

HYDROGEN GAS PLANT

4 MM SCFD
JACKSON, MS

Asset Sale – Equipment Only

Contact

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RARE 100% TURNKEY PLANT

HYDROGEN PLANT
4 MILLION SCFD
JACKSON, MS

- ✓ 4 Million SCFD, >99.9% Purity H₂
- ✓ Less than 3 years run-time on H₂ plant
- ✓ Steam Methane Reforming Process
- ✓ Excellent condition, full Turnaround Maintenance in March 2023,
- ✓ Plant shutdown March 2024, held under N₂ inert blanket

Plant Package Includes:

- 4 MM SCFD complete H₂ plant with PSA
- Emerson DeltaV DCS Control System
- Front-end Natural Gas Compressor (1)
- Back-end H₂ Product Gas Compressors (2)
- Cooling Tower and Pump for Heat Exchanger
- RO/DI Water System to produce BFW
- BFW Storage Tank and Pumps
- MCC Building with all Electrical Gear
- NEW Reformer catalyst HYCO1



ABOUT THIS SALE

HYDROGEN PLANT
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- **Asset Sale Only – Entire Plant is For Sale**
- **Complete H2 Plant & OSBL Accessory Package**
 - **Excellent Condition**
 - **4 Million Standard Cubic Ft. of Hydrogen per Day**
- **Structured Negotiated Sale**
- **Complete List of Equipment and Systems available**
 - **Contact us – we have much more information**
 - **All equipment is listed on our special website**
 - **Virtual Data Room (VDR) available with all detail & drawings**
- **Still installed –**
 - **Full Turnaround Maintenance in 2023**
 - **Plant Idled March 2024**

ABOUT THIS SALE

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Relocation Services as extra options

- **Plant Removal**
- **Plant Relocation**
- **Refurbishment**
- **Services to any new US location, including commissioning, startup and operator training**

CapEx and OpEx Models available

Equipment List, Process Flow Diagram, and P&ID available

VDR – Virtual Data Room

All documentation, specifications, drawings, photos, HYCO1 catalyst brochure and specs available in VDR (Virtual Data Room). Ask us for invitation

Production

- SMR Steam methane Reformer process
- Built 2011 by Pan American Hydrogen based on Linde Hydro-Chem design
- Operation began 2012; ran for less than a year in Columbus, MS
- Relocated to Jackson, MS
- Produced from 2019 To 2024; idled due to other reasons at site outside H2 plant
- Idled 2024
- Production met nameplate – namely 4 MM SCFD
- Production records available
- Conversion efficiency:
 - 1.7 MM SCFD feed gas to 4 MM SCFD H2 (43%)
 - Purity 99.99%

Shutdown Protection Procedures - Mothballing

- Nitrogen N2 purge on entire plant; N2 blanket continuing to date
- Waste Heat Boiler was drained, flushed, and put under N2 blanket

OVERVIEW

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Design Basis

Capacity	166,667 SCFH	4.0 MM SCFD
Pressure	200 psig	
Temperature	100F	
Purity	99.99% pure H ₂	

Export Steam

5,585 lb/hr at 200 psig 407F

Note this plant supplies its own operating steam once in production

Utilities

Feed Gas	72,000 scfh natural gas
Fuek Gas	5,885 scfh natural gas
Boiler Water	28.6 gpm (14,304 lb/hr)
Cooling Water	1,245 gpm
Instrument Air	30 scfm

Conversion Efficiency

Current Design: 1.87 MM SCFD feed gas to 4 MM SCFD H₂ (46%)

