It is expected that a Quorum of the Personnel Committee, Board of Public Works, and Administration Committee will be attending this meeting: (although it is not expected that any official action of any of those bodies will be taken)

CITY OF MENASHA
Special Joint Common Council and
Menasha Electric and Water Utility Commission
Menasha Utilities' Office and Operations Facility
321 Milwaukee Street, Menasha
July 8, 2013
5:30 PM

# **AGENDA**

- A. CALL TO ORDER
- B. ROLL CALL/EXCUSED ABSENCES
- C. PUBLIC COMMENTS ON ANY MATTER LISTED ON THE AGENDA (five (5) minutes time limit for each person)
- D. DISCUSSION/ACTION ITEMS
  - 1. Options for disposition of Steam Utility Facility
- E. ADJOURNMENT

<sup>&</sup>quot;Menasha is committed to its diverse population. Our Non-English speaking population and those with disabilities are invited to contact the Menasha City Clerk at 967-3603 24-hours in advance of the meeting for the City to arrange special accommodations."



**TO:** Members of the Common Council

Members of the Utility Commission

**FROM:** Donald Merkes, Mayor

Melanie Krause, Interim General Manager

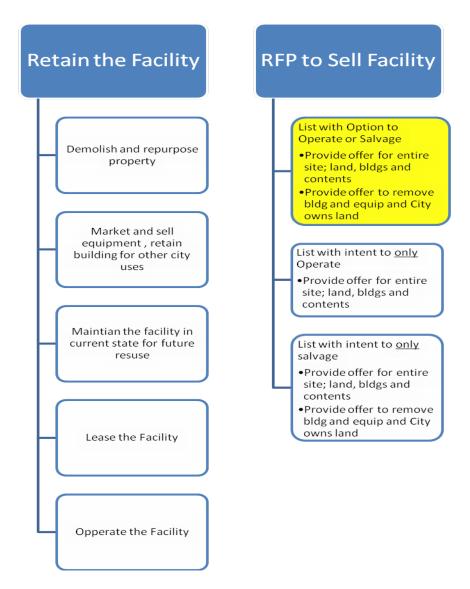
**DATE:** 3 July 2013

**RE: Options for disposition of Steam Utility Facility** 

Since closure in 2009, the City of Menasha has maintained the Steam Utility facility and equipment at 198 River Street in a condition to preserve its value for future sale or use. With the final settlement of banholder litigation, the Common Council and Utility Commission held a joint session in 2012 to review a decision tree of potential uses of the facility and equipment. Action taken to dissolve the steam utility at that meeting was later tabled by the Common Council.

Since the closure of the facility utilities staff has received numerous inquiries regarding the disposal of the building and equipment. The Utility has conducted tours and provided information to entities that have come to us, but has not actively recruited potential buyers. The only ground rule communicated to those inquiring was that the City was not willing to invest in or partake in something that would create new financial risk to the community. Only one company, Greenwood Energy, progressed to the point of a letter of intent being approved by the Common Council. Being that no firm direction has been determined, Menasha Utilities staff has maintained the facility with an ability to restart as originally directed by the Utility Commission. Inquiries to purchase specific components required to resume operation of the facility, or for salvage, have not been explored at this time due to the previous direction to staff to maintain the facility's ability to restart.

At this time there are two main directions that the community could proceed in as shown in the graphic below:



Retaining the facility would likely continue to impose costs on the City. Costs to maintain the facility in a condition that would allow it to regain operation are approximately \$50,000 annually. Preliminary estimates to demolish the building excluding salvage value of any equipment are over \$1 million. Retaining the facility also poses risks to the City, the degree of risk varying based on the choice, with operation exposing the community to the most risk.

