CITY OF GRAND ISLAND

Working Together for a Better Tomorrow. Today.

BID SPECIFICATION PACKAGE

for

URANIUM REMOVAL TANK REPAIRS TRAIN 2

C132831

Bid Opening Date/Time

Thursday, August 29, 2024 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

Lynn Mayhew, Assistant Utilities Director
City of Grand Island – Utilities Department
Platte Generating Station
Email: lmayhew@giud.com
Phone: 308/385-5496

Date issued: AUGUST 13, 2024

ADVERTISEMENT TO BIDDERS
FOR
URANIUM REMOVAL TANK REPAIRS TRAIN 2
FOR
CITY OF GRAND ISLAND, NEBRASKA

Sealed bids for Uranium Removal Tank Repairs Train 2 will be received at the office of the City Clerk, 100 E. First Street, P.O. Box 1968, Grand Island, Nebraska 68802, until **Thursday, August 29, 2024 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 two 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.

Jill Granere, City Clerk

Advertised

(All bids must be submitted on this form)

URANIUM REMOVAL TANK REPAIRS TRAIN 2
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 provide/furnish all materials, equipment, labor and supervision necessary to prepare, make repairs to two 10,000 gallon vessels and fix corrosive areas and recoat FOB the City of Grand Island, freight prepaid, at the following price:

ITEM DESCRIPTION	EXTENDED COST
Base Bid:	
Material	$ _____
Mobilization/Demobilization	$ _____
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 Schedule for tank repairs is December 2nd, 2024 and finished no later than December 20, 2024.

☐ 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 *URANIUM REMOVAL TANK REPAIRS TRAIN 2;* 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: Materials	$	.00
Mobilization/Demobilization	$	.00
Sales tax (based on Contractor Tax Option):	$	.00
Total Bid:	$	.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 URANIUM REMOVAL TANK REPAIRS TRAIN 2.

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 ***December 20, 2024***.

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: **"Uranium Removal Tank Repairs Train 2".** All bids submitted by mail must include **an original and two 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 **Thursday**, **August 29, 2024 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 Lynn Mayhew at 308-385-5495 or email lmayhew@giud.com for questions concerning this specification.

Grand Island Water System
Uranium Removal Tank Repairs Train 2

SCOPE: The project is to make repairs to two (2) 10,000 gallon (14' diameter x 14' tall) vessels as per the detailed specification. The Contractor shall furnish materials, equipment, labor, and supervision necessary to repair the areas found during the inspection report prepared in 2023 and any additional repairs needed after city personnel disassemble the piping.

LOCATION: The Grand Island Water treatment plant is located at the Platte River Wellfield located south of Grand Island, NE on South Locust and Wellfield Road.

TANK DESCRIPTION:
The two tanks are 10,000 gallons (14' diameter x 14' tall) pressure vessels, located inside a heated and ventilated building. The tanks are used to hold media that absorbs natural occurring uranium in the water. The media will be removed by Water Remediation Technologies (WRT) and the tanks will be surveyed for any residual radioactivity and cleared prior to any repairs before the contractor mobilizes to work. The tanks have laterals inside the vessel that will be removed by WRT. Grand Island Utilities will remove piping and valves prior to contractor performing work.

TANK REPAIRS: From the inspection report, the following repairs will need to be made by a qualified R stamp welder certified under NBCI Section 8 Code Stamp with all documentation to keep the pressure vessel certification.

- Replace 304 stainless steel 12" lower distribution header in vessel 1
- Replace 12" flanges
- Replace 4" flanges and stub pipes
- Replace bottom drain stub with flush flange

TEST AND INSPECTIONS: Welds must be checked with a dye penetrant test. A pressure test to 60 psi will be performed after vessels are recoated in January 2025.

CLEAN-UP: During the course of work, the Contractor shall daily clean up all debris, remove unnecessary scaffolding, equipment, and surplus material. Upon completion, the Contractor shall leave the premises in a neat and clean condition with respect to his own operation. Removal of all protective coverings erected by the Contractor is mandatory.

FIELD FACILITIES: This is a remote location where no compressed air or potable water is available. The Contractor shall furnish all compressed air. Non-potable water will be available.

There is 120VAC electrical power in the building. All low voltage connections shall be GFI protected in accordance with the NEC. A plant electrician will be able to wire welders to 220VAC.

The Contractor shall furnish all equipment and temporary storage to complete the work described in this specification.

The Contractor shall provide temporary restroom facilities for his crew, there are no facilities at the site.

SAFTEY: The Contractor shall follow all OSHA regulations and Utility safety regulations.

SCHEDULE: There are two (2) vessels to be repaired. The Contractor shall submit a schedule to the City for approval. This project will require coordination with Water Remediation Technology (WRT) and Grand Island Utilities as they are scheduled to complete parts of the project. Current schedule is to enable the Contractor to start tank repairs **December 2nd, 2024** and be finished not later than **December 20th, 2024**.

BIDS: Bids will be Time and Materials based on an hourly rate, per diem, and mobilization with a not to exceed estimate. Two tanks were completed in 2023 with similar repairs and completed in three working days.

CONTACT: To arrange a visit or for any questions regarding this specification contact Lynn Mayhew at 308-385-5494.

INSURANCE REQUIREMENTS: Contractor agrees to the terms of the City's Insurance Requirements attached.

ATTACHMENTS:

W000349 Tank U-1A Manufacturers Data Report for Pressure Vessels
W000349-5102 tank bottom flange detail
Project Scope of Work Reference
Grand Island Site Vessel Repairs from Train 1 Reference

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.**

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS

(Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only)
As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by: South Gate Engineering, LLC - 13477 Yorba Ave. Chino, CA 91710 USA
(Name and address of Manufacturer)

2. Manufactured for: WRT Environmental 5525 W. 56th Ave. Suite 100 Arvada CO 80008
(Name and address of Purchaser)

3. Location of installation: UNKNOWN
(Name and address)

4. Type: Vertical (Horizontal or vertical, tank) | 22266 thru 22269 (Manufacturer's serial number) | - (CRN) | 10968 (Drawing number) | 14139 thru 14142 (National Board number) | 2012 (Year built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1: 2010 Edition (Year)

to: - [Addenda (date)] | - (Code Case numbers) | - [Special service per UG-120(d)]

6. Shell: SA-516 Gr 70 (Material spec. number, grade) | 3/8" (Nominal thickness) | NONE (Corr. allow.) | 13' - 11 1/4" (Inner diameter) | 7' - 0" [Length (overall)]

7. Seams: TYPE 1 [Long. (welded, dbl., sngl., lap, butt)] | Spot [R. T. (spot or full)] | 85 (Eff., %) | - (H. T. temp.) | - (Time, hr) | TYPE 1 [Girth (welded, dbl., sngl., lap, butt)] | Spot [R. T. (spot or full)] | 85 (Eff., %) | 1 (No. of courses)

8. Heads: (a) Material: SA-516 Gr 70 (Spec. no., grade) (b) Material: SA-516 Gr 70 (Spec. no., grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side To Pressure (Convex or Concave)
(a)	TOP	.5313"	NONE	168"	10.0800"	-	-	-	-	CONCAVE
(b)	BOTTOM	.5313"	NONE	168"	10.0800"	-	-	-	-	CONCAVE

If removable, bolts used (describe other fastenings): - (Material spec. number, grade, size, number)

