5.**	Assembly	Y	Install & set T-2 L/H oil deflectors
	T-2 Bearing Pedestal	**1.1.3.1.5.**	Assembly	Y	Remove FME plug, set T-2 bearing pedestal cover, & bolt
	T-2 Bearing TSI	**1.1.3.2.5.**	Assembly	Y	Install, gap, & checkout T-2 bearing TSI - (City of Grand Island)
	T-2 Bearing	**1.1.3.3.5.**	Assembly	Y	Install L/H T-2 bearing, blue to support ring, & scrape as required for acceptable pad contact
	T-2 Bearing	**1.1.3.3.5.**	Assembly	Y	Install U/H T-2 bearing & measure "as left" radial clearances
	T2 Outer bearing cover	**1.1.3.3.5.**	Assembly	Y	Install & bolt T2 outer bearing cover with U/H oil deflectors. Remove FME plug

1.3. LPA

1.3.1. Turning Gear Standard

	T-3 Bearing Pedestal	**1.3.1.1.1.**	Disassembly	Y	Unbolt & remove turning gear & cover with U/H oil deflectors
	T-3 Outer Oil Deflector	**1.3.1.1.1.**	Disassembly	Y	Remove L/H T-3 oil deflectors
	Turning Gear Motor	**1.3.4.8.1.**	Disassembly	Y	Unwire & remove turning gear motor - (City of Grand Island)

T-3 Bearing TSI	**1.3.1.2.1.**	Disassembly	Y	Measure "as found" gaps & remove T-3 bearing TSI - (City of Grand Island)
T-3 Bearing	**1.3.1.3.1.**	Disassembly	Y	Unbolt & remove U/H T-3 bearing
T-3 Bearing	**1.3.1.3.1.**	Disassembly	Y	Remove L/H T-3 bearing
"B" Coupling	**1.3.1.3.1.**	Disassembly	Y	Disassemble "B" coupling and check alignment. Note ASM line and mark for reference
"B" Coupling	**1.3.4.7.2.**	Cleaning	Y	Clean, & stone "B" coupling faces. Check flange flatness
T-3 Bearing Pedestal	**1.3.1.1.2.**	Cleaning	Y	Clean, & stone T-3 bearing pedestal joints, fits, & bolting
T-3 Oil Deflectors	**1.3.1.1.2.**	Cleaning	Y	Clean, & stone T-3 oil seal joints, fits, & bolting
T-3 Bearing TSI	**1.3.1.2.2.**	Cleaning	Y	Clean T-3 bearing TSI - (City of Grand Island)
T-3 Bearing	**1.3.1.3.2.**	Cleaning	Y	Clean, stone, and polish T-3 bearing fits, & bolting
Turning Gear	**1.3.4.8.2.**	Cleaning	Y	Clean turning gear assembly
Turning Gear	**1.3.4.8.2.**	Cleaning	Y	Clean, & stone turning gear joints, fits, & components
Turning Gear Motor	**1.3.4.8.2.**	Cleaning	Y	Clean turning gear motor - (City of Grand Island)
Turning Gear	**1.3.4.8.2.**	Inspection	Y	Visually inspect turning gear assembly. Inspect drive chain & oil reservoir. Replace drive chain if worn. Fill with oil.
T-3 Bearing Pedestal	**1.3.1.1.3.**	Inspection	Y	VT T-3 bearing pedestal components
T-3 Oil Deflectors	**1.3.1.1.3.**	Inspection	Y	VT & measure T-3 oil deflectors seal bores & components
T-3 Bearing TSI	**1.3.1.2.3.**	Inspection	Y	VT and test T-3 bearing TSI - (City of Grand Island)
T-3 Bearing	**1.3.1.3.3.**	Inspection	Y	VT, PT, UT, measure radial clearances, & blue check T-3 bearing support pads to outer ring
"B" Coupling	**1.3.1.3.3.**	Inspection	Y	Dimensionally inspect "B" coupling bolts & fits. Measure coupling rabbit fit
"B" Coupling	**1.3.1.1.5.**	Assembly	Y	Check & adjust as needed "B" coupling alignment to generator to within OEM specs
"B" Coupling	**1.3.1.1.5.**	Assembly	Y	Assemble "B" coupling with match marks noted & stretch bolts to OEM specs. Perform final differential run outs checks
T-3 Bearing Pedestal	**1.3.1.1.5.**	Assembly	Y	Remove FME plug, install T-3 bearing cover, U/H oil deflectors & turning gear. Bolt Tight

	T-3 Oil Deflectors	**1.3.1.1.5.**	Assembly	Y	Install & set T-3 L/H oil deflectors
	T-3 Bearing	**1.3.1.1.5.**	Assembly	Y	Install T-3 lower bearing & square to journal
	T-3 Bearing TSI	**1.3.1.2.5.**	Assembly	Y	Install, gap, & checkout T-3 bearing TSI - (City of Grand Island)
	T-3 Bearing	**1.3.1.3.5.**	Assembly	Y	Install L/H T-3 bearing, blue to seat, & scrape as required for contact
	T-3 Bearing	**1.3.1.3.5.**	Assembly	Y	Install U/H T-3 bearing & measure "as left" radial clearances
1.3.2.	**LP A Steam Path**				
	Insulation	**1.3.2.0.1.**	Disassembly	Y	Remove crossover flange insulation - (City of Grand Island)
	Instrumentation	**1.3.2.1.1.**	Disassembly	Y	Remove exhaust hood instrumentation - (City of Grand Island)
	Exhaust Hood	**1.3.2.3.1.**	Disassembly	Y	Unbolt outer LPA exhaust hood and remove
	Atmospheric Relief Diaphragm	**1.3.2.3.1.**	Disassembly	Y	Upon removal of outer hood, pour water on diaphragms to check for leaks. (Removal is a Contingency)
	N-4 Steam Packing	**1.3.2.3.1.**	Disassembly	Y	Remove N-4 U/H steam packing carriers & packing rings
	N-4 Steam Packing	**1.3.2.3.1.**	Disassembly	Y	Complete drop checks & remove N-4 L/H steam packing carriers & packing rings
	N-5 Steam Packing	**1.3.2.3.1.**	Disassembly	Y	Remove N-5 U/H steam packing carriers & packing rings
	N-5 Steam Packing	**1.3.2.3.1.**	Disassembly	Y	Complete drop checks & remove N-5 L/H steam packing carriers & packing rings
	Crossover Piping	**1.3.2.4.1.**	Disassembly	Y	Erect scaffolding to crossover flanges (City of Grand Island)
	Crossover Piping	**1.3.2.4.1.**	Disassembly	Y	Install shipping braces, rig, unbolt, & remove crossover pipes (2) total
	LPA Inner Casing	**1.3.2.5.1.**	Disassembly	Y	Measure "Relaxed" joint gaps @ each bolt, unbolt, rig, & remove inner casing
	LPA Inner Casing	**1.3.2.5.1.**	Disassembly	Y	Turn LPA inner casing for U/H diaphragm removal, measure drops
	LPA Inner Casing	**1.3.2.5.1.**	Disassembly	Y	Record drop checks & remove U/H LPA diaphragms stages 19-22 TE & GE
	LPA Inner Casing	**1.3.2.5.1.**	Disassembly	Y	Record drop checks & remove L/H LPA diaphragms stages 19-