We believe that there is value in the equipment or facility to the right party. The City and Utility management agree that it would be in the best interest of the community to issue an RFP to a broad market to gauge if there is interest in the facility and just what type of interest that would be. With that direction in mind we solicited proposals from experienced firms to draft a RFP, solicit proposals, and review proposals received. We received two proposals, one from Power Systems Engineering (PSE) and another from ESI Inc. to provide this service. The major difference besides pricing that was evident from

the proposals is that ESI Inc. would be dedicating 2-3 engineers to handle all the technical components of the process whereas under the PSE proposal that expertise will be provided by staff at Menasha Utilities that operated the facility.

At this time we recommend that the Common Council /Utility Commission contract with PSE to draft an RFP, solicit proposals, and review proposals received with the option to operate or salvage. The process would likely take about 8 weeks to complete. We believe that this offers the best potential to maximize the value of the facility and minimize further risk to the community.

# Professional Services Proposal for Menasha Utilities Menasha, WI

for

# Steam Plant RFP

June 14, 2013

Contact: Tom Butz 10710 Town Square Drive NE, Suite 201

Minneapolis, MN 55449

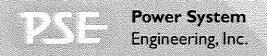
Office: 763-755-5122 Mobile: 612-961-9495

Fax: 763-755-7028

Email: butzt@powersystem.org Web Site: www.powersystem.org

Power System Engineering, Inc.





Via e-mail

June 14, 2013

Ms. Melanie Krause Interim General Manager Menasha Utilities P.O. Box 340 Menasha, WI 54952-0340

Subject: Proposal for Steam Plant RFP

Dear Ms. Krause:

Attached please find Power System Engineering, Inc.'s (PSE) proposal in response to the subject Request for Proposal (RFP). On behalf of PSE, I want to thank you for the opportunity to submit this proposal to Menasha Utilities.

Our proposal is organized into the following Sections:

- Section 1: Proposed Scope of Services.
- Section 2: Proposed Timeline.
- Section 3: Proposed Fee Estimate.
- Section 4: Company and Team Profile.
- Section 5: References.

The Scope of Services detailed in Section 1 is based on our understanding of your needs; but we would be more than happy to modify the proposed Scope of Services should you desire to do so.

Again, we appreciate this opportunity; and please do not hesitate to contact me at (763) 783-5343if you have any questions or comments.

Sincerely,

Tom Butz

Senior Planning Engineer

5403/sja Enclosure

# SECTION 1: PROPOSED SCOPE OF SERVICES.

In response to the Menasha Utilities Request for Proposal (RFP), Power System Engineering, Inc. (PSE) proposes to provide the consulting services comprised of:

- 1. Draft RFP seeking the sale of the generation facilities.
- 2. Work with the City to finalize the RFP.
- 3. Send out RFP to distribution list and other know interested parties.
- 4. Interact with interested parties.
- 5. Provide initial evaluation of proposal received screening out parties that don't appear capable of making the transaction.
- 6. Providing recommendation to city on most viable party(s) to move ahead with negotiations.

# **SECTION 2: PROPOSED TIMELINE**

We will work to achieve any schedule desired by Menasha for the completion of the project. To complete the scope contained herein, we expect that the project will take between two and four months to allow adequate time for parties to respond. We will remain flexible, however, especially as it relates to allowing for adequate time for presentation and review by Menasha.

# **SECTION 3: PROPOSED FEE ESTIMATE**

PSE is proposing to perform the work based on hourly costs on a not to exceed firm estimate of \$6,500. Costs for additional phases of the project including negotiating the contract are not included in this phase of the work, and will be established as needed based on the response to the RFP.

# SECTION 4: COMPANY AND TEAM PROFILE

PSE is a full-service consulting firm serving utilities and the utility industry. PSE provides a full range of services to utilities nationwide but primarily electric cooperatives. Some of the services we provide include:

Communications Operations Consulting
Demand Response Rates and Cost of Service

Energy Efficiency Resource Planning

Engineering Studies Statistical Performance Measurement (Benchmarking)

Financial Planning Substation Design
Line Design Utility Automation
Load Forecasting Value of Service

Market and Load Research Workshops and Seminars

Other Economic Studies Mergers and Acquisitions Analysis

Since we work with both distribution cooperatives and G&Ts, we have gained an appreciation of the interests of various stakeholders in the G&T family and understand the political ramifications that often are involved in developing wholesale rates and DSM programs for G&T cooperatives. As a result, we have developed sensitivity in working with G&Ts and their members to develop a consensus building process.