9. MAWP: 65 (Internal) | - (External) at max. temp. 150 (Internal) | - (External)

Min. design metal temp. -20 at 65 Hydro., ~~pneu. or comb.~~ test pressure 85

Proof test -

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diameter or Size	Type	Material: Nozzle	Material: Flange	Nozzle Thickness: Nom.	Nozzle Thickness: Corr.	Reinforcement Material	Attachment Details: Nozzle	Attachment Details: Flange	Location (Insp. Open.)
Drain	1	4"	RFSO	SA312 304/304 L	SA182 304/304 L	.237"	NONE	-	WELDED	WELDED	-
Manway	2	24"	RFSO	SA312 304/304 L	SA182 304/304 L	.375"	NONE	SA-516 Gr 70	WELDED	WELDED	SHELL
Sight Glass	2	3" x 12"	PDFLG	SA-516 Gr 70	-	1 1/4"	NONE	-	WELDED	-	-
Misc.	1	1"	CPLG	SA182 316/316 L	-	3000#	NONE	-	WELDED	-	-
Misc.	1	1"	CPLG	SA182 316/316 L	-	3000#	NONE	-	WELDED	-	-
Misc.	1	2"	CPLG	SA182 316/316 L	-	3000#	NONE	-	WELDED	-	-
Inlet / Outlet	2	12"	RFSO	SA312 304/304 L	SA182 304/304 L	.375"	NONE	SA-516 Gr 70	WELDED	WELDED	-

11. Supports: Skirt: YES (Yes or no) | Lugs: - (Number) | Legs: - (Number) | Other: - (Describe) | Attached: Bottom Hd Welded (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: Form U4 / Form U2A Commercial Metal Forming for 8ea. 168" x .625" Nom. D&F Heads S/N M111730-1 thru 8
(Name of part, item number, Manufacturer's name and identifying stamp)

Customer PO, 007226 / Safety & Relief devices by others / Impact test exempt per UG-20(F),UCS-66

CERTIFICATE OF SHOP / FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization Number 1912

expires 07/28/13.

Date 03/14/12 Co. name South Gate Engineering, LLC - (Manufacturer) Signed [signature] (Representative)

CERTIFICATE OF SHOP / FIELD INSPECTION

Vessel constructed by South Gate Engineering, LLC - at 13477 Yorba Ave. Chino,, CA 91710 USA

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of CA and employed by HSB CT

have inspected the component described in this Manufacturer's Data Report on 3.13.12, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By Signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 3.15.12 Signed [signature] (Authorized Inspector) Commissions NB 13111 A CA20060 [National Board (incl. endorsements), State, Province, and number]

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by South Gate Engineering, LLC - 13477 Yorba Ave. Chino, CA 91710 USA
(Name and address of Manufacturer)

2. Manufactured for WRT Environmental 5525 W. 56th Ave. Suite 100 Arvada CO 80008
(Name and address of Purchaser)

3. Location of installation UNKNOWN
(Name and address)

4. Type: Vertical (Horizontal, vertical, or sphere) | Tank (Tank, separator, heat exch., etc.) | 22266 thru 22269 (Manufacturer's serial number)
– (CRN) | 10968 (Drawing number) | 14139 thru 14142 (National Board number) | 2012 (Year built)

Nozzles, inspection, and safety valve openings:

Purpose (inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Service	1	16"	RFSO	SA312 304/304L	SA182 304/304L	.375"	NONE	–	WELDED	WELDED	–
Misc.	1	3'	RFSO	SA312 304/304L	SA182 304/304L	.216"	NONE	–	WELDED	WELDED	–
Misc.	1	6"	RFSO	SA312 304/304L	SA182 304/304L	.280"	NONE	–	WELDED	WELDED	–
Misc.	4	4"	RFSO	SA312 304/304L	SA182 304/304L	.237"	NONE	–	WELDED	WELDED	–
Relief	1	4"	LJ	SA312 304/304L	–	.237"	NONE	–	WELDED	–	–
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Data Report Item Number	Remarks
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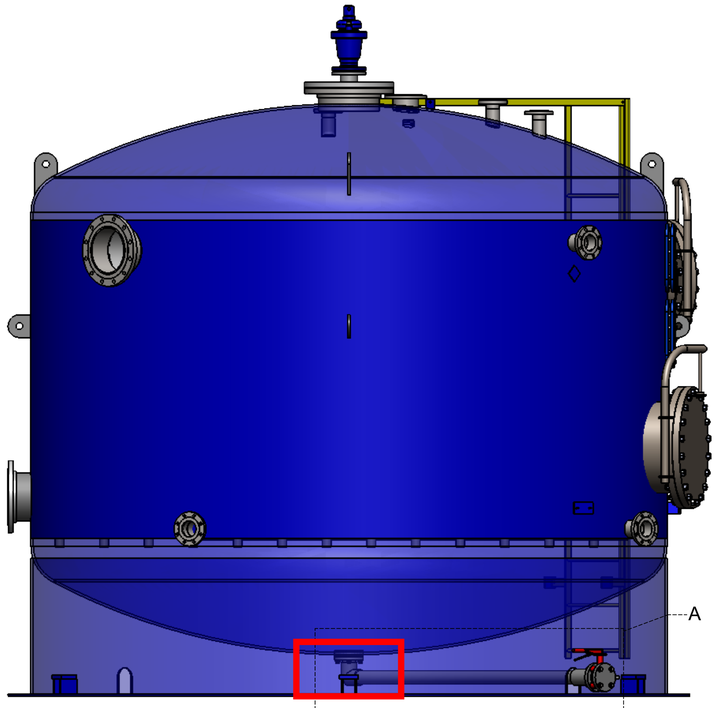
Certificate of Authorization: Type U No. 1912 Expires 07/28/13

Date 03/14/12 Name South Gate Engineering, LLC (Manufacturer) Signed [signature] (Representative)

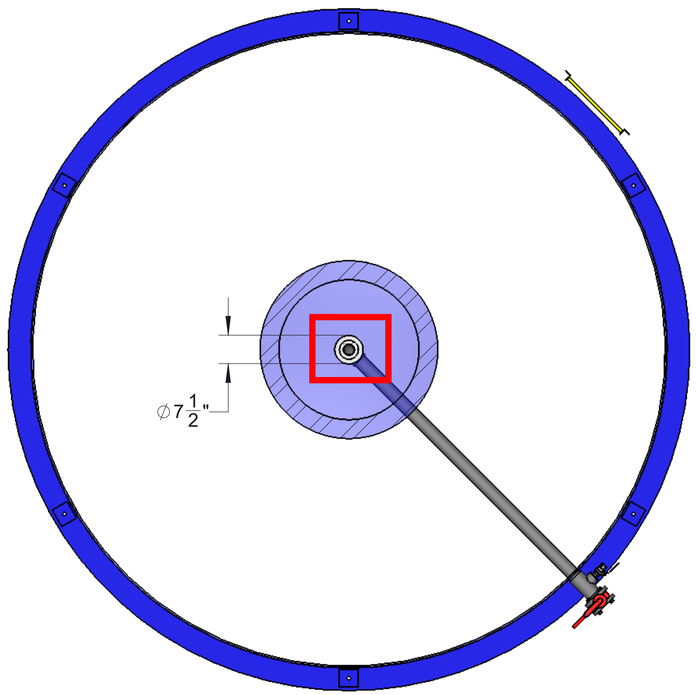
Date 3.15.12 Name [signature] (Authorized Inspector) Commissions NB 13111 A CA20066 [National Board (incl. endorsements), State, Province, and number]