				22 TE & GE
Rotor – LPA - HPIP	**1.3.2.9.1**	Disassembly	Y	Chart "as found" rotor axial & radial clearances, outside references, & oil bores
Rotor – LPA - HPIP	**1.3.2.9.1**	Disassembly	Y	Rig, level, & remove HPIP-LPA rotor & set in stands
Insulation	**1.3.2.0.2.**	Cleaning	Y	Clean up loose insulation, wires, and shielding
Instrumentation	**1.3.2.1.2.**	Cleaning	Y	Clean instrumentation - (City of Grand Island)
Exhaust Hood	**1.3.2.3.2.**	Cleaning	Y	Clean, & stone exhaust hood joints, fits, & bolting
Atmospheric Relief Diaphragm	**1.3.2.3.2.**	Cleaning	Y	Clean, & stone atmospheric relief diaphragm components & bolting - Contingency
N-4 Steam Packing	**1.3.2.3.2.**	Cleaning	Y	Hand clean N-4 steam packing carrier joints, fits, & components
N-5 Steam Packing	**1.3.2.3.2.**	Cleaning	Y	Hand clean N-5 steam packing carrier joints, fits, & components
Crossover Piping	**1.3.2.4.2.**	Cleaning	Y	Hand clean inner casing crossover flanges
LPA Inner casing	**1.3.2.5.2.**	Cleaning	Y	Support dust blast of U/H inner shell joints and fits
LPA Inner casing	**1.3.2.5.2.**	Cleaning	Y	Hand cleaning of L/H inner shell joints and fits
LPA Diaphragms	**1.3.2.6.2.**	Cleaning	Y	Support dust blast of LPA diaphragms stages 19-22 TE & GE
Rotor – LPA-HPIP	**1.3.2.9.2**	Cleaning	Y	Support dust blast of LPA rotor section
Rotor - LPA	**1.3.2.9.2**	Cleaning	Y	Clean, hone, & stone rotor coupling joints, fits, journals, & bolting
Insulation	**1.3.2.0.3.**	Inspection	Y	VT insulation
Instrumentation	**1.3.2.1.3.**	Inspection	Y	VT & test instrumentation - (City of Grand Island)
Exhaust Hood	**1.3.2.3.3.**	Inspection	Y	VT exhaust hood components
Atmospheric Relief Diaphragm	**1.3.2.3.3.**	Inspection	Y	Support of VT & leak test atmospheric relief diaphragms components
N-4 Steam Packing	**1.3.2.3.3.**	Inspection	Y	Support of VT & MT N-4 steam packing components
N-5 Steam Packing	**1.3.2.3.3.**	Inspection	Y	Support of VT & MT N-5 steam packing components
Crossover Piping	**1.3.2.4.3.**	Inspection	Y	VT crossover flanges
LPA Inner Casing	**1.3.2.5.3.**	Inspection	Y	Support of VT & MT inner shell joints, fits
N-4 Steam Packing	**1.3.2.5.3.**	Inspection	Y	Support of VT & MT N-4 steam packing components

N-5 Steam Packing	**1.3.2.5.3.**	Inspection	Y	Support of VT & MT N-5 steam packing components
LPA Diaphragms	**1.3.2.6.3.**	Inspection	Y	Support of VT & MT of LPA diaphragms stages 19-22 TE & GE
Rotor - LPA	**1.3.2.9.3**	Inspection	Y	Measure rotor "B" coupling & spacer fits, coupling bolts, journals, & holes
Alignment – Tops on	**1.3.2.9.3.**	Inspection	Y	Install **L/H only** LPA diaphragms stages 19-22 TE & GE
Alignment – Tops on	**1.3.2.9.3.**	Inspection	Y	Turn & Install U/H LPA inner casing diaphragms **without** diaphragms. Bolt to close joint
Alignment – Tops on	**1.3.2.9.3.**	Inspection	Y	Install L/H packing carriers N4 & N5
Alignment – Tops on	**1.3.2.9.3.**	Inspection	Y	Install and bolt to close joint LPA outer hood
Alignment – Top on	**1.3.2.9.3.**	Inspection	Y	Laser alignment Contractor measures component positions
Alignment – Tops on	**1.3.2.9.3.**	Inspection	Y	Unbolt & remove U/H LP outer hood & inner casing. **Turn inner casing for installation of U/H diaphragms & packing rings**
Alignment – Tops off	**1.3.2.9.3.**	Inspection	Y	Laser alignment Contractor measures component positions with tops off and determines correction moves.
Alignment – Tops off	**1.3.2.9.3.**	Inspection	Y	Perform LP section component alignment moves to final desired position
Insulation	**1.3.2.0.5.**	Assembly	Y	Install crossover flange insulation
Instrumentation	**1.3.2.1.5.**	Assembly	Y	Install shell instrumentation - (City of Grand Island)
Exhaust Hood	**1.3.2.3.5.**	Assembly	Y	Rig, level, set, bolt exhaust hood,
LPA Diaphragms	**1.3.2.3.5.**	Assembly	Y	Install LPA L/H diaphragm packing rings stages 19-22 TE & GE
LPA Diaphragms	**1.3.2.3.5.**	Assembly	Y	Install LPA U/H diaphragms & packing rings into U/H inner casing. Check diaphragm drops and turn casing for final assembly
N-4 Steam Packing	**1.3.2.3.5.**	Assembly	Y	Install L/H N-4 steam packing rings.
N-4 Steam Packing	**1.3.2.3.5.**	Assembly	Y	Install U/H N-4 steam packing carriers. Check drops & adjust as required. Install packing rings
N-5 Steam Packing	**1.3.2.3.5.**	Assembly	Y	Install L/H N-5 steam packing rings
N-5 Steam Packing	**1.3.2.3.5.**	Assembly	Y	Install U/H N-5 steam packing carriers. Check drops & adjust as required. Install packing rings

	Crossover Piping	**1.3.2.4.5.**	Assembly	Y	Rig, level, set, & bolt crossover
	Inner Casing	**1.3.2.5.5.**	Assembly	Y	Rig, level, set, bolt U/H inner casing & measure "as left" joint gaps @ each bolt
	Rotor – LPA-HPIP	**1.3.2.9.5.**	Assembly	Y	Rig, level, & set rotor (1) Lift. Roll rotor to check for rubs.
	Rotor - LPA	**1.3.2.9.5.**	Assembly	Y	Chart "as found" rotor axial & radial clearances, outside references, & oil bores
	Crossover Piping	**1.3.2.4.5.**	Assembly	Y	Remove scaffolding from crossover flanges (City of Grand Island)