The Economics, Rates, and Business Planning Department at PSE has been providing economic, rate, and financial consulting to our electric cooperative clients for over 35 years. Our staff includes former utility rate analysts, forecasters and CFO, along with Ph.D, MBA, CPA, and mathematics, accounting, business, and economics majors. We regularly attend and present at industry events concerning economic, rate, and financial matters and have conducted training seminars for domestic and international clients. Collectively, our group has over 150 years of experience working for or consulting with electric utilities. Over the past three years, PSE has completed approximately 90 rate and COS studies for electric utilities, spanning 11 states.

PSE is registered in the State of Wisconsin as a Subchapter S Corporation with headquarters located in Madison, Wisconsin (1532 W. Broadway, Madison, WI 53713). We have offices located in:

- Minneapolis, MN (10710 Town Square Drive NE, Suite 201, Minneapolis, MN 55449).
- Indianapolis, IN (6919 E. Tenth Street, Suite E-1A, Indianapolis, IN 46219).

- Marietta, OH (2349-A State Route 821, Marietta, OH 45750).
- Prinsburg, MN (609 3rd Street, Prinsburg, MN 56281).
- Sioux Falls, SD (2307 W. 57th Street, Suite 102, Sioux Falls, SD 57108).
- Cedar Rapids, IA (1540 Midland Court NE, Cedar Rapids, IA 52402).

For additional information, we invite you to visit our website: www.powersystem.org.

PSE has assembled a well-qualified team of experts with a variety of utility and industry experience. Please reference the project team diagram below and the project team resumes that follow.

# THOMAS J. BUTZ, P.E. SENIOR PLANNING ENGINEER

#### SUMMARY OF EXPERIENCE AND EXPERTISE

Experienced in transmission planning, supply resource evaluation, power supply planning, resource portfolio development, integrated resource planning, and demand-side management evaluations.

Licensed Professional Engineer in Minnesota.

#### PROFESSIONAL EXPERIENCE

# Power System Engineering, Inc. - Minneapolis, MN (1999-present)

# Senior Planning Engineer

Responsible for resource planning analysis and report development, transmission planning, integrated resource planning, and demand-side management evaluations.

Project Manager for numerous Integrated Resource Plans.

Provides Purchase Power Proposal Evaluations and Analysis.

Performs MISO Market Pricing Projections and Analysis.

# GEN~SYS Energy - Eden Prairie, MN (1998-1999)

#### Risk Coordinator

Responsible for working with risk management consultants to set up a risk analysis and reporting system within a power trading organization. Worked with staff and the Board to form a strategic alliance with a power trading organization.

Manager of Joint Integrated Resource Plan Project.

Performed Power Marketing Cost Evaluations.

### Cooperative Power Association - Eden Prairie, MN (1986-1998)

# Manager of Resource Planning

Responsible for future electric resource planning using various software.

Led a work team responsible for creating the resource plan.

Developed pricing for wholesale power transactions, regulatory reports, and strategic alliance analysis.

Led the headquarters process improvement program and various teams charged with improving customer service and reducing costs.

#### **EDUCATION**

University of North Dakota, Grand Forks, ND

Bachelor of Science Degree in Electrical Engineering (emphasis on Electric Power Systems)

# PROFESSIONAL MEMBERSHIPS

Twin Cities IEEE Power Engineering Society (1986-present)
President (1992), Vice President (1991), Treasurer (1990), Program Chair (1989)

Toastmasters International Chapter President (2003), Area Governor (2006), Division Governor (2007)

# **SECTION 5: REFERENCES**

Client Name:

City of Escanaba

Project Title:

Power Supply Analysis and Assistance on Selling Power Plant

Mailing Address:

1711 Sheridan Rd Escanaba, MI 49829

**Contact Person:** 

Mike Furmanski

Email Address:

mfurmanski@escanaba.org

Phone:

906-786-0061

**Completion Date:** 

Project Description: PSE wrote RFP to sell the generation plant, interfaced with potential parties, evaluated the proposals, and assisted in the negotiation of selling the power plant.