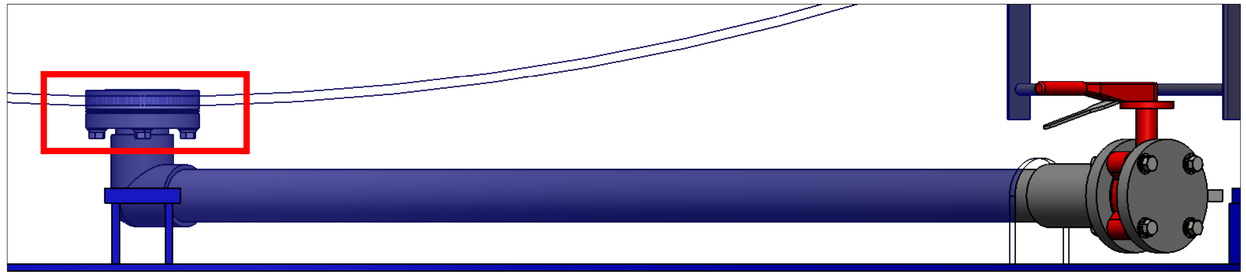
U4 Ext - Revision 6 - FP 2012.1.0

REVISIONS							
REV.	ECO	REVISION DESCRIPTION	DATE	DRAWN BY	CHECKED BY	APPROVED BY	DATE
A.0	--	INITIAL VAULT CHECK IN	09/07/2023	CT			09/07/2023



SECTION B-B
SCALE 1 : 20





DETAIL A
SCALE 1 : 5

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ARE AS FOLLOWS
1/X : ±1/8
1/XX : ±1/16
.0X : ±.01
.00X : ±.005
ANGLES : ±1

MODEL NAME
W000349-5101

THIRD ANGLE PROJECTION

PROJECT: W000349

TITLE: Tank Pad Flange Install

SIZE	DWG. NO.	REV
D	W000349-5102	A.0

SCALE: 1:32 | ACAD: | SHEET 1 OF 1

Thursday, September 7, 2023

WRT DRAWING TEMPLATE D SIZE SHT 1 REV 2.3

Grand Island Pressure Vessel Repairs and Design Modifications – Scope of Work
9 August 2022

SUMMARY:

The City of Grand Island is soliciting costs from contractors to complete this scope of work to conduct pressure vessel repairs on four pressure vessels. All vessels are currently in service. The work will be divided into two phases. One train (2 vessels) of the system will be taken offline at a time, repaired, and put back into service prior to moving to the next train. The first train must be placed into operation before the second train can be taken out of service. The **General Contractor** will coordinate all activities with the City of Grand Island and WRT. Work will be inspected by WRT or their designee.

DEFINITIONS:

GC: General Contractor, responsible for coordination of all activities
WRT: Water Remediation Technology, responsible for media removal, al radiological contamination cleaning, installation of media, and controls changes
VRC: Vessel Repair Contractor, responsible for welding of vessels, must be R-Stamp certified
PC: Paint Contractor, responsible for interior and exterior painting of vessels

SEQUENCE OF ACTIVITES WILL BE AS FOLLOWS:

1. Selected **General Contractor (GC)** executes a contract with the City of Grand Island and is entered into their system.
2. **Water Remediation Technology (WRT)** will take one train offline, drain down the vessels, remove media, remove PRVs, and remove internal laterals. The media will be removed from site. Shipping and storage of the media to be arranged by **WRT**. PRVs will be shipped back to the factory for recertification.
3. **GC** will remove external piping from Train 2 and set it in the building, out of the way.
4. **WRT** will complete a radiological contamination and exposure survey of the piping, remove any contamination as necessary and store piping outdoors in a designated area for future disposal.
5. **Vessel Repair Contractor (VRC)** will repair pressure vessels per the Genesis report, this will be 2 vessels.
6. Once the vessel repairs are complete the **Paint Contractor (PC)** will sandblast and paint the inside of the 2 vessels.
7. **PC** will spot paint exterior of vessels as outlined in the Genesis report.
8. **GC** will then install the exterior PVC piping and instrumentation. It is expected to reuse most of the current conduit runs however, additional conduit may be necessary. **GC** to work with **WRT** on conduit runs and wiring to the panel. **WRT** will land the wires in the panel.
9. **WRT** will install the laterals, PRVs and media into both vessels.
10. **WRT** will conduct rinsing, disinfection, and startup of the train (2 vessels).
11. The process is repeated for the remaining train (2 vessels).

Water Remediation Technology LLC
901 W. 116th Avenue, Suite 400, Westminster, Colorado 80234 • tel 303.424.5355
email: info@wrtnet.com • web: www.wrtnet.com

EXISTING VESSEL INFORMATION:

Vessels	Train 1	Train 2
Year Built	2012	2012
Vessel Construction	Tanks are 168" OD x 84" side shell, overall length is 152" over ends. Tanks are designed and stamped per ASME code, Section VIII, Div 1 for 65 PSI at 159 degrees with no corrosion allowance.	Tanks are 168" OD x 84" side shell, overall length is 152" over ends. Tanks are designed and stamped per ASME code, Section VIII, Div 1 for 65 PSI at 159 degrees with no corrosion allowance.
Paint	Interior is prepared and lined with 35 to 45 mils of Plasite 4110 vinyl ester forced cured to NSF-61 criteria; Exterior is prepared and primed with 3 to 8 mils of Tnemec 140 epoxy and finished with 3 to 8 mils of Tnemec 140 epoxy.	Interior is prepared and lined with 35 to 45 mils of Plasite 4110 vinyl ester forced cured to NSF-61 criteria; Exterior is prepared and primed with 3 to 8 mils of Tnemec 140 epoxy and finished with 3 to 8 mils of Tnemec 140 epoxy.
Piping	Internal headers, hardware and bottom laterals are 304SS. External piping is mainly 12" 304SS with some 4" 304SS and PVC piping. Fasteners are a combination of 307B and B18.22.1.	Internal headers, hardware and bottom laterals are 304SS. External piping is mainly 12" 304SS with some 4" 304SS and PVC piping. Fasteners are a combination of 307B and B18.22.1.

BID ITEM DESCRIPTION:

Remove Media and Clean Vessels

1. **WRT** will remove the uranium removal media from both vessels of the appropriate Train. Media will be put into tanker trucks and transported offsite.
2. **WRT** will remove and store all laterals (not the main header) and set aside to be re-installed.
3. **WRT** will remove all the pressure relief valves and ship them back to the manufacturer for recertification.
4. **WRT** shall clean the vessels with a power washer or other means necessary to fully remove build up and debris from the interior to allow for inspection of coating. Vessel a radiological contamination and exposure surveys will be conducted, and any residual media will be removed.
5. Provide 48-hour notice of when the vessels will be ready for interior work/inspection.

Remove all External Piping on appropriate Train

1. **GC** to remove external piping, valves and instrumentation as identified by the attached drawing set. (Attachment 1)
2. All valves and instruments should be set aside for re-use. Piping should be placed in a designated area where **WRT** will complete a radiological contamination and exposure survey of the piping and decontaminate as necessary prior to disposal.

Vessel Repair by R-Stamped Contractor

1. The **GC** shall engage the services of a **Vessel Repair Contractor (VRC)** certified under NBCI Section 8 Code Stamp. The **VRC** will perform work in accordance with NBCI requirements to supply an R-Stamp for the repairs.

2. Repairs are outline in the Genesis report. The bottom nozzle marked as "N" shall be replaced with a pad flange. Other nozzles shown in the Genesis report will be repaired as indicated.
3. In preparing a cost for this item, the **VRC** shall have reviewed the Genesis report (Attachment 3) and develop a plan for addressing the repairs with **WRT**.