1.5. Gen

1.5.1. Generator Stator Frame

T4 Outer Oil Deflector & Bearing Cover	**1.5.1.1.1.**	Disassembly	Y	Measure "as found" radial clearances & unbolt & remove TE bearing cover & U/H oil deflector
TE Lube Oil Piping	**1.5.1.1.1.**	Disassembly	Y	Unbolt & remove TE lube oil piping
TE Seal Oil Piping	**1.5.1.1.1.**	Disassembly	Y	Unbolt & remove TE seal oil piping
TE Outer End Shield	**1.5.1.1.1.**	Disassembly	Y	Unbolt, rig, & remove TE U/H outer end shield
TE Outer End Shield	**1.5.1.1.1.**	Disassembly	Y	Unbolt, rig, & lower TE L/H outer end shield. Support from stator
T-4 Bearing	**1.5.1.1.1.**	Disassembly	Y	Unbolt U/H T-4 bearing & remove
T-5 Bearing	**1.5.1.1.1.**	Disassembly	Y	Unbolt U/H T-5 bearing & remove
EE Outer End Shield	**1.5.1.1.1.**	Disassembly	Y	Unbolt, rig, & remove EE U/H outer end shield
EE Outer End Shield	**1.5.1.1.1.**	Disassembly	Y	Unbolt, rig, & lower EE L/H outer end shield. Support from stator
EE Lube Oil Piping	**1.5.1.1.1.**	Disassembly	Y	Unbolt & remove EE lube oil piping
EE Seal Oil Piping	**1.5.1.1.1.**	Disassembly	Y	Unbolt & remove EE seal oil piping
T5 Outer Oil Deflector & Bearing Cover	**1.5.1.1.1.**	Disassembly	Y	Measure "as found" radial clearances & unbolt & remove CE bearing cover & U/H oil deflector.
T5 Bearing	**1.5.1.1.1.**	Disassembly	Y	Perform pinch check at disassembly to verify current pinch.
T-4 Bearing TSI	**1.5.1.2.1.**	Disassembly	Y	Measure "as found" gaps & remove T-7 bearing TSI - (City of Grand Island)
T-5 Bearing TSI	**1.5.1.2.1.**	Disassembly	Y	Measure "as found" gaps & remove T-8 bearing TSI - (City of Grand Island)
T-4 Bearing	**1.5.1.3.1.**	Disassembly	Y	Remove L/H T-4 bearing
T-5 Bearing	**1.5.1.3.1.**	Disassembly	Y	Remove L/H T-5 bearing
T-5 Bearing Insulated Ring	**1.5.1.3.1.**	Disassembly	Y	Remove T-5 bearing insulated ring. Disassemble and clean

				insulators. Store in hot box.
TE Hydrogen Seal Casing	**1.5.1.4.1.**	Disassembly	Y	Unbolt, remove TE U/H hydrogen seal casing & **prep for shipment to vendor**
CE Hydrogen Seal Casing	**1.5.1.4.1.**	Disassembly	Y	Unbolt, remove CE U/H hydrogen seal casing & **prep for shipment to vendor**
TE T4 Inner Oil Deflector	**1.5.1.5.1.**	Disassembly	Y	Unbolt & remove TE inner oil deflector
TE Air Gap Baffle Segments	**1.5.1.5.1.**	Disassembly	Y	Unbolt & remove TE air gap baffle segments
TE Fan Blades	**1.5.1.5.1.**	Disassembly	Y	Unbolt & remove TE fan blades. Note blade number & location for reference.
TE Inner End Shields	**1.5.1.5.1.**	Disassembly	Y	Unbolt & remove TE inner end shields
TE Fan Nozzle Ring	**1.5.1.5.1.**	Disassembly	Y	Unbolt & remove TE fan nozzle ring
CE Fan Nozzle Ring	**1.5.1.5.1.**	Disassembly	Y	Unbolt CE fan nozzle ring
CE Inner End Shields	**1.5.1.5.1.**	Disassembly	Y	Unbolt & remove CE inner end shields
CE Fan Blades	**1.5.1.5.1.**	Disassembly	Y	Unbolt & remove CE fan blades. Note blade number & location for reference.
CE Air Gap Baffle Segments	**1.5.1.5.1.**	Disassembly	Y	Unbolt & remove CE air gap baffle segments
CE T5 Inner Oil Deflector	**1.5.1.5.1.**	Disassembly	Y	Unbolt & remove CE inner oil deflector
Brush Holders	**1.5.1.6.1.**	Disassembly	Y	Remove brush holders. (City Of Grand Island)
Brush Rigging	**1.5.1.6.1.**	Disassembly	Y	Unbolt & remove brush riggings
Collector Fan	**1.5.1.6.1.**	Disassembly	Y	Unbolt & remove collector fan housing
Ground Brushes	**1.5.1.9.1.**	Disassembly	Y	Remove generator rotor ground brushes
Rotor	**1.5.1.9.1.**	Disassembly	Y	Install eyebrow sling, skid pan, & rotor supports
Rotor	**1.5.1.9.1.**	Disassembly	Y	Rig & remove field rotor
Stator Feet	**1.5.1.9.1.**	Disassembly	Y	Remove feet lagging. Lift feet & remove shims. Clean, map, and install shims each foot
TE Outer Oil Deflector	**1.5.1.1.2.**	Cleaning	Y	Clean, & stone T-4 outer oil seal joints, fits, & bolting
TE Lube Oil Piping	**1.5.1.1.2.**	Cleaning	Y	Clean TE lube oil piping & bolting
TE Seal Oil Piping	**1.5.1.1.2.**	Cleaning	Y	Clean TE seal oil piping & bolting

TE Outer End Shield	**1.5.1.1.2.**	Cleaning	Y	Clean, & stone TE outer end shield joints, fits, & bolting
Stator Vertical Flanges- TE & CE	**1.5.1.1.2.**	Cleaning	Y	Clean, & stone stator vertical joints & tap all bolt holes TE & CE
T-4 Bearing Ring	**1.5.1.1.2.**	Cleaning	Y	Clean, & stone T-4 bearing ring joints, fits, & bolting
T-5 Bearing Ring	**1.5.1.1.2.**	Cleaning	Y	Clean, & stone T-5 bearing ring joints, fits, & bolting
CE Outer End Shield	**1.5.1.1.2.**	Cleaning	Y	Clean, & stone CE outer end shield joints, fits, & bolting
CE Lube Oil Piping	**1.5.1.1.2.**	Cleaning	Y	Clean CE lube oil piping & bolting
CE Seal Oil Piping	**1.5.1.1.2.**	Cleaning	Y	Clean CE seal oil piping & bolting
CE Outer Oil Deflector	**1.5.1.1.2.**	Cleaning	Y	Clean, & stone T-5 outer oil seal joints, fits, & bolting
Lower Frame Extension	**1.5.1.1.2.**	Cleaning	Y	Clean interior of frame extension
T-4 Bearing TSI	**1.5.1.2.2.**	Cleaning	Y	Clean T-4 bearing TSI - (City of Grand Island)
T-5 Bearing TSI	**1.5.1.2.2.**	Cleaning	Y	Clean T-5 bearing TSI - (City of Grand Island)
T-4 Bearing Cap	**1.5.1.3.2.**	Cleaning	Y	Clean, & stone T-4 bearing cap joints, fits, & bolting
T-4 Bearing	**1.5.1.3.2.**	Cleaning	Y	Clean, stone, and polish T-4 bearing fits, & bolting
T-5 Bearing	**1.5.1.3.2.**	Cleaning	Y	Clean, stone, and polish T-5 bearing fits, & bolting
T-5 Bearing Insulated Seat	**1.5.1.3.2.**	Cleaning	Y	Clean, & stone T-5 insulated bearing seat joints, fits, & bolting
T-5 Bearing Cap	**1.5.1.3.2.**	Cleaning	Y	Clean, & stone T-5 bearing cap joints, fits, & bolting
TE Hydrogen Seal	**1.5.1.4.2.**	Cleaning	Y	Receive complete casing assembled from vendor ready to install
CE Hydrogen Seal	**1.5.1.4.2.**	Cleaning	Y	Receive complete casing assembled from vendor ready to install
TE Inner Oil Deflector	**1.5.1.5.2.**	Cleaning	Y	Clean, & stone TE inner oil seal joints, fits, & bolting
TE Fan Nozzle Ring	**1.5.1.5.2.**	Cleaning	Y	Clean TE fan nozzle ring & bolting
TE Fan Blades	**1.5.1.5.2.**	Cleaning	Y	Clean TE fan blades & bolting
TE Inner End Shields	**1.5.1.5.2.**	Cleaning	Y	Clean, & stone TE inner end shield joints, fits, & bolting
TE Fan Nozzle Ring	**1.5.1.5.2.**	Cleaning	Y	Clean TE fan nozzle ring & bolting
CE Fan Nozzle Ring	**1.5.1.5.2.**	Cleaning	Y	Clean EE fan nozzle ring & bolting
CE Inner End Shields	**1.5.1.5.2.**	Cleaning	Y	Clean, & stone EE inner end shield joints, fits, & bolting