ESI Inc. of Tennessee 1250 Roberts Blvd Kennesaw, GA 30144 Phone: 770-427-6200 Fax: 770-425-3660 www.esitenn.com

June 17, 2013

Melanie Krause Interim General Manager Menasha Utilities PO Box 340 Menasha, WI 54952-0340

Re: RFP Generation for Menasha Utilities ESI Study/Proposal #13-704002

Dear Melanie,

We appreciate your interest in ESI to help you find a new owner for the Menasha Utilities (MUT) River Street steam facility located in Menasha, Wisconsin. Pursuant to your request, following is a proposal for ESI to perform the next phase of this project.

#### **OVERVIEW**

Menasha Utilities has owned and operated the River Street Plant located on River Street in the City of Menasha for over 50 years. However, in the current economic climate it is no longer advantageous for MUT to own and operate the boilers and turbines of the River Street facility. As such MUT is looking for options to transfer ownership of the assets. We have reviewed the information you have sent and, along with our phone call, we understand that the primary opportunities appear to be:

- A. Sale to new owner to operate in place
- B. Sale to new owner to relocate
- C. Sale to equipment broker
- D. Sale for scrap material

#### PROJECT DESIGN BASIS

The preliminary plant design basis and assumptions are as follows:

The Menasha Utilities River Street Plant Boilers 3 and 4 are of similar design. The general design specifications for these boilers are summarized in Table 1.

	Boiler #3	Boiler #4
Service Date	1956	1964
Manufacture	Springfield Boiler Company	Riley Stoker Corporation
Boiler Type	Stirling Power Boiler	Stirling Power Boiler
	Water Tube	Water Tube
Firing Type	Overfeed – Spreader Stoker	Overfeed - Spreader Stoker
	Traveling Grate	Traveling Grate
Heat Input Capacity,	131	202
mmBtu/hr		
Steam Capacity (lbs/hr)	90,000	130,000
Steam Pressure	725	875
Furnace Volume (Cu Feet)	unkown	6150
Air Heater Type	Tubular	Tubular
Overfire Air	Front Upper – Rear Upper	Front Upper – Rear lower
	& Lower	

The Menasha Utilities River Street turbines #3 and #4 are condensing turbines with multi-staged extractions available. Turbine #5 is a backpressure unit with an inlet pressure of 850 psig and exhaust pressure of 250 psig. The general design specifications for these turbines are summarized in Table 2.

Table 2 - Turbine / Generating Units						
	Unit #3	Unit #4	Unit #5			
Turbine						
Manufacture	Worthington	Worthington	Dresser Rand			
Service Date	1956	1964	2006			
Pressure (psig)	600	850	850			
Temperature (°F)	620	902	902			
Flow (lbs/hr)	90,000	130,000	130,000			
Speed (rpm)	3600	3600	6000			
Туре	Condenser	Condenser	Back Pressure			
Generator						
Manufacture	Electric Machinery	Electric Machinery	GEVISA			
KVA	9375	16094	8235			
Voltage	4160	13800	13800			
Ampere	1300	673	345			
Power Factor	0.8	0.85	0.85			
KW	7500	13680	6999			
Speed	3600	3600	1800			

(Continued)

The main auxiliary system to be included in the proposed sale is the boiler water treatment system consisting of three parallel Multi Media Filters, two parallel Reverse Osmosis Machines, three Mixed Bed Deionizer, two finished water storage tanks and an Allen-Bradley SLC505 control system.