Interior Lining

1. The **Paint Contractor (PC)** shall provide all labor, materials, equipment, and incidentals required to remove all the existing interior coatings and repaint the vessels interiors coatings and repaint the vessels interiors. The full coating system shall be an NSF/UL 600 system for contact in potable water service (See Attachment 4). The Exterior of the vessels will need spot repair based on the Genesis report.
2. All welding shall be completed prior to any abrasive blasting or coating or lining application. After the interior lining system is complete and the piping and laterals are installed the **GC** and Inspector shall reinspect for interior for any mechanical damage.
3. The **PC** shall submit five projects within the last two years using a plural component equipment and NSF-61 100% solids epoxy on the interior of potable water storage tanks. The information shall include Name of project, size of project, name and phone number of owner or **GC**.
4. The **PC** shall dispose of all wastes from Abrasive blasting and any other wastes or debris generated during work. The paint contractor shall sample, and test wastes as required by applicable regulatory agencies, and as necessary for classification of wastes prior to disposal. The paint contractor shall bear all costs for waste sampling, testing, accumulation, transport, and disposal, including the cost for wastes classification as hazardous and non-hazardous.
5. The **PC** should expect that the entire surface under the existing coatings to be corroded or having mill scale and shall provide for such conditions, accordingly, including complete removal of such material down to bare steel and providing "White Metal Blast Cleaning" (SSPC/SP 5) to allow for proper adhesion of the interior coating system.
6. At least two days prior to start of work, the paint contractor shall arrange with the owner and **WRT** for a pre-preparation conference at the job site to ensure that all parties are familiar with the entire project.
7. The **PC** shall include technical data documenting that the material to be provided complies with these specifications. The **PC** shall include the following data in the manufacturer's recommended handling and installation instructions for the proposed paint system submittal:
    a. Storage – include maximum and minimum storage temperatures
    b. Surface preparation
    c. Coating repair
    d. Application equipment
    e. Mixing and application of coating system including a table of minimum and maximum time to re-coat as a function of temperature
    f. Curing – including curing time required before holiday testing, and curing time required before immersion as a function of temperature and coating thickness. Minimum and maximum re-coat times
    g. Ventilation and full containment system
    h. Acceptable temperatures at the time of application
    i. Health of Safety Plan
    j. Fire Safety Plan
8. Warranty

a. Anniversary inspection requirements and failure criteria shall be in accordance with AWWA D-102, Section 9, except as modified herein. The total warranty period shall be two years from the final acceptance date.
b. **WRT** or Owner shall consider any location where coating has delaminated, peeled, blistered, or cracked; and any location where rusting is evident as failure of the coating system. In addition, **WRT** or Owner shall consider photographs or reports of the coating imperfections or failures as acceptable evidence of failure.
c. The paint contractor shall be liable for all remedial work including repair of all failures by removing the deteriorated coating, cleaning the surface, and recoating with the same system.

9. Abrasives (Interior all Vessels)
    a. The **PC** shall use abrasive grit for field blast cleaning conforming to the following:
        i. Produce a surface profile of 3.5 to 4.5 mils for the interior shell.
        ii. Vessel exterior surface profile of 1.5 to 2.5 mils
10. Products for Interior Coating System Materials
    a. The **PC** shall provide the following new interior lining system consisting of 100% solids elastomeric polyurethane. The exterior coating will be an epoxy-Polysiloxane system.
    b. The **PC** shall not use or allow to come in contact with any portion of the vessel interior, any coating system and/or any thinners or additives which have not been approved and listed by the National Sanitation Foundation, Standard 61 (ASTM D-4541) for the lining system using a type two instrument.
    c. The **PC** shall provide coating "certified non-lead" (less than 0.06 percent lead by weight in the dried film) as defined in Part 1303 of the Consumer Products Safety Act.

Install Media, Laterals and Miscellaneous Components

1. **WRT** shall install the PRVs, laterals, and media. **WRT** will be responsible for modifying the PLC and OIT programs for the new configuration once both trains have been refurbished.
2. **WRT** personnel shall land the wires inside the main control panel once the contractor has run all the instruments to the main control panel.

Install Exterior Piping, Valves and Instruments

1. **GC** shall field fit and install all piping based on the upgraded drawings provided by **WRT** (Attachment 2)
2. **WRT** will supply all PVC piping, valves, and instruments (pressure transmitters and flow meters)
3. **GC** shall run/modify conduit and wire all instruments back to the main control panel, they do not have to land the wires in the panel.

Startup and Testing

1. This includes media backwashing, rinse up and disinfection. **WRT** and the Owner shall put the system back online.

Exterior Coatings

1. The **PC** shall perform exterior lining in accordance with the procedures and requirements specified by the paint manufacturer.

ATTACHMENTS

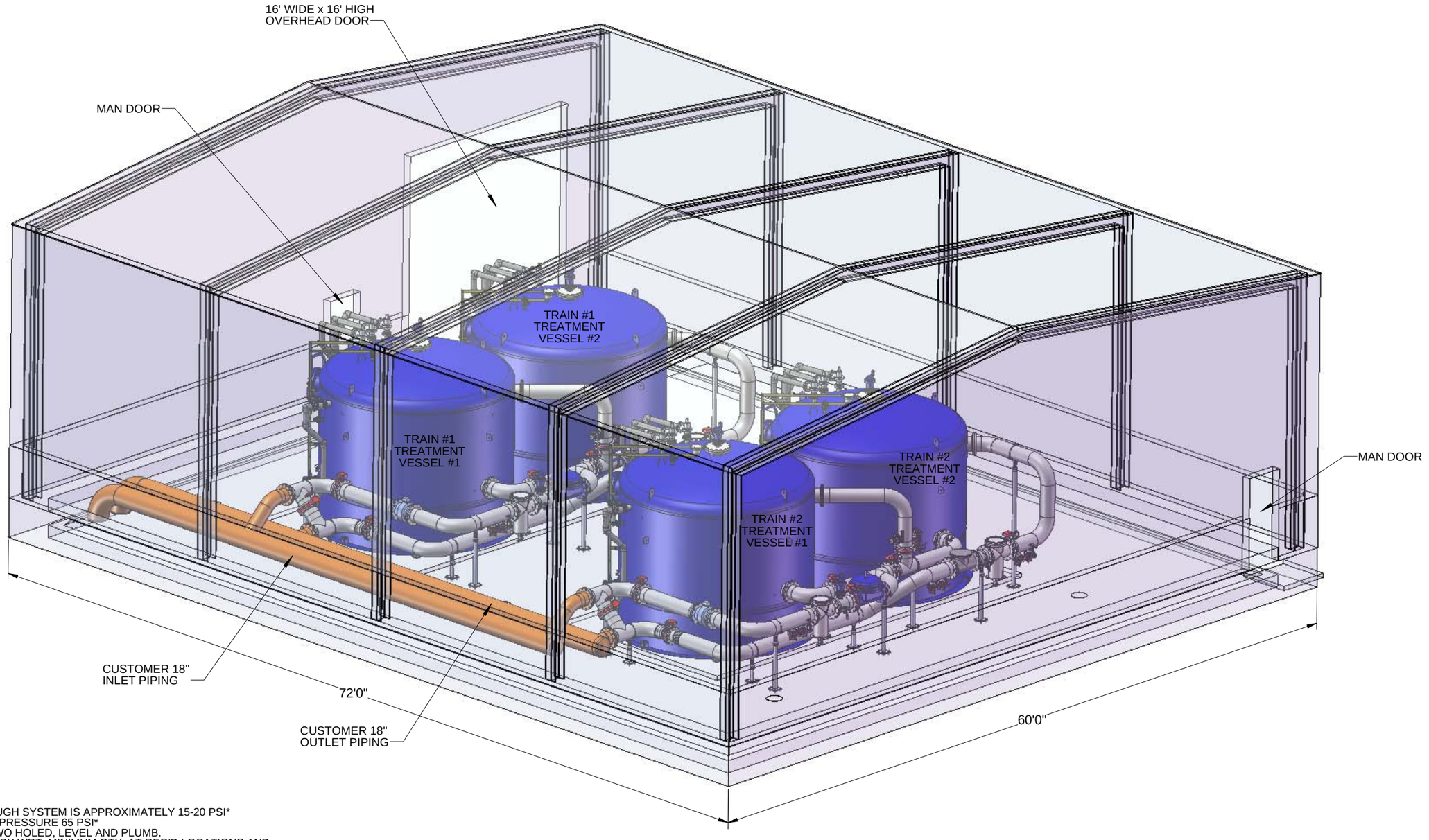
1. Existing system piping drawings
2. New/proposed system piping drawings
3. Coating and Lining
4. Genesis Vessel Inspection Reports