CE Fan Blades	**1.5.1.5.2.**	Cleaning	Y	Clean EE fan blades & bolting
CE Fan Nozzle Ring Segments	**1.5.1.5.2.**	Cleaning	Y	Clean EE fan nozzle ring segments & bolting
CE Inner Oil Deflector	**1.5.1.5.2.**	Cleaning	Y	Clean, & stone EE inner oil seal joints, fits, & bolting
Brush Holders	**1.5.1.6.2.**	Cleaning	Y	Clean brush holders. (City Of Grand Island)
Brush Rigging	**1.5.1.6.2.**	Cleaning	Y	Clean brush rigging & bolting
Collector Ring Fan	**1.5.1.6.2.**	Cleaning	Y	Clean collector fan
Collector	**1.5.1.6.2.**	Cleaning	Y	Clean collector
Shaft Ground Brushes	**1.5.1.9.2.**	Cleaning	Y	Clean rotor grounding brushes/straps
Rotor – Generator Field	**1.5.1.9.2.**	Cleaning	Y	Clean, hone, & stone rotor coupling joints, fits, journals, & bolting
TE Outer Oil Deflector	**1.5.1.1.3.**	Inspection	Y	VT & measure TE outer oil deflector seal bores & components
TE Lube Oil Piping	**1.5.1.1.3.**	Inspection	Y	VT TE lube oil piping & bolting
TE Seal Oil Piping	**1.5.1.1.3.**	Inspection	Y	VT TE seal oil piping & bolting
TE Outer End Shield	**1.5.1.1.3.**	Inspection	Y	VT TE outer end shield & bolting
Stator	**1.5.1.1.3.**	Inspection	Y	VT wrapper
T-4 Bearing Ring	**1.5.1.1.3.**	Inspection	Y	VT T-4 bearing ring & bolting
T-5 Bearing Ring	**1.5.1.1.3.**	Inspection	Y	VT T-5 bearing ring & bolting. **Replace pinch insulator as determined**
CE Outer End Shield	**1.5.1.1.3.**	Inspection	Y	VT CE outer end shield & bolting
CE Lube Oil Piping	**1.5.1.1.3.**	Inspection	Y	VT CE lube oil piping & bolting
CE Seal Oil Piping	**1.5.1.1.3.**	Inspection	Y	VT CE seal oil piping & bolting
CE Outer Oil Deflector	**1.5.1.1.3.**	Inspection	Y	VT & measure CE outer oil deflector seal bores & components
Lower Frame Extension	**1.5.1.1.3.**	Inspection	Y	VT interior of lower frame extension
T-4 Bearing TSI	**1.5.1.2.3.**	Inspection	Y	VT and test T-4 bearing TSI - (City of Grand Island)
T-5 Bearing TSI	**1.5.1.2.3.**	Inspection	Y	VT and test T-5 bearing TSI - (City of Grand Island)
T-4 Bearing Cap	**1.5.1.3.3.**	Inspection	Y	VT T-4 bearing cap & bolting
T-4 Bearing	**1.5.1.3.3.**	Inspection	Y	VT, PT, UT, measure radial clearance.
T-5 Bearing	**1.5.1.3.3.**	Inspection	Y	VT, PT, UT, measure radial clearance.

T-5 Bearing Insulated Seat	**1.5.1.3.3.**	Inspection	Y	VT & megger T-5 bearing insulated seat
T-5 Bearing Cap	**1.5.1.3.3.**	Inspection	Y	VT T-5 bearing cap & bolting
TE Hydrogen Seal	**1.5.1.3.4.**	Inspection	Y	VT & measure TE hydrogen seal casing & seal rings @ final install
CE Hydrogen Seal	**1.5.1.3.4.**	Inspection	Y	VT & measure EE hydrogen seal casing & seal rings @ final install
TE Inner Oil Deflector	**1.5.1.5.3.**	Inspection	Y	VT & measure TE inner oil deflector seal bores & components
TE air gap baffles	**1.5.1.5.3.**	Inspection	Y	VT TE air gap baffle segments & bolting
TE Fan Blades	**1.5.1.5.3.**	Inspection	Y	VT & MT TE fan blades & bolting
TE Inner End Shields	**1.5.1.5.3.**	Inspection	Y	VT TE inner end shields & boiling
TE Fan Nozzle Ring	**1.5.1.5.3.**	Inspection	Y	VT TE fan nozzle ring & bolting
CE Fan Nozzle Ring	**1.5.1.5.3.**	Inspection	Y	VT CE fan nozzle ring & bolting
CE Inner End Shields	**1.5.1.5.3.**	Inspection	Y	VT CE inner end shields & boiling
CE Fan Blades	**1.5.1.5.3.**	Inspection	Y	VT & MT TE fan blades & bolting
CE Air Gap Baffle Segments	**1.5.1.5.3.**	Inspection	Y	VT CE air gap baffle segments & bolting
CE Inner Oil Deflector	**1.5.1.5.3.**	Inspection	Y	VT & measure CE inner oil deflector seal bores & components
Brush Holders	**1.5.1.6.3.**	Inspection	Y	VT brush holders & bolting
Brush Rigging	**1.5.1.6.3.**	Inspection	Y	VT brush rigging & bolting
Collector Fan	**1.5.1.6.3.**	Inspection	Y	VT & MT collector fan
Collector Ring	**1.5.1.6.3.**	Inspection	Y	VT & measure collector OD
"C" Coupling	**1.5.1.7.3.**	Inspection	Y	VT & measure "C" coupling spacer fits & bolt holes
Ground Brushes	**1.5.1.9.3.**	Inspection	Y	VT rotor ground brushes
Rotor	**1.5.1.9.3.**	Inspection	Y	Measure rotor "C" coupling fits, coupling bolts, journals, & holes
TE Outer Oil Deflector	**1.5.1.1.5.**	Assembly	Y	Install, align, & bolt TE outer oil deflector
TE Lube Oil Piping	**1.5.1.1.5.**	Assembly	Y	Install & bolt TE lube oil piping
TE Seal Oil Piping	**1.5.1.1.5.**	Assembly	Y	Install & bolt TE seal oil piping
TE Outer End Shield	**1.5.1.1.5.**	Assembly	Y	Install L/H TE outer end shield & bolt
TE Outer End Shield	**1.5.1.1.5.**	Assembly	Y	Install U/H TE outer end shield & bolt
T-4 Bearing Ring	**1.5.1.1.5.**	Assembly	Y	Install & bolt T-4 bearing ring
T-5 Bearing Ring	**1.5.1.1.5.**	Assembly	Y	Install & bolt T-5 bearing ring