#### SCOPE OF WORK

You have requested ESI to provide the following services to facilitate with the sale of the systems:

- 1. <u>Kick-off meeting</u> ESI will hold a teleconference introducing the project teams and establishing open communication to ensure that we have alignment on the goals, scope of work, and study schedule.
- 2. <u>Questionnaire</u> After the kick-off we will generate and submit a list of information needed in order to support the engineering so it can be assembled for discussion during the site visit.
- 3. <u>Site Visit</u> ESI would send a small team of 2-3 engineers to your facility to review the site and gather information necessary for the completion of the RFP. The team would consist of the Project Manager and Project Engineer who would spend time inspecting the existing facility, reviewing available drawings, and locating the areas for work and accessibility.
- 4. <u>Draft RFP</u> ESI would generate a high level descriptive document to be sent out to gauge interest of various parties for the sale of the facility. This document would contain a scope and general description of major assets along with a brief description of the proposed sale options.
- 5. <u>RFP Review</u> We would work with MUT to incorporate any comments into the draft RFP and generate a distribution list.
- 6. Solicitation and Facility Tours ESI would send out the RFP to various parties and would be the primary point of contact for any technical questions. As part of this solicitation process, ESI would propose three site visits (one day each) to conduct tours of the facility for interested parties (with notice and scheduling coordinated by ESI through MUT).
- 7. <u>Proposal Evaluation</u> ESI would perform preliminary evaluation of the proposals received (up to 12) to determine high level economic and commercial viability of responses. This would include preliminary investigation of financial and commercial capabilities (but should not be construed as the detailed analysis necessary for any actual sale or asset transaction).
- 8. <u>Recommendation</u> ESI will develop a ranking of the received proposals based on our perception of the viability of each.

(Continued)

#### DELIVERABLES -

ESI will develop the following deliverables to support the RFP and solicitation process.

- a. Draft RFP Produce a high level document outlining the design conditions and scope of assets to be considered for sale.
- b. Final RFP Incorporate comments on draft RFP from MUT into a final document to be distributed to gauge interest in sale of assets.
- c. Draft Recommendation Document Prepare a summary write-up of our findings including an executive summary and ranking of the options based on ESI's evaluation (and input from MUT team personnel).

#### **PRICING**

ESI could perform this complete preliminary engineering analysis for the lump sum price of SIXTY FOUR THOUSAND EIGHT HUNDRED EIGHTY DOLLARS (\$64,880 USD). This price includes the quoted travel and expenses (4 trips). Any additional trips would be on a time and material basis. This price does not include any sales tax that may apply; therefore any applicable sale tax would be an additional cost.

Invoices would be forwarded to Menasha Utilities as follows with payments due net 30 days:

- 25% down payment with purchase order
- 50% payment with submittal of Draft RFP
- Balance of contract amount upon submittal of the draft evaluation document

#### **SCHEDULE**

ESI would expect this type of evaluation to be completed in 6-8 weeks from the site visit if allowed to begin work and proceed without delay. However, this would depend entirely on the responses of various interested parties.

#### **CLOSING**

Thank you again for your consideration and if you have any questions please do not hesitate to call me at 770-427-6200.

Best Regards, ESI INC. OF TENNESSEE

Patrick Mitchell Hayes, P.E. Director of Sales

cc: Jeff White; Alex Spitz - ESI

# Menasha River Street Steam Facility Brief Description

Rev-1 (11-5-09)

#### General Information

Menasha Utilities has owned and operated the River Street Plant located on River Street in the City of Menasha for over 50 years. The major industry in Menasha is the pulp and paper industry which is a large electric power consumer and also has a substantial steam requirement. This industry is an important part of the economy and culture of Menasha.

In 2004, these paper mills used natural gas-fired boilers to generate steam for the production of paper. Unfortunately, natural gas price increases resulted in substantial steam cost increases for these mills. To reduce costs, MU proposed to supply steam to these mills from the Menasha Power Plant. To supply steam, MU constructed new steam and condensate pipelines to these mills. To make the steam supply system as efficient as possible, MU also installed a new back pressure steam turbine to reduce the high pressure steam from the existing boilers to a pressure suitable for the mills. With these changes, the River Street Plant became a high efficiency combined heat and power (CHP) plant with the thermal efficiency increasing from approximately 25% to more than 70%.