Attachment 1
Existing system piping drawings

Z-92® GRAND ISLAND FIELD ERECTED SYSTEM

DUAL 1750 GPM TRAIN URANIUM TREATMENT SYSTEM

REVISIONS					
REV.	REVISION DESCRIPTION	DATE	DRAWN BY	APPROVED	MGR APPROV
K.0	REDIMENSION FACE OF CUSTOMER CONNECTIONFLANGES TO CL OF PAD, SHT 5	9/23/2011	DAVE EVANS	DH	DH
L.0	UPDATED REVISIONING SCHEME. REMOVED +/-2" LOCATION NOTE, SHT 1.	10/12/2011	DWE	DWE	DH
M.0	UPDATED OUTLET FLOW CONTROL TO 10" VALVE	11/16/2011	DWE	DH	TH
1.0	ISSUED FOR CONSTRUCTION, ADDED VALVES AP-0608 AND AP-0708 TO TOP OF EACH VESSEL	12/6/2011	DWE	DWE	DH
1.1	UPDATE SHT 4 CHANGE TAG HV 0202 10.0" TO FCV 0202 10.0". REMOVE V FROM CVV 0401 12.0"	3/12/2012	DWE	DWE	DH



NOTES:

1. TYPICAL CLEAN PRESSURE DROP THROUGH SYSTEM IS APPROXIMATELY 15-20 PSI*
2. MAXIMUM OPERATING INLET PRESSURE PRESSURE 65 PSI*
3. ALL FLANGE CONNECTIONS SHALL BE TWO HOLED, LEVEL AND PLUMB.
4. PIPE SUPPORTS SHOWN ARE PROVIDED BY WRT. MINIMUM QTY. AT REQ'D LOCATIONS AND SUGGESTED TYPE ARE SHOWN.
5. DELIVERY TO THE SITE IS PROVIDED BY WRT.
6. SYSTEM UNLOADING UPON DELIVERY IS NOT INCLUDED.
7. INSTALLATION IS NOT INCLUDED.
8. A SUITABLE SITE FOR THE WRT SYSTEM IS REQUIRED;
9. APPROPRIATE WEATHER PROTECTION AND STRUCTURAL SUPPORT MUST BE MADE AVAILABLE PRIOR TO SYSTEM DELIVERY.
10. WRT HIGHLY RECOMMENDS CUSTOMER TO INSTALL SECONDARY CONTAINMENT.
11. BUILDING SHOWN IS A SUGGESTED REPRESENTATION AND NOT NTENDED TO REFLECT ACTUAL DESIGN.

ISSUED FOR CONSTRUCTION
3/12/2012

Monday, March 12, 2012 4:12:12 PM

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ARE AS FOLLOWS
1/X : ±1/8
1/XX : ±1/16
.0X : ±.01
.00X : ±.005
ANGLES : ±1

MODEL NAME: GI-X9101
MATERIAL:
FINISH:

PROJECT: W000214

TITLE: Z-92 URANIUM REMOVAL SYSTEM DUAL TANK SYSTEM

SIZE: D | DWG. NO.: W000214-X9101 | REV: 1.1

SCALE: 1:6 | SHEET 1 OF 6

WRT DRAWING TEMPLATE D SIZE SHT 1 REV 1.2

WRT

Grand Island, NE

Report No.: Rprt 21235.22002.14142
Inspector : Andrew R Phelps
Employer : Genesis Integrity Inspections
Inspection Date : 11/9/2021

OUT-OF-SERVICE

Inspection Report For

Pressure Vessel

S/N 22269

Train 1, Vessel 1

An API Standard 510 Inspection based on client criterion for nondestructive examinations was conducted on vessel S/N 22269 in the WRT facility located at Grand Island, NE on 11/9/2021. This vessel was originally built to ASME S8 D1. This inspection was conducted in accordance with requirements of the API-510 standard for inspections of Pressure Vessels. The following is a detailed report of the inspection including findings and recommendations.

Inspector Signature
API Certification No. 66621

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

An API Standard 510 inspection of pressure vessel S/N 22269 located at Grand Island, NE was conducted on 11/9/2021. This inspection was made to collect data in order to evaluate the mechanical integrity and fitness for service of the vessel. This inspection consisted of Internal and External VT and UT exams.

The internal Lower BOM piping supports have failed on the sister vessel to this vessel that is in the same service and design condition that cause the Lower BOM Reflects Assembly to sustain severe deflections in the distributer main and a branch threaded connection to break. No signs of failure have been noted in this vessel yet. The cause for the Lower BOM Reflects Assembly piping support failure may have been due to the supports being hard mounted across the vessel (from one side of the vessel wall to the other). In this condition, the vessel tends to expand a bit and stress the X-sectional assembly of the support structure usually poping at the welds. Recommend modifying the internal Lower BOM Reflects Assembly piping support structure by having engineering design a joint section that allows free movement of the X-section support structure assembly (i.e. a pipe socket with a smaller pipe insert for free movement during vessel expansion) prior to returning the vessel back to service.

The bottom nozzle “N” weld is corroded about the nozzle internal weld. Recommend making repairs to the bottom nozzle “N” weld that is corroded about the nozzle internal weld prior to putting the vessel back in service.

Several threaded joints on the external shell to nozzles appear to be leaking. Recommend making repairs to the threaded joints on the external shell to nozzles that appear to be leaking.

The internal lining dry film thickness (DFT) ranges between 40 & 65 mil. The lining should be at about 160 mil. There were areas of lining disbonding. Recommend recoating the shell & head internal lining to obtain a 160 mil DFT measurement prior to returning the vessel back to service.

The vessel has three 3 inch Pressure Safety Relief Valves (PSV) set at 65 to 67 psi and vented to a piping system and is thereby protected from overpressure. The PSV was certified on 3/2012 and therefore should be scheduled for recertification in the next 3 months in accordance with code requirements. Recommend Scheduling the PSV's for recertification in the next 3 months in accordance with code requirements.

TABLE A

Component	*Nominal Design Thickness (inch)*	*Actual Measured Thickness (inch)*	*Minimum Required Thickness (inch)*	*Design MAWP (psi) Internal*	*Calculated MAWP (psi) Internal*	*Remaining Life (years)*
Vessel Shell	0.375	0.385	0.320	65	78.0	>20
Top Head	0.594	0.624	0.484	65	84.0	>20
Bttm Head	0.594	0.630	0.484	65	85.0	>20

Next Inspection:

Next external inspection is due by: 11/09/2024
Next internal inspection is due by: 11/09/2024
Next UT inspection is due by: 11/09/2024

2.0 VESSEL DATA

Main Vessel Data:		***General Data:***	
MAWP (psi):	65	***Product:***	Uranium Treatment
Design Temp. (deg F):	150	***Year Built:***	2012
MDMT (deg F):	-20	***NB No.:***	14142
Oper. Press.(psi):		***Const Code***	ASME S8 D1
Oper. Temp. (deg F):		***Vessel Config.:***	Vertical
Material Type:	Carbon Steel	***Head Type:***	Torispherical
Inside Dia. (inch):	167.25	***Insul. Type:***	None
Length (inch)	84	***Insul. Thk (inch):***	

Chamber II Data N/A

MAWP (psi):	***Oper. Press.(psi):***
Design. Temp. (deg F):	***Oper. Temp.(deg F):***
Material:	***Medium:***

3.0 INSPECTION RESULTS, OUT-OF-SERVICE

The following results are the summarization of a field checklist that was utilized during the inspection of vessel S/N 22269

3.1 Foundation:

3.1.1 The vessel has a carbon steel skirt attached to the bottom head and is sitting on a concrete foundation.

3.1.2 The carbon steel skirt and concrete foundation are in satisfactory mechanical condition. The CS skirt coating has coating failure about the tank.