CE Outer End Shield	**1.5.1.1.5.**	Assembly	Y	Install L/H CE outer end shield & bolt
CE Outer End Shield	**1.5.1.1.5.**	Assembly	Y	Install U/H CE outer end shield & bolt
CE Lube Oil Piping	**1.5.1.1.5.**	Assembly	Y	Install & bolt CE lube oil piping
CE Seal Oil Piping	**1.5.1.1.5.**	Assembly	Y	Install & bolt CE seal oil piping
CE Outer Oil Deflector	**1.5.1.1.5.**	Assembly	Y	Install, align, & bolt EE outer oil deflector
T-4 Bearing TSI	**1.5.1.2.5.**	Assembly	Y	Install, gap, & checkout T-4 bearing TSI - (City of Grand Island)
T-5 Bearing TSI	**1.5.1.2.5.**	Assembly	Y	Install, gap, & checkout T-5 bearing TSI - (City of Grand Island)
T-4Bearing Cap	**1.5.1.3.5.**	Assembly	Y	Install T-4 bearing cap & bolt
T-4 Bearing	**1.5.1.3.5.**	Assembly	Y	Install L/H T-4 bearing & square to shaft
T-4 Bearing	**1.5.1.3.5.**	Assembly	Y	Install U/H T-4 bearing & bolt
T-5 Bearing	**1.5.1.3.5.**	Assembly	Y	Install L/H T-5 bearing & square to shaft
T-5 Bearing	**1.5.1.3.5.**	Assembly	Y	Install U/H T-5 bearing & bolt
T-5 Bearing Insulated Seat	**1.5.1.3.5.**	Assembly	Y	Install T-5 bearing insulated ring
T-5 Bearing Cap	**1.5.1.3.5.**	Assembly	Y	Install T-5 bearing cap & bolt
TE Hydrogen Seal	**1.5.1.4.5.**	Assembly	Y	Install, align, & bolt L/H TE hydrogen seal casing & seal ring
TE Hydrogen Seal	**1.5.1.4.5.**	Assembly	Y	Install U/H TE hydrogen seal casing & bolt
CE Hydrogen Seal	**1.5.1.4.5.**	Assembly	Y	Install, align, & bolt L/H CE hydrogen seal casing & seal ring. Verify megger
CE Hydrogen Seal	**1.5.1.4.5.**	Assembly	Y	Install U/H CE hydrogen seal casing & bolt. Verify megger
TE Inner Oil Deflector	**1.5.1.5.5.**	Assembly	Y	Install, align, & bolt L/H TE inner oil deflector
TE Inner Oil Deflector	**1.5.1.5.5.**	Assembly	Y	Install U/H TE inner oil deflector & bolt
TE Air Gap Baffle Segments	**1.5.1.5.5.**	Assembly	Y	Install TE air gap baffle segments & bolt
TE Fan Blades	**1.5.1.5.5.**	Assembly	Y	Install TE fan blades & bolt
TE Inner End Shields	**1.5.1.5.5.**	Assembly	Y	Install TE inner end shields & bolt
TE Fan Nozzle Ring	**1.5.1.5.5.**	Assembly	Y	Install TE fan nozzle ring & bolt
CE Fan Nozzle Ring	**1.5.1.5.5.**	Assembly	Y	Install EE fan nozzle ring & bolt
CE Inner End Shields	**1.5.1.5.5.**	Assembly	Y	Install TE inner end shields & bolt

	CE Fan Blades	**1.5.1.5.5.**	Assembly	Y	Install CE fan blades & bolt
	CE Air Gap Baffle Segments	**1.5.1.5.5.**	Assembly	Y	Install CE air gap baffle segments & bolt
	CE Inner Oil Deflector	**1.5.1.5.5.**	Assembly	Y	Install, align, & bolt L/H CE inner oil deflector. Verify megger
	CE Inner Oil Deflector	**1.5.1.5.5.**	Assembly	Y	Install U/H CE inner oil deflector & bolt. Verify megger
	Brush Holders	**1.5.1.6.5.**	Assembly	Y	Install brush holders
	Brush Rigging	**1.5.1.6.5.**	Assembly	Y	Install brush rigging
	Collector Fan Housing	**1.5.1.6.5.**	Assembly	Y	Assemble collector fan housing
	Collector	**1.5.1.6.5.**	Assembly	Y	Install collector brushes. (City Of Grand Island)
	"C" Coupling	**1.5.1.7.5.**	Assembly	Y	Assemble "C" coupling & bolt coupling
	Ground Brushes	**1.5.1.9.5.**	Assembly	Y	Install rotor ground brushes
	Rotor	**1.5.1.9.5.**	Assembly	Y	Rig & install rotor
	Rotor	**1.5.1.9.5.**	Assembly	Y	Remove eyebrow sling, skid pan, & rotor supports
1.5.2.	**Hydrogen Coolers**				
	TE RS Hydrogen Cooler	**1.5.2.1.1.**	Disassembly	Y	Disassemble TE RS hydrogen cooler & remove tube bundle
	TE LS Hydrogen Cooler	**1.5.2.2.1.**	Disassembly	Y	Disassemble TE LS hydrogen cooler & remove tube bundle
	CE RS Hydrogen Cooler	**1.5.2.3.1.**	Disassembly	Y	Disassemble CE RS hydrogen cooler & remove tube bundle
	CE LS Hydrogen Cooler	**1.5.2.4.1.**	Disassembly	Y	Disassemble CE LS hydrogen cooler & remove tube bundle
	TE RS Hydrogen Cooler	**1.5.2.1.2.**	Cleaning	Y	Clean, & rod TE RS hydrogen cooler tube bundle, stone joints & fits, & bolting
	TE LS Hydrogen Cooler	**1.5.2.2.2.**	Cleaning	Y	Clean, & rod TE LS hydrogen cooler tube bundle, stone joints & fits, & bolting
	CE RS Hydrogen Cooler	**1.5.2.3.2.**	Cleaning	Y	Clean, & rod CE RS hydrogen cooler tube bundle, stone joints & fits, & bolting
	CE LS Hydrogen Cooler	**1.5.2.4.2.**	Cleaning	Y	Clean, & rod CE LS hydrogen cooler tube bundle, stone joints & fits, & bolting
	TE RS Hydrogen Cooler	**1.5.2.1.3.**	Inspection	Y	VT, EC, & pressure test TE RS hydrogen cooler tube bundle
	TE LS Hydrogen Cooler	**1.5.2.2.3.**	Inspection	Y	VT, EC, & pressure test TE LS hydrogen cooler tube bundle