With new HYCO1 catalyst, efficiency will increase 10%

NEW Catalyst Provided for Reformer Included in Plant Price: New HYCO1

HYCO1 can increase efficiency 10%

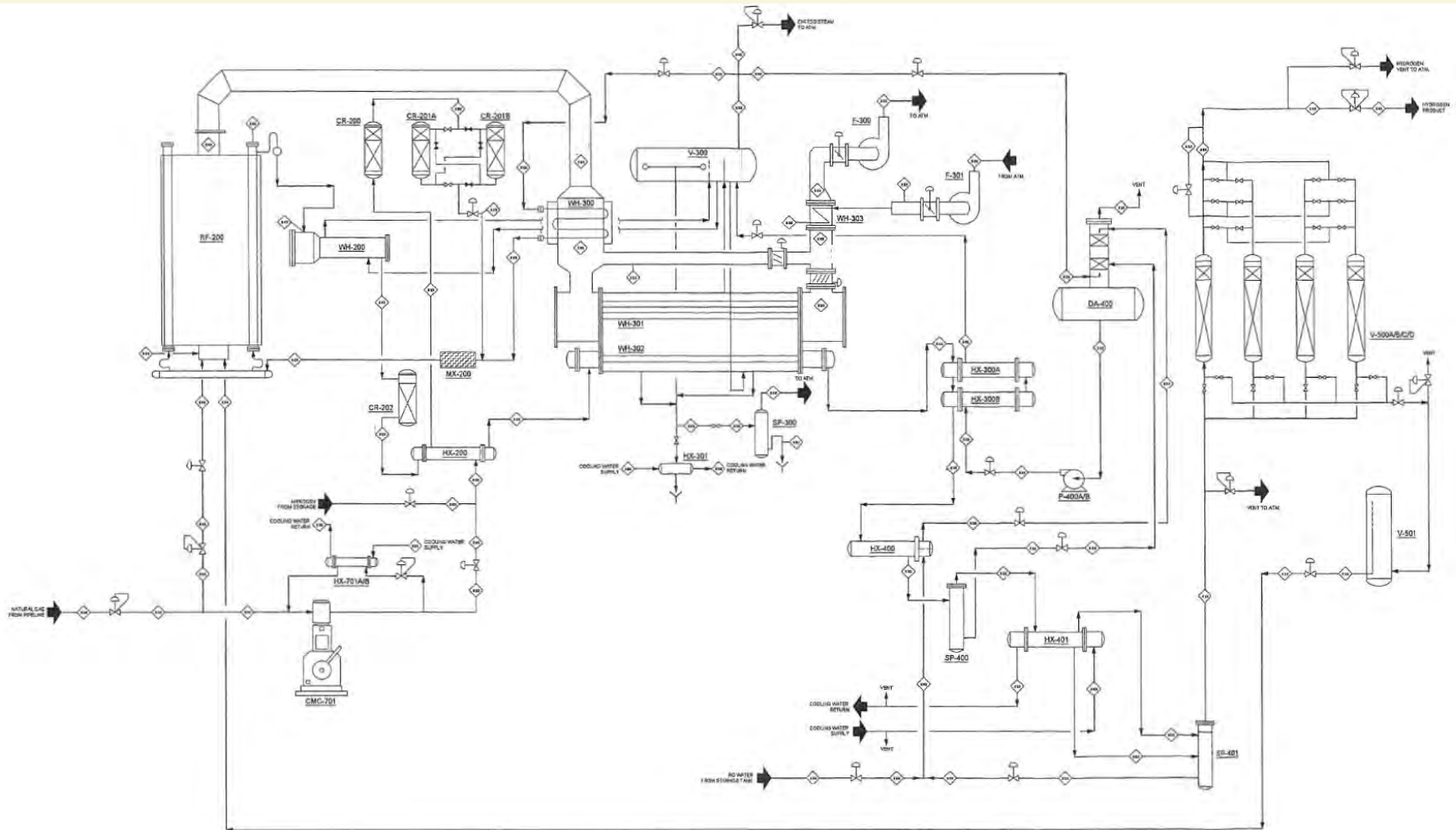
- **Current catalyst 72,000 scfh feed gas produces 4MM SCFD**
- **NEW HYCO1 catalyst ~65,000 scfh feed gas produces 4 MM SCFD**
 - With HYCO1 efficiency, would save ~7,000 scfh feed gas
 - Fuel gas would stay same at 5,885 scfh

**Savings: 7,000 scfh at ~\$4/MMBTU gas
Approximately \$240,000 savings per yr**

HYCO1's SMR+ Catalyst sets a new standard in syngas production with unmatched performance, reliability, and efficiency. This breakthrough technology offers exceptional high-temperature durability, non-coking properties, and industry-leading crush strength. Its advanced design ensures optimized heat transfer, minimized pressure drop, and consistent gas flow. Additionally, it allows precise control of the hydrogen-to-carbon monoxide ratio, making it the most flexible, high-performance catalyst available.