In an effort to reduce air emissions, MU made several improvements to the facility. First, MU began using a very low sulfur Powder River Basin (PRB) coal. To better accommodate this coal, MU also improved the existing coal handling system. This reduced coal handling fugitive dust emissions by eliminating outdoor coal unloading, storage, and handling. Next, MU replaced the existing electrostatic precipitators on Boilers 3 & 4 with high efficiency fabric filter baghouses. MU also made upgrades to the ash handling systems to reduce fugitive emissions.

#### **Boilers**

The Menasha Utilities River Street Plant Boilers 3 and 4 are of similar design. The general design specifications for these boilers are summarized in Table 1.

Both boilers 3 and 4 are industrial type steam generators housed inside a masonry tile block and brick building. The boilers are field erected, two drum, bent tube, natural circulation, water tube Stirling power boilers with water-walled furnaces and superheaters. The boilers can be further classified as overfeed, spreader stoker-fired boilers with traveling grate ash removal. The draft system of the boilers is a balanced draft system operating at a slightly negative pressure of approximately 0.15 inches of water column. The boilers also utilize fly ash re-injection as well as internal mechanical dust separators, tubular air heaters and economizers. The ID fans are located on the hot side of the flue gas stream between the boiler and the current fabric filter baghouse which was upgraded from an electrostatic precipitator. The baghouse is designed with a separate chamber for each boiler and crossover capabilities to facilitate on line maintenance. The outlet of each chamber discharges to a common stack. Menasha Utilities River Street Plant Boilers 3 and 4 are industrial stoker-fired boilers. These boilers were originally designed to fire high sulfur, high Btu Illinois Basin coals. These boilers have a combined total heat input capacity of 316 mmBtu per hour.

Table 1

Boiler Units					
	Boiler #3	Boiler #4			
Service Date	1956	1964			
Manufacture	Springfiled Boiler Company	Rile Stoker Corporation			
Boiler Type	Stirling Power Boiler	Stirling Power Boiler			
	Water Tube	Water Tube			
Firing Type	Overfeed – Spreader Stoker	Overfeed – Spreader Stoker			
	Traveling Grate	Traveling Grate			
Heat Input Capacity,	131	202			
mmBtu/hr					
Steam Capacity (lbs/hr)	90,000	130,000			
Steam Pressure	725	875			
Furnace Volume (Cu Feet)		6150			
Air Heater Type	Tubular	Tubular			
Overfire Air	Front Upper – Rear Upper	Front Upper – Rear lower			
	& Lower				

# **Turbines / Generators**

The Menasha Utilities River Street turbines 3 and 4 are condensing turbines with muli-staged extractions available. The general design specifications for these boilers are summarized in Table 2.

Turbine #5 is a backpressure unit with a pressure of 250 psig, an inlet pressure of 850 psig and induction pressure of 650 psig. The general design specifications for these boilers are summarized in Table 2.

Table 2

Turbine / Generating Units						
	Unit #3	Unit #4	Unit #5			
Turbine						
Manufacture	Worthington	Worthington	Dresser Rand			
Service Date	1956	1964	2006			
Pressure (psig)	600	850	850/600			
Temperature (°F)	620	902	902/620			
Flow (lbs/hr)	90,000	130,000	130,000/90,000			
Speed (rpm)	3600	3600	6000			
Туре	Condenser	Condenser	Back Pressure			
Generator						
Manufacture	Electric Machinery	Electric Machinery	GEVISA			
KVA	9375	16094	8235			
Voltage	4160	13800	13800			
Ampere	1300	673	345			
Power Factor	0.8	0.85	0.85			
KW	7500	13680	6999			
Speed	3600	3600	1800			

### **Boiler Water Pretreatment System**

With the conversion from a total condensing generation facility to a CHP plant, there was a need to supply the make up water to the condensate system from a normal operation of 20% - 30%, and up to 100% for abnormal operations. A GE Water & Process Technologies water pretreatment system was installed, to supply up to 100% of water requirements for boilers 3 & 4. The system main pieces of equipment are three parallel Multi Media Filters, two parallel Reverse Osmosis Machines, three Mixed Bed Deionizer, two finished water storage tanks and an Allen-Bradley SLC505 control system. The following table list the major pieces of equipment of the system.