	CE RS Hydrogen Cooler	**1.5.2.3.3.**	Inspection	Y	VT, EC, & pressure test CE RS hydrogen cooler tube bundle
	CE LS Hydrogen Cooler	**1.5.2.4.3.**	Inspection	Y	VT, EC, & pressure test CE LS hydrogen cooler tube bundle
	TE RS Hydrogen Cooler	**1.5.2.1.5.**	Assembly	Y	Install TE RS hydrogen cooler tube bundle, bolt, & final hydro test for leaks
	TE LS Hydrogen Cooler	**1.5.2.2.5.**	Assembly	Y	Install TE LS hydrogen cooler tube bundle, bolt, & final hydro test for leaks
	CE RS Hydrogen Cooler	**1.5.2.3.5.**	Assembly	Y	Install CE RS hydrogen cooler tube bundle, bolt, & final hydro test for leaks
	CE LS Hydrogen Cooler	**1.5.2.4.5.**	Assembly	Y	Install CE LS hydrogen cooler tube bundle, bolt, & final hydro test for leaks
1.5.3.	**Winding**				
	RTDs & T/Cs	**1.5.3.1.3.**	Inspection	Y	Test RTDs & T/Cs - (City of Grand Island)
	Wedges	**1.5.3.4.3.**	Inspection	Y	Tap test stator wedges - (City of Grand Island)
	Stator Punching	**1.5.3.5.3.**	Inspection	Y	EL CID or Loop Test stator core - (City of Grand Island)
1.6.	**Exc**				
1.6.1.	**Enclosure**				
	Enclosure	**1.6.1.1.1.**	Disassembly	Y	Remove exciter enclosure
	Enclosure	**1.6.1.1.2.**	Cleaning	Y	Clean exciter enclosure joints, fits, & bolting
	Enclosure	**1.6.1.1.3.**	Inspection	Y	VT Alterex enclosure
	Enclosure	**1.6.1.1.5.**	Assembly	Y	Install & bolt Alterex enclosure
1.7.	**VLV**				
1.7.1.	**Main Stop Valve (1)**				
	Insulation	**1.7.1.1.1.**	Disassembly	Y	Remove MSV-1 upper head insulation
	Instrumentation	**1.7.1.1.1.**	Disassembly	Y	Disconnect & remove MSV-1 instrumentation - (City of Grand Island)
	Valve Assembly	**1.7.1.1.1.**	Disassembly	Y	Measure "as found" closed end over travel MSV-1
	Valve Assembly	**1.7.1.1.1.**	Disassembly	Y	Uncouple MSV-1 assembly from servomotor. Remove casing PSH bolting. Remove assembly from casing
	Valve Assembly	**1.7.1.1.1.**	Disassembly	Y	Unbolt & remove MSV-1 Upper Head
	Valve Assembly	**1.7.1.1.1.**	Disassembly	y	Remove valve chest steam strainer
	Valve Assembly	**1.7.1.1.1.**	Disassembly	Y	Disassemble MSV-1 3 poppet Lynn style valve assembly for

					inspections
	Valve Assembly	**1.7.1.1.2.**	Cleaning	Y	Support dust blast MSV-1 upper head & assembly components
	Valve Chest	**1.7.1.1.2.**	Cleaning	Y	Support dust blast MSV-1 valve chest & seat
	Valve Assembly	**1.7.1.1.2.**	Cleaning	Y	Hone PSH bushings to remove scale as needed. Remove scale from stem
	Valve Assembly	**1.7.1.1.2.**	Cleaning	Y	Clean MSV 1 upper head studs for UT inspection
	Insulation	**1.7.1.1.3.**	Inspection	Y	VT MSV-1 insulation (City of Grand Island)
	Instrumentation	**1.7.1.1.3.**	Inspection	Y	VT & test MSV-1 instrumentation - (City of Grand Island)
	Valve Assembly	**1.7.1.1.3.**	Inspection	Y	VT, MT, UT, & blue check MSV-1 components. Lap as required for desired contact
	Valve Assembly	**1.7.1.1.3.**	Inspection	Y	Measure MSV-1 valve stem & associated bushing clearances. Verify stem runout. Verify valve inner & main disc lifts and seat contact
	Valve Chest	**1.7.1.1.3.**	Inspection	Y	VT, MT, PT, & blue check MSV-1 valve chest & seat.
	Insulation	**1.7.1.1.5.**	Assembly	Y	Install MSV-1 upper head insulation cap
	Instrumentation	**1.7.1.1.5.**	Assembly	Y	Install, set, & final checkout MSV-1 instrumentation - (City of Grand Island)
	Valve Assembly	**1.7.1.1.5.**	Assembly	Y	Try bar check stem bushings & assemble valve components. Verify assembly component lifts. Install valve assembly in valve casing.
	Valve Assembly	**1.7.1.1.5.**	Assembly	Y	Lap valve seats as required to obtain 100%-disc contact
	Valve Assembly	**1.7.1.1.5.**	Assembly	Y	Install casing steam strainer
	Valve Assembly	**1.7.1.1.5.**	Assembly	Y	Install MSV-1 upper head with gasket and stretch bolts
	Valve Assembly	**1.7.1.1.5.**	Assembly	Y	Measure "as left" actuator closed end over travel of MSV-1& couple
1.7.2.	**Control Valves – Shell Mounted-camshaft operated- upper/lower**				
	Insulation	**1.7.2.1.1.**	Disassembly	Y	**Remove CV1-6 & bypass valve** insulation. (City Of Grand Island)
	Instrumentation	**1.7.2.1.1.**	Disassembly	Y	Disconnect & remove CV1-6 & bypass valve instrumentation - (City of Grand Island)
	Servomotor Assembly	**1.7.2.1.1.**	Disassembly	Y	Disconnect CV1-6 & bypass valve actuator linkage from servomotor
	Valve Assembly	**1.7.2.1.1.**	Disassembly	Y	Unbolt & remove CV1-6 & bypass valve closing spring can

				assemblies. Position rocker arms away from camshaft
Valve Assembly	**1.7.2.1.1.**	Disassembly	Y	Remove camshafts & bearings-upper & lower
Valve Assembly	**1.7.2.1.1.**	Disassembly	Y	Unbolt & remove CV1-6 & bypass valve assemblies from HPIP outer shell locations
Valve Assembly	**1.7.2.1.1.**	Disassembly	Y	Disassemble CV1-6 & bypass valve assemblies for inspections
Instrumentation	**1.7.2.1.2.**	Cleaning	Y	Clean CV1-6 & bypass valve instrumentation (City of Grand Island)
Valve Assembly	**1.7.2.1.2.**	Cleaning	Y	Support dust blast, CV1-6 & bypass valve closing spring can components
Valve Assembly	**1.7.2.1.2.**	Cleaning	Y	Support dust blast CV1-6 & bypass valve assembly components
Valve Chest	**1.7.2.1.2.**	Cleaning	Y	Support dust blast CV1-6 & bypass valve chest, seat, and bonnet fit bore
Insulation	**1.7.2.2.2.**	Cleaning	Y	Clean up loose insulation, wires, & shielding around CV1-6 & bypass valve
Valve Assembly	**1.7.2.1.3.**	Inspection	Y	VT & test CV1-6 & bypass valve instrumentation - (City of Grand Island)
Valve Assembly	**1.7.2.1.3.**	Inspection	Y	VT, MT, UT, & blue check CV1-6 & bypass valve bonnet components
Valve Assembly	**1.7.2.1.3.**	Inspection	Y	Measure CV1-6 valve & spring can components to verify clearances
Valve Assembly	**1.7.2.1.3.**	Inspection	Y	VT, MT, PT, & blue check CV1-6 & bypass valve chest & components
Valve Assembly	**1.7.2.2.3.**	Inspection	Y	Try bar check CV1-6 & bypass valve stem bushings. Hone as required to remove scale
Valve Assembly	**1.7.2.2.4.**	Inspection	Y	Measure CV1-6 & bypass valve stem runouts.
Valve Assembly	**1.7.2.2.4.**	Inspection	Y	Assemble CV1-6 & bypass valve stem to crosshead and measure assembled runouts
Valve Assembly	**1.7.2.2.4.**	Inspection	Y	Support shipment & receipt of CV1-6 & bypass valve assembled crosshead to stem to repair vendor
Insulation	**1.7.2.1.5.**	Assembly	Y	Install CV1-6 & bypass valve bonnet insulation. (City of Grand Island)
Instrumentation	**1.7.2.1.5.**	Assembly	Y	Install, set, & final checkout CV-1 instrumentation - (City of Grand Island)
Servomotor Assembly	**1.7.2.1.5.**	Assembly	Y	Assemble and set CV1-6 & bypass valve servomotor and