3.2 Shell:

3.2.1 The shell is carbon steel and is un-insulated.

3.2.2 The external surface profiles of the shell appear to be smooth and clean and in satisfactory mechanical condition. There are areas scattered throughout the shell with coating failure and surface oxidation.

3.2.3 The internal surface profiles were relatively smooth with no significant oxidation or other forms of deterioration evident. The internal lining dry film thickness (DFT) ranges between 40 &65 mil. The lining should be at about 160 mil. There were areas of lining disbonding.

3.2.4 The shell longitudinal and circumferential welds appeared to be in satisfactory condition with no preferential corrosion or indications of cracking observed.

3.2.5 The shell nozzle penetration welds appeared to be in satisfactory condition.

3.3 Head(s):

3.3.1 The top and bottom heads are carbon steel and are un-insulated. The top and bottom heads have a torispherical design.

3.3.2 The external surface profiles of the top and bottom head appear to be smooth and clean and in satisfactory mechanical condition. There are areas scattered throughout the heads with coating failure and surface oxidation.

3.3.3 The internal surface profiles were relatively smooth with no significant oxidation or other forms of deterioration evident. The internal lining dry film thickness (DFT) ranges between 40 &65 mil. The lining should be at about 160 mil. There were areas of lining disbonding.

3.3.4 The nozzle penetration welds through the top and bottom heads appeared to be in satisfactory condition.

3.4 Appurtenances:

3.4.1 The shell and head nozzles (except nozzle N) appear to be clean and in satisfactory mechanical condition. The bottom nozzle “N” weld is corroded about the nozzle internal weld.

3.4.2 Several threaded joints on the external shell to nozzles appear to be leaking.

3.4.3 There are areas scattered throughout the nozzles, especially the nozzle flanges, with coating failure and surface oxidation.

3.4.4 The vessel has three 3 inch Pressure Safety Relief Valves (PSV) set at 65 to 67 psi and vented to a piping system and is thereby protected from overpressure. The PSVs was certified on 3/2012 and therefore should be scheduled for recertification in the next 3 months in accordance with code requirements.

3.4.5 The ASME data plate is attached and readable and in an easily accessed location.

3.4.6 The internal Lower BOM piping supports have failed on the sister vessel to this vessel that is in the same service and design condition that cause the Lower BOM Reflects Assembly to sustain severe deflections in the distributer main and a branch threaded connection to break. No signs of failure have been noted in this vessel yet.

4.0 RECOMMENDATIONS

4.1 Foundation:

4.1.1 Clean and coat areas of coating failure on the carbon steel foundations as needed to restore to 100% coverage.

4.2 Shell:

4.1.1 Recoat the shell internal lining to obtain a 160 mil DFT measurement.

4.3 Heads:

4.3.1 Recoat the head internal lining to obtain a 160 mil DFT measurement.

4.4 Appurtenances:

4.4.1 Make repairs to the bottom nozzle “N” weld that is corroded about the nozzle internal weld.

4.4.2 Make repairs to the threaded joints on the external shell to nozzles that appear to be leaking.

4.4.2 Clean and coat areas of coating failure on the nozzle external surfaces as needed to restore to 100% coverage.

4.4.3 Schedule the PSV's for recertification in the next 3 months in accordance with code requirements.

4.4.4 Modify the internal Lower BOM Reflects Assembly piping support structure by having engineering design a joint section that allows free movement of the X-section support structure assembly (i.e. a pipe socket with a smaller pipe insert for free movement during vessel expansion) prior to returning the vessel back to service.

4.5 Next Inspections:

4.8.1 Next external inspection is due by: 11/09/2024

4.8.2 Next internal inspection is due by: 11/09/2024

4.8.3 Next UT inspection is due by: 11/09/2024

4.8.4 Governing component limiting life: Vessel Shell

5.0 ULTRASONIC THICKNESS (UT) MEASUREMENTS

5.1 Results Summary:

5.1.1 UT measurement of accessible vessel components (shell, heads and nozzles) found no significant material loss due to internal corrosion of the components. All of the vessel component thicknesses were above that required by ASME calculations for minimum required thicknesses for internal pressure.

5.1.2 Calculations of all evaluated components resulted in greater than 20 years remaining life.

5.2 Recommendations:

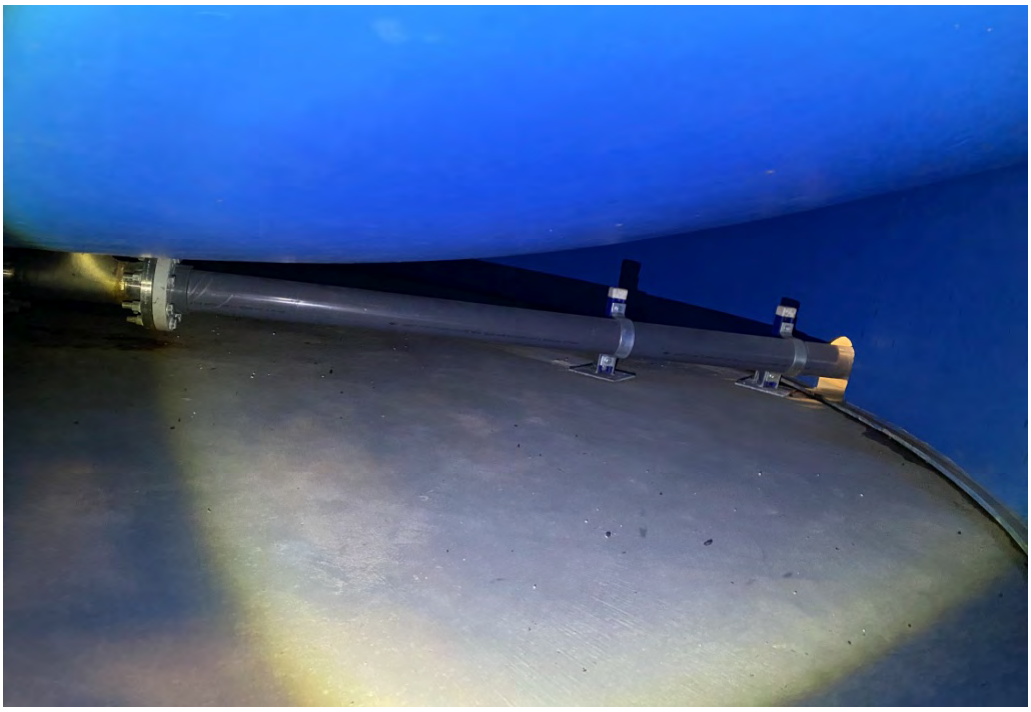
5.2.1 Next UT inspection of the vessel may be scheduled in 5 years.