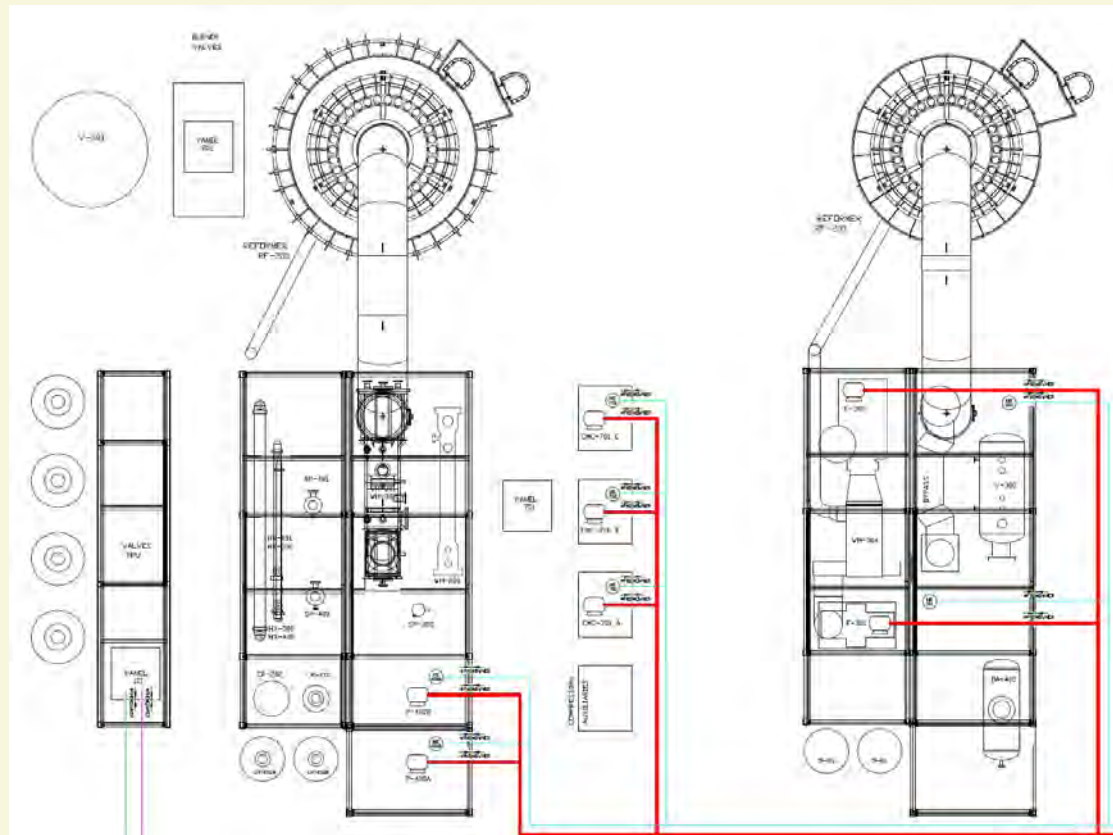
PROCESS FLOW DIAGRAM

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DRAWINGS

HYDROGEN PLANT
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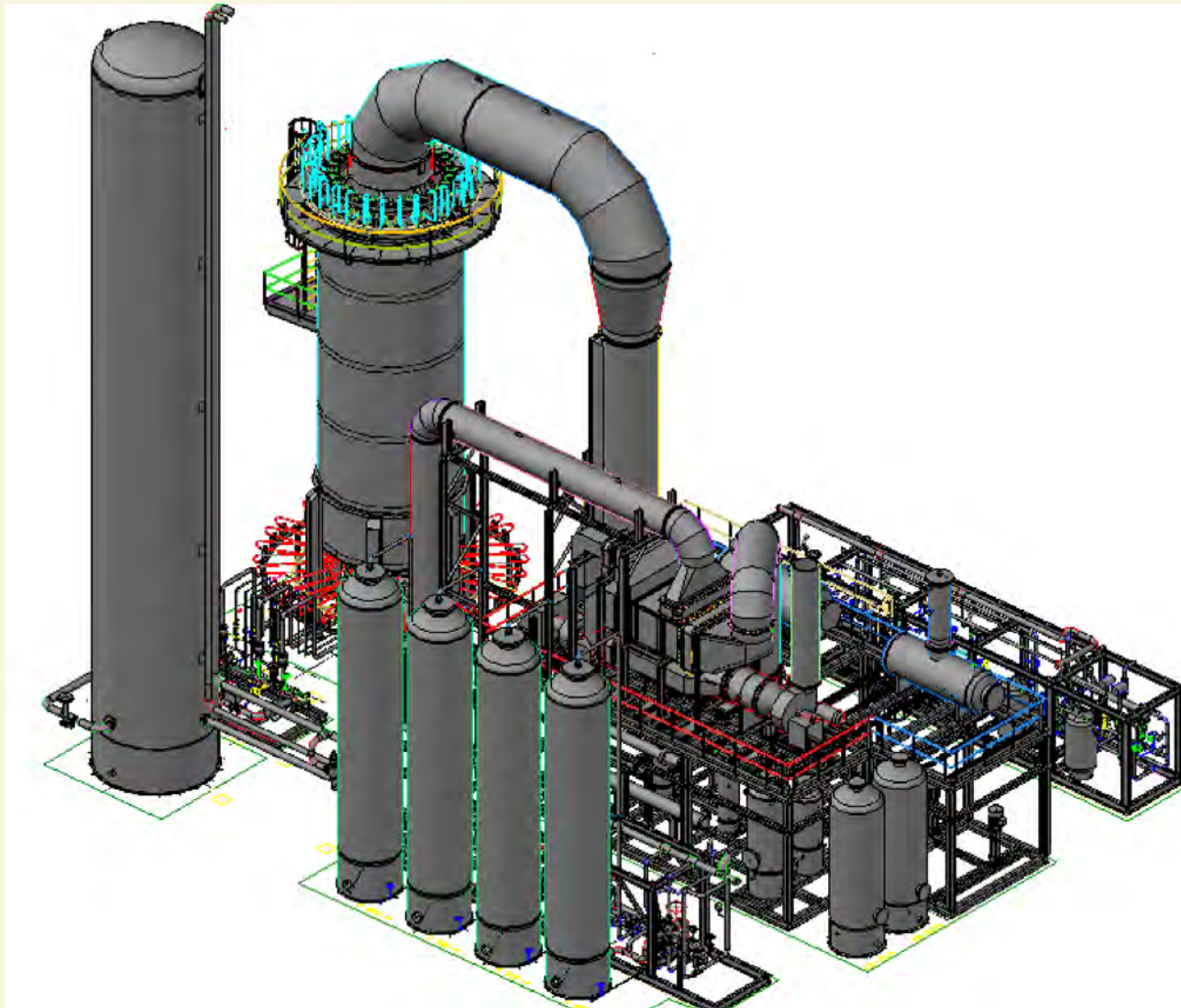
Plant Footprint

- Entire Installation 85 ft x 150 ft
- ISBL H2 plant (reformer and all skids/vessels) is 85 ft x 55 ft
- Equipment package is reformer fired heater plus 5 skids

GENERAL ARRANGEMENT

GENERAL LISTING

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MAJOR EQUIPMENT

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Reformer

- Size 14' OD x 50' OAH
- Primary Fuel: HPU Waste Gas Secondary Fuel: Natural Gas
- 30 tubes alloy MANAURITE - XM BORETMA-6300 5.6: OD. Designed for 100,000 hours (approx. 10 years)
- Upfired reformer – 3 burners with flame control monitoring

Induced and Forced Draft Fans

- New York Blowers 100 HP and 25 HP

Boiler Feedwater Pumps (2)

- Grundfos 3x2 65 gpm at 755 ft TDH

Hydrotreater

- Size 36" OD x 9'-9" OAH MAWP 300 psig at 850F
- Catalyst Ni-Mo

Desulfurizer (2)

- Size 60" OD x 18'-5" OAH
- Catalyst type: Zinc Oxide

MAJOR EQUIPMENT

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Shift Converter

- Size 48" OD x 13'-2" OAH MAWP 244 psig at 850F
- Catalyst Sud Chemie ShiftMax Chromium on Iron

Separators (3)

Deaerator

- Size 50" ID x 13'-6" T/T MAWP 50 psig at 350F

Waste Heat Boiler and Steam SuperHeater

PSA Hydrogen Purification Unit (4)

- Size 70" OD x 28'-4" T/T MAWP 250 psig at 150F
- Fill: Activated alumina, activated carbon, molecular sieve