					linkage
	Valve Assembly	**1.7.2.1.5.**	Assembly	Y	Assemble CV1-6 & bypass valve spring can assemblies
	Valve Assembly	**1.7.2.1.5.**	Assembly	Y	Receive and unload CV1-6 & bypass valve stem to crosshead assemblies from vendor.
	Valve Assembly	**1.7.2.1.5.**	Assembly	Y	Assemble CV1-6 & bypass valve assemblies.
	Valve Assembly	**1.7.2.1.5.**	Assembly	Y	Install CV1-6 & bypass valve assembly & spring can assembly on shell and bolt. Verify final main disc contact to seat
	Valve Assembly	**1.7.2.1.5.**	Assembly	Y	Install camshaft & support bearings and position rocker arms.
	Valve Assembly	**1.7.2.2.5.**	Assembly	Y	Adjust camshaft roller clearances and valve crack points with proper linkage timing
1.7.3.	**Reheat Stop Valves (2)**				
	Instrumentation	**1.7.3.1.1.**	Disassembly	Y	Disconnect & remove RSV-1&2 instrumentation - (City of Grand Island)
	Servomotor Assembly	**1.7.3.1.1.**	Disassembly	Y	Disconnect RSV-1&2 servomotors from valve assemblies
	Valve Assembly	**1.7.3.1.1.**	Disassembly	Y	Measure "as found" closed end over travel on RSV-1&2
	Valve Assembly	**1.7.3.1.1.**	Disassembly	Y	Unbolt & remove RSV-1&2 PSH and valve assemblies
	Valve Assembly	**1.7.3.1.1.**	Disassembly	Y	Disassemble RSV-1&2 Valve assemblies
	Valve Assembly	**1.7.3.2.1.**	Disassembly	Y	Load RSV-1&2 assemblies onto pallet & ship to shop for refurbishment - (**contingency)**
	Insulation	**1.7.3.1.2.**	Cleaning	Y	Clean up loose insulation, wires, & shielding around RSV-1&2
	Instrumentation	**1.7.3.1.2.**	Cleaning	Y	Clean RSV-1&2 instrumentation. (City of Grand Island)
	Valve Assembly	**1.7.3.1.2.**	Cleaning	Y	Support dust blast RSV-1&2 spring housing components
	Valve Assembly	**1.7.3.1.2.**	Cleaning	Y	Support dust blast RSV-1&2 assembly components
	Valve Chest	**1.7.3.1.2.**	Cleaning	Y	Support dust blast RSV-1&2 valve chest & seat
	Instrumentation	**1.7.3.2.2.**	Cleaning	Y	Clean RSV-1&2 instrumentation. (City of Grand Island)
	Insulation	**1.7.3.1.3.**	Inspection	Y	VT RSV-1&2 insulation. (City of Grand Island)
	Instrumentation	**1.7.3.1.3.**	Inspection	Y	VT & test RSV-1&2 instrumentation - (City of Grand Island)
	Valve Assembly	**1.7.3.1.3.**	Inspection	Y	VT, MT, UT, & blue check RSV-1&2 assembly components

	Valve Assembly	**1.7.3.1.3.**	Inspection	Y	Measure RSV-1&2 valve assembly components to verify clearances
	Valve Chest	**1.7.3.1.3.**	Inspection	Y	VT, MT, PT, & blue check RSV-1&2 valve chest
	Valve Assembly	**1.7.3.1.3.**	Inspection	Y	Try bar check RSV stem to bushings. Hone as required
	Valve Assembly	**1.7.3.1.3.**	Inspection	Y	Measure stem runout RSV– 1&2
	Instrumentation	**1.7.3.1.5.**	Assembly	Y	Install, set, & final checkout RSV-1&2 instrumentation - (City of Grand Island)
	Valve Assembly	**1.7.3.1.5.**	Assembly	Y	Receive, unload, & assemble RSV-1&2 assemblies - (contingency)
	Valve Assembly	**1.7.3.1.5.**	Assembly	Y	Assemble RSV-1&2 valve assemblies
	Valve Assembly	**1.7.3.1.5.**	Assembly	Y	Install RSV-1&2 valve assemblies in casing
	Valve Assembly	**1.7.3.1.5.**	Assembly	Y	Measure "as left" closed end over travel of RSV-1&2
	Servomotor Assembly	**1.7.3.2.5.**	Assembly	Y	Assemble RSV-1&2 to servomotor
1.7.4.	**Intercept Valves (2)**				
	Insulation	**1.7.4.1.1.**	Disassembly	Y	Remove IV-1&2 upper head insulation
	Instrumentation	**1.7.4.1.1.**	Disassembly	Y	Disconnect & remove IV-1&2 instrumentation - (City of Grand Island)
	Servomotor Assembly	**1.7.4.1.1.**	Disassembly	Y	Disconnect IV-1&2 servomotor from valve assembly linkage
	Valve Assembly	**1.7.4.1.1.**	Disassembly	Y	Remove IV-1&2 upper head, valve assembly, and associated linkage
	Valve Assembly	**1.7.4.1.1.**	Disassembly	Y	Remove IV – 1&2 valve casing steam strainer
	Valve Assembly	**1.7.4.1.1.**	Disassembly	Y	Measure "as found" closed end over travel on IV-1&2 servomotors
	Valve Assembly	**1.7.4.1.1.**	Disassembly	Y	Disassembly IV-1&2 main disc & stem assembly from upper head
	Valve Assembly	**1.7.4.1.1.**	Disassembly	Y	Load IV-1&2 upper head assembly onto truck & ship to shop for refurbishment - (contingency)
	Insulation	**1.7.4.1.2.**	Cleaning	Y	Clean up loose insulation, wires, & shielding around IV1&2
	Instrumentation	**1.7.4.1.2.**	Cleaning	Y	Clean IV-1&2 instrumentation. (City of Grand Island)