Vessel overview

ASME data plate

Threaded nozzle wirth signs of leaking

Vessel skirt chime with start of exfoliation corrosion



Bottom head overview

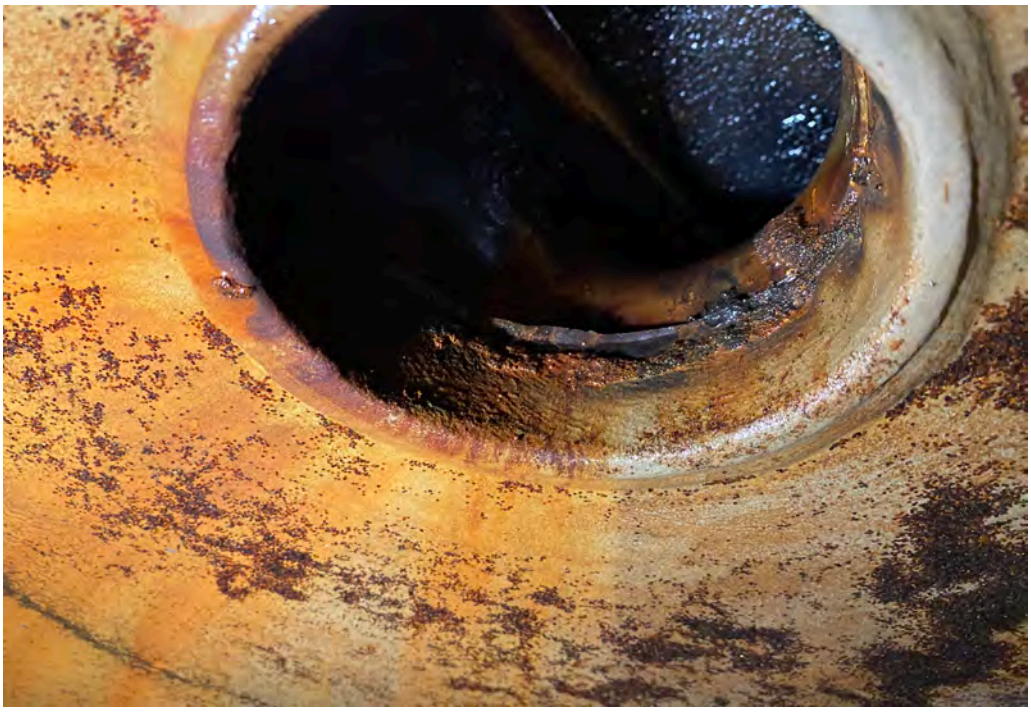
Top head overview

PSV data tag

Internal Lower BOM piping

Internal upper BOM piping

Internal lining disbonding



Bottom head nozzle N with corroded welds about the nozzle

Nozzle N with corroded welds about the nozzle

Train 1 Vessel issues

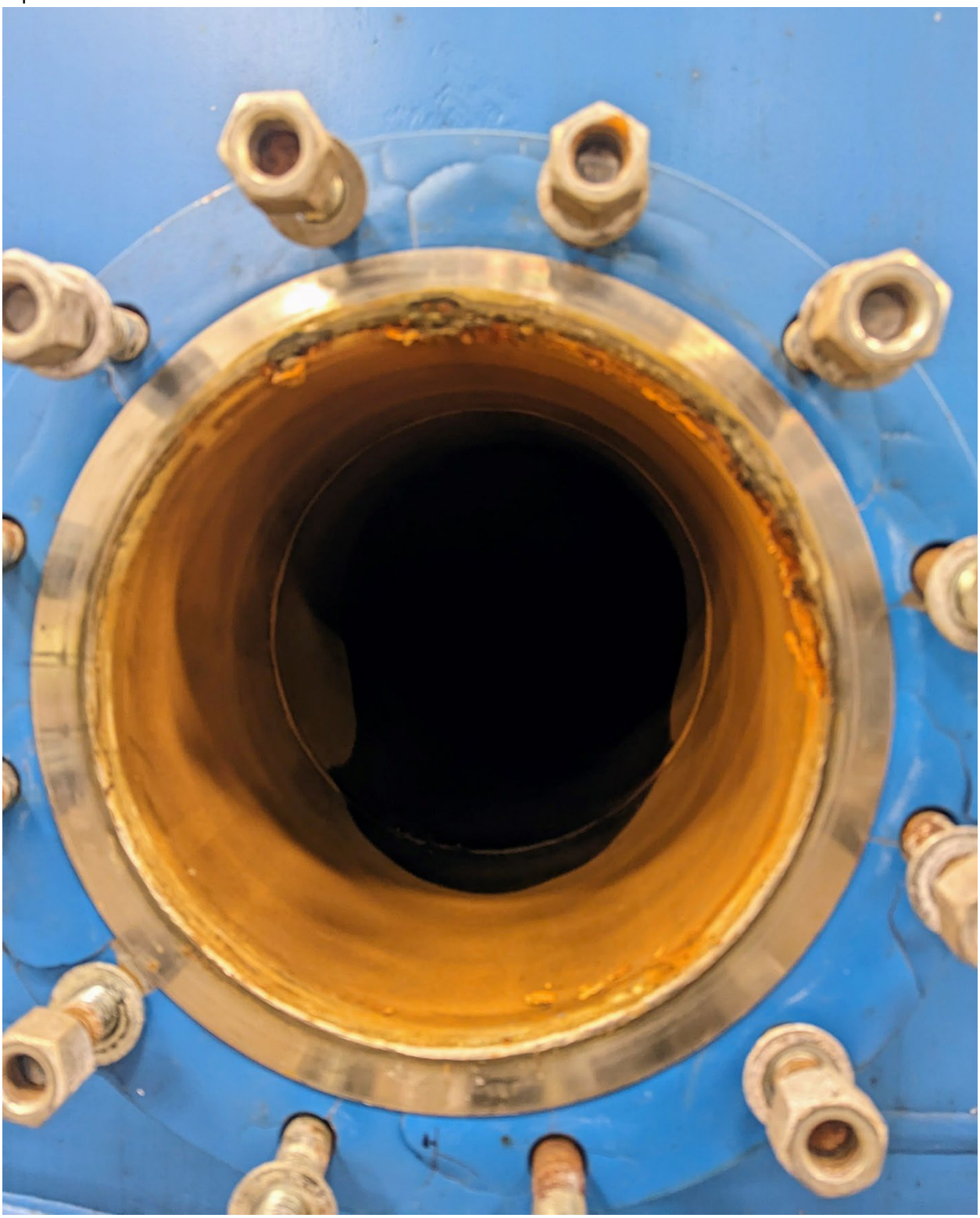
The following pictures show corrosion issues that were found when Train 1 vessels were inspected and repaired in 2023. These are examples of what will require repair for train 2 along with the bent 12" lower distribution header in train 2 vessel 2. The mechanical contractor for the vessel repair should determine the most the cost-effective means of making the repairs required. With that said, the parts for the repair should also come from the mechanical contractor. Since the MIC is favoring the stainless steel components it is recommended that the required repairs be made of flat face flanges as much as possible. The lower and upper stainless steel headers should be painted with the rest of the interior of the vessel is painted to minimize contact with the microbes. The lower head has a 4” stainless tee welded at the lowest point and should be removed and replaced with a 3” pad flange so a flanged elbow can be attached later to act a media removal port. This was labeled as port N in the original inspection reports.

The lower 4” port labelled A on the provided drawing is a screened port designed for draining the vessel just above the lower laterals, the flange face shows significant signs of corrosion and should be removed and replaced.

The 4” lower sluice port to the right of the manway and is labelled D on the drawing. It shows signs corrosion and should be removed and replaced.