- One (1) Multi Media Filter System
  - Three (3) Multi Media Filters
  - Each 72" dia x 60" SSH, 100 psig ASME Code Stamped
  - Each 42 FT<sup>3</sup> Anthracite, 14 FT<sup>3</sup> Garnet, 28 FT<sup>3</sup> Sand, 28 FT<sup>3</sup>, Sand Subfill
  - Each Normal Service Flow Rate 111 GPM and 220 GPM Peak
  - Each Normal Flux Rate 7.8 GPM/FT³, and 3.9 GPM/FT³ Peak
- One (1) Coagulant Feeder System
  - Two (2) Pumps (2 x 100%)
  - Each 4 GPD at 100 psig
- One (1) Acid Feeder System
  - Two (2) Pumps (2 x 100%)
  - Each 6 GPD at 100 psig
- One (1) Antiscalant Feeder System
  - Two (2) Pumps  $(2 \times 100\%)$
  - Each 5 GPD at 100 psig
- One (1) Sodium Bisulfite Feeder System
  - Two (2) Pumps (2 x 100%)
  - Each 10 GPD at 100 psig
- One (1) Reverse Osmosis System
  - Two (2) GE OSMO Pro-300 Reverse Osmosis Machines
  - Each 6-4-2 Array, 304L SS Housings, 72 Membranes
  - Each 75 HP, 3600 RPM, 460/3/60 TEFC Feed Pump Motor
  - Each 333 GPM at 693 FT TDH Feed Pump
  - Each 300 GPM Permate Flow & 100 GPM Concentrate Flow, at 70-80% Recovery.
- One (1) Mixed Bed Deionizer System
  - Three (3) Mixed Beds
  - Each 48" dia x 90" SSH, 150 psig ASME Code Stamp
  - Each 20 FT3 Cation Resign, 30 FT<sup>3</sup> Anion Resign
  - Each Service Flow Rate 250 GPM
  - Each Flux Rate 20.7 GPM/FT<sup>2</sup>
  - Each Flow Rate/Resign Rate of 4.9 GPM/FT<sup>3</sup>

- One (1) Treated Water Storage
  - Two (2) Storage Tanks
  - Each 144" dia x 424" SSH
  - Each 30,000 Gallon Capacity
  - Each FRP Construction, 1" Fiberglass Insulation, Aluminum Cladding
  - Each Tank Heater
- One (1) Treated Water Forwarding System
  - Two (2) Forwarding Pumps
  - Each 300 GPM at 200 FT TDH
  - Each 30 HP, 3600 GPM, 460/3/60 TEFC Motor
- One (1) Amine Cycle Condensate Polisher System
  - Two (2) Amine Polishers
  - Each 42" dia x 72" SSH, 100 psig ASME Code Stamped
  - Each 28 FT<sup>3</sup> Resin
  - Each Service Flow Rate xx GPM
  - Each Flux Rate xx GPM/FT<sup>2</sup>
  - Each Flow Rate/Resign Rate of xx GPM/FT<sup>3</sup>
- One (1) Sulfuric Acid Storage System
  - 66" dia x 132" Height
  - 2,000 gallon capacity
  - Carbon Steel Construction
- One (1) Sulfuric Acid Metering System
  - Two (2) Metering Pumps
  - Each 24 GPH at 100 psig
  - Each 0.5 HP, 1750 RPM, 460/3/60 TEFC Motor