	Valve Chest	**1.7.4.1.2.**	Cleaning	Y	Clean IV 1&2 upper head studs for UT inspection
	Valve Assembly	**1.7.4.1.2.**	Cleaning	Y	Support dust blast IV-1&2 upper head assembly components
	Valve Chest	**1.7.4.1.2.**	Cleaning	Y	Support dust blast IV-1&2 valve chest & main seat
	Instrumentation	**1.7.4.1.3.**	Inspection	Y	VT & test IV-1&2 instrumentation - (City of Grand Island)
	Valve Assembly	**1.7.4.1.3.**	Inspection	Y	VT, MT, UT, & blue check IV-1&2 assembly components.
	Valve Assembly	**1.7.4.1.3.**	Inspection	Y	Measure IV-1&2 valve assembly components for clearance
	Valve Chest	**1.7.4.1.3.**	Inspection	Y	VT, MT, PT, & blue check IV-1&2 valve chest
	Valve Assembly	**1.7.4.1.3.**	Inspection	Y	Try bar check IV 1&2 stem bushings. Hone as required
	Valve Assembly	**1.7.4.1.3.**	Inspection	Y	Measure IV 1&2 stem runout
	Valve Assembly	**1.7.4.1.3.**	Inspection	Y	Assemble IV 1&2 stem to crosshead and measure runout
	Insulation	**1.7.4.1.5.**	Assembly	Y	Install IV-1&2 upper head insulation
	Instrumentation	**1.7.4.1.5.**	Assembly	Y	Install, set, & final checkout IV-1 instrumentation - (City of Grand Island)
	Valve Assembly	**1.7.4.1.5.**	Assembly	Y	Receive, unload, & assemble IV-1&2 bonnet upper head. (contingency)
	Valve Assembly	**1.7.4.1.5.**	Assembly	Y	Assemble IV-1&2 valve assemblies in upper head. Install actuator linkage
	Valve Assembly	**1.7.4.1.5.**	Assembly	Y	Install IV 1&2 steam strainer in valve casing
	Valve Assembly	**1.7.4.1.5.**	Assembly	Y	Install IV-1&2 bonnet assembly on valve casing and bolt
	Valve Assembly	**1.7.4.1.5.**	Assembly	Y	Measure "as left" closed end over travel of IV-1&2. Adjust as required
	Valve Assembly	**1.7.4.1.5**	Assembly	Y	Connect IV 1&2 to servomotor
1.7.5.	**Blowdown Valve**	**1.7.5.1.1.**			
	Insulation	**1.7.5.1.1.**	Disassembly	Y	Remove BDV bonnet insulation (City of Grand Island)
	Instrumentation	**1.7.5.1.1.**	Disassembly	Y	Disconnect & remove BDV instrumentation - (City of Grand Island)
	Valve Assembly	**1.7.5.1.1.**	Disassembly	Y	Remove BDV assembly
	Valve Assembly	**1.7.5.1.1.**	Disassembly	Y	Disassemble BDV air & steam side components.
	Insulation	**1.7.5.1.2.**	Cleaning	Y	Clean up loose insulation, wires, & shielding around BDV

Instrumentation	**1.7.5.1.2.**	Cleaning	Y	Clean BDV instrumentation. (City of Grand Island)
Valve Chest	**1.7.5.1.2.**	Cleaning	Y	Clean BDV head studs for UT inspection
Valve Assembly	**1.7.5.1.2.**	Cleaning	Y	Support dust blast BDV upper head assembly components
Instrumentation	**1.7.5.1.3.**	Inspection	Y	VT & test BDV instrumentation - (City of Grand Island)
Valve Assembly	**1.7.5.1.3.**	Inspection	Y	VT, MT, UT, & blue check BDV assembly components.
Valve Assembly	**1.7.5.1.3.**	Inspection	Y	Measure BDV valve assembly components for clearance
Valve Chest	**1.7.5.1.3.**	Inspection	Y	VT, MT, PT, & blue check BDV valve chest
Valve Assembly	**1.7.5.1.3.**	Inspection	Y	Try bar check BDV stem bushings. Hone as required
Valve Assembly	**1.7.5.1.3.**	Inspection	Y	Measure BDV stems (2) runout
Insulation	**1.7.5.1.5.**	Assembly	Y	Install BDV bonnet insulation (City of Grand Island)
Instrumentation	**1.7.5.1.5.**	Assembly	Y	Install, set, & final checkout BDV instrumentation - (City of Grand Island)
Valve Assembly	**1.7.5.1.5.**	Assembly	Y	Assemble BDV valve assemblies.
Valve Assembly	**1.7.5.1.5.**	Assembly	Y	Install BDV bonnet assembly on valve casing and bolt
Valve Assembly	**1.7.5.1.5.**	Assembly	Y	Install BDV air side actuator assembly

29. Appendix C – TG-1 Open, Clean, Inspect, & Close Pricing Tables

Vendor Name:

Vendor Contact Information:

Proposal Date:

Proposal Revision:

Please provide breakdown prices in the tables below.

Base Scope Pricing

Working 2-7-12 Shift Until Unit Disassembled (10 days est.) Then Working 1-6-10 shift To Completion

Work Package	Work Package Title	Work Description	T&M Price	Duration
TG-1	Open/Clean/Close	Hp/Ip Turbine	$_____	__ days
TG-1	Open/Clean/Close	LP A Turbine	$_____	__ days
TG-1	Open/Clean/Close	Generator	$_____	__ days
TG-1	Open/Clean/Testing/Close	Hydrogen Coolers	$_____	__ days
TG-1	Open/Clean/Close	Main Valves	$_____	__ days
		Total:	**$**_____	

Gage Scope Pricing

Working 2-7-12 shift

Work Package	Work Package Title	Work Description	T&M Price	Duration
TG-1	Open/Clean/Close	Scrape 1 bearing for contact with seat – 2 shifts max. x 2 people	$_____	1 day
TG-1	Open/Clean/Close	Scrape 1 bearing for contact with mandrel – 2 shifts max. x 2 people	$_____	1 day
		Total:	**$**_____	

MINIMUM INSURANCE REQUIREMENTS
CITY OF GRAND ISLAND, NEBRASKA

The successful bidder shall obtain insurance from companies authorized to do business in Nebraska of such types and in such amounts as may be necessary to protect the Bidder and the interests of the City against hazards or risks of loss as hereinafter specified. This insurance shall cover all aspects of the Bidder's operations and completed operations. Failure to maintain adequate coverage shall not relieve Bidder of any contractual responsibility or obligation. Minimum insurance coverage shall be the amounts stated herein or the amounts required by applicable law, whichever are greater.

1. WORKERS COMPENSATION AND EMPLOYER'S LIABILITY

This insurance shall protect the Bidder against all claims under applicable State workers compensation laws. This insurance shall provide coverage in every state in which work for this project might be conducted. The liability limits shall not be less than the following:

Workers Compensation	Statutory Limits
Employers Liability	$100,000 each accident
	$100,000 each employee
	$500,000 policy limit

2. BUSINESS AUTOMOBILE LIABILITY

This insurance shall be written in comprehensive form and shall protect the Bidder, Bidder's employees, or subcontractors from claims due to the ownership, maintenance, or use of a motor vehicle. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	$ 500,000 Combined Single Limit

3. COMPREHENSIVE GENERAL LIABILITY

The comprehensive general liability coverage shall contain no exclusion relative to explosion, collapse, or underground property. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	$ 500,000 each occurrence
	$1,000,000 aggregate

4. UMBRELLA LIABILITY INSURANCE

This insurance shall protect the Bidder against claims in excess of the limits provided under employer's liability, comprehensive automobile liability, and commercial general liability policies. The umbrella policy shall follow the form of the primary insurance, including the application of the primary limits. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	$1,000,000 each occurrence
	$1,000,000 general aggregate

5. ADDITIONAL REQUIREMENTS

The City may require insurance covering a Bidder or subcontractor more or less than the standard requirements set forth herein depending upon the character and extent of the work to be performed by such Bidder or subcontractor.

Insurance as herein required shall be maintained in force until the City releases the Bidder of all obligations under the Contract.

The Bidder shall provide and carry any additional insurance as may be required by special provisions of these specifications.

6. CERTIFICATE OF INSURANCE

Satisfactory certificates of insurance shall be filed with the City prior to starting any work on this Contract**. The certificates shall show the City as an additional insured on all coverage except Workers Compensation. The certificate shall state that thirty (30) days written notice shall be given to the City before any policy is cancelled (strike the "endeavor to" wording often shown on certificate forms). If the Bidder cannot have the "endeavor to" language stricken, the Bidder may elect to provide a new certificate of insurance every thirty (30) days during the contract. Bidder shall immediately notify the City if there is any reduction of coverage because of revised limits or claims paid which affect the aggregate of any policy.**