Above the sluice port is a 1” coupling labelled E on the drawing. It is used for media sampling. There appears to be a slight crack at about 9 o’clock which should be examined, and if determined, should be repaired. The thread connections also appear to have been leaking as well.

8. The 12” port labeled H is the process discharge port and shows signs of corrosion and should be replaced.



11. The 12” lower header does show signs of damage and corrosion. The clips or support for the header are/is no longer connected to the header. A new clip should be installed, perhaps a saddle style connected to the lower head of the vessel. The lateral supports are bowed and should be replaced. WRT will provide new lateral supports, the existing ones should be cut out of the primary vessel and replaced.

Train 1 Vessel 2 (T1V2)

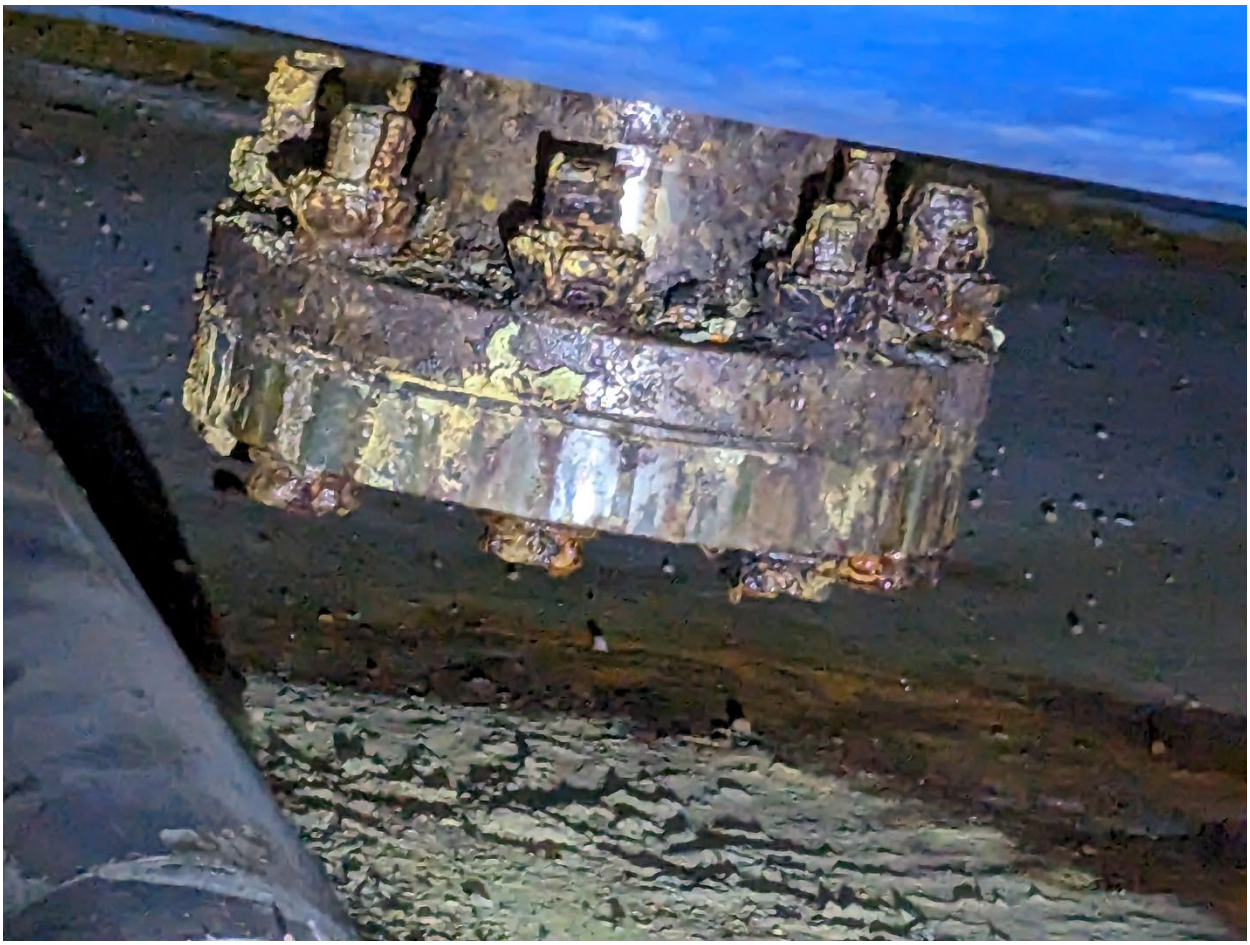
Vessel 2 had similar corrosion issues and vessel 1.

The 4” drain screen port (labeled A) to the left of the manways shows signs of sever corrosion and should be replaced. Although not easily seen in the photo there is a small hole forming in the neck of the flange, this might be puddle welded or replaced entirely.

The 4” lower media sluice port flange labeled D, shows signs of significant corrosion and should be replaced.

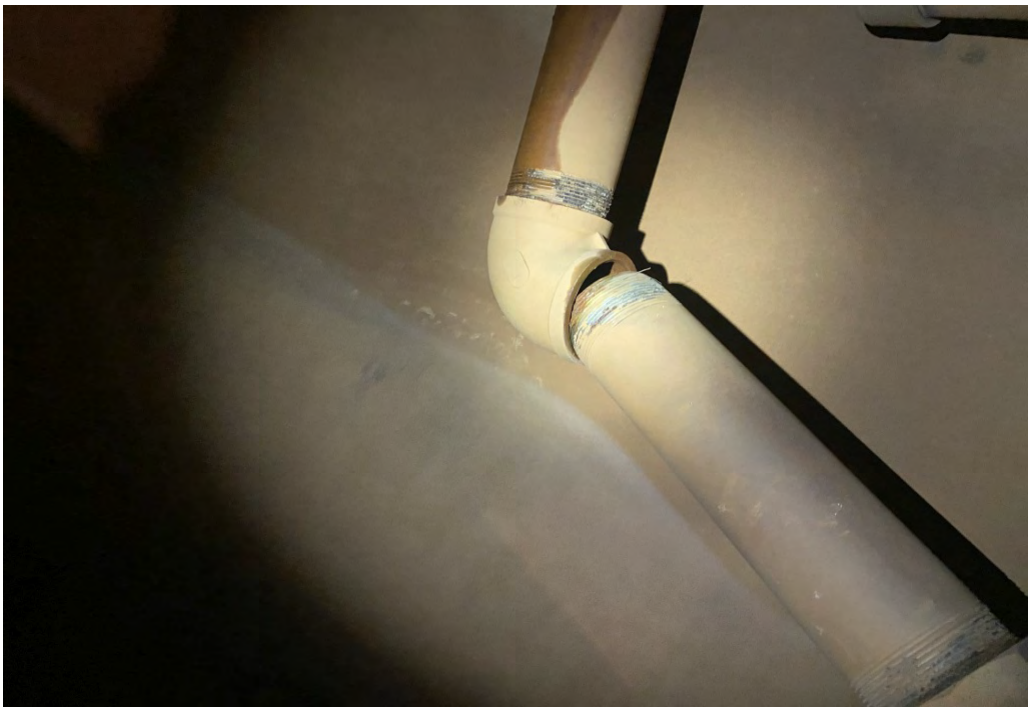
The 12” lower discharge port Labeled H, is showing early signs of corrosion and should be replaced with carbon steel flanges.

The lower header inside the vessel shows corrosion on the weld joint for the end cap as well as on the clip. New supports are recommended for both vessels. A saddle support off the bottom head might be a better choice.



Lower BOM piping support failure

Lower BOM damage to header from support failure



Branch threaded connection faliure

Header damage due to structural support failure