Waste Gas Surge Tank (vent gas)

- Size 12' ID x 72'-4" T/T MAWP 50 psig at 150F

MAJOR EQUIPMENT

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Natural Gas Compressor

- Reciprocating single stage, air cooled, Belt driven **xxx HP**
- Serviced in 2023 with new maintenance parts
- Compress from 40 psig to 285 design, 200 psig operating at 80,000 scfh

Hydrogen Compressors (2)

- Direct drive
- Serviced in 2023 with new maintenance parts
- Compressor 1st stage from 185 psig inlet, 175,000 scfh
- Compressor 2nd stage to ~1,100 psig, 175,000 scfh

Emergency Generator

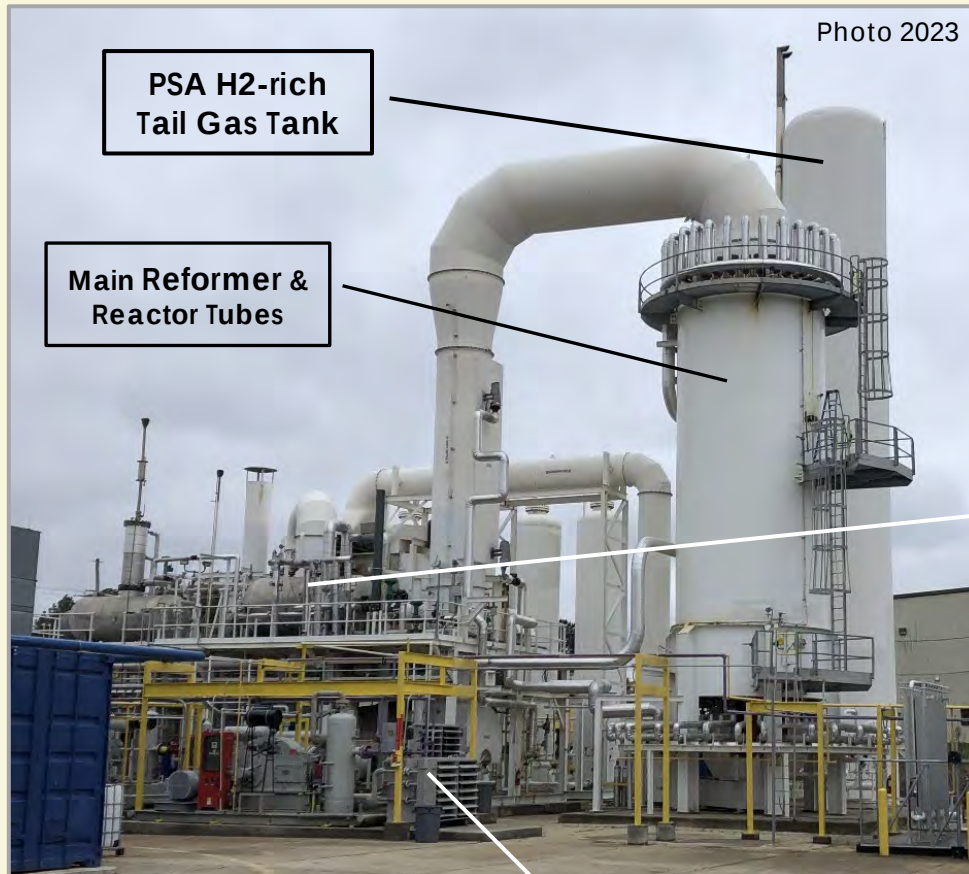
- Kohler

Air Compressor

- Kaeser SM15 15 HP 55 cfm

EQUIPMENT

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All photos 2026 except as marked

EQUIPMENT

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Natural Gas Inlet
Compressor [40 PSIG
Inlet, 290 PSIG Outlet]



EQUIPMENT

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Photo 2023



H2 Product
Compressors
>1,000 PSIG



EQUIPMENT

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Photo 2023

RO/DI BFW Water
Purification System

PSA H2 Purification
System >99.9% H2

PSA Valve Skid



EQUIPMENT

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Photo 2023



Cooling Water
System, Cooling
Tower & Pump

MCC Electrical
Building, Switch Gear



EQUIPMENT

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Waste Heat Boiler and Superheater



FeedWater Pumps (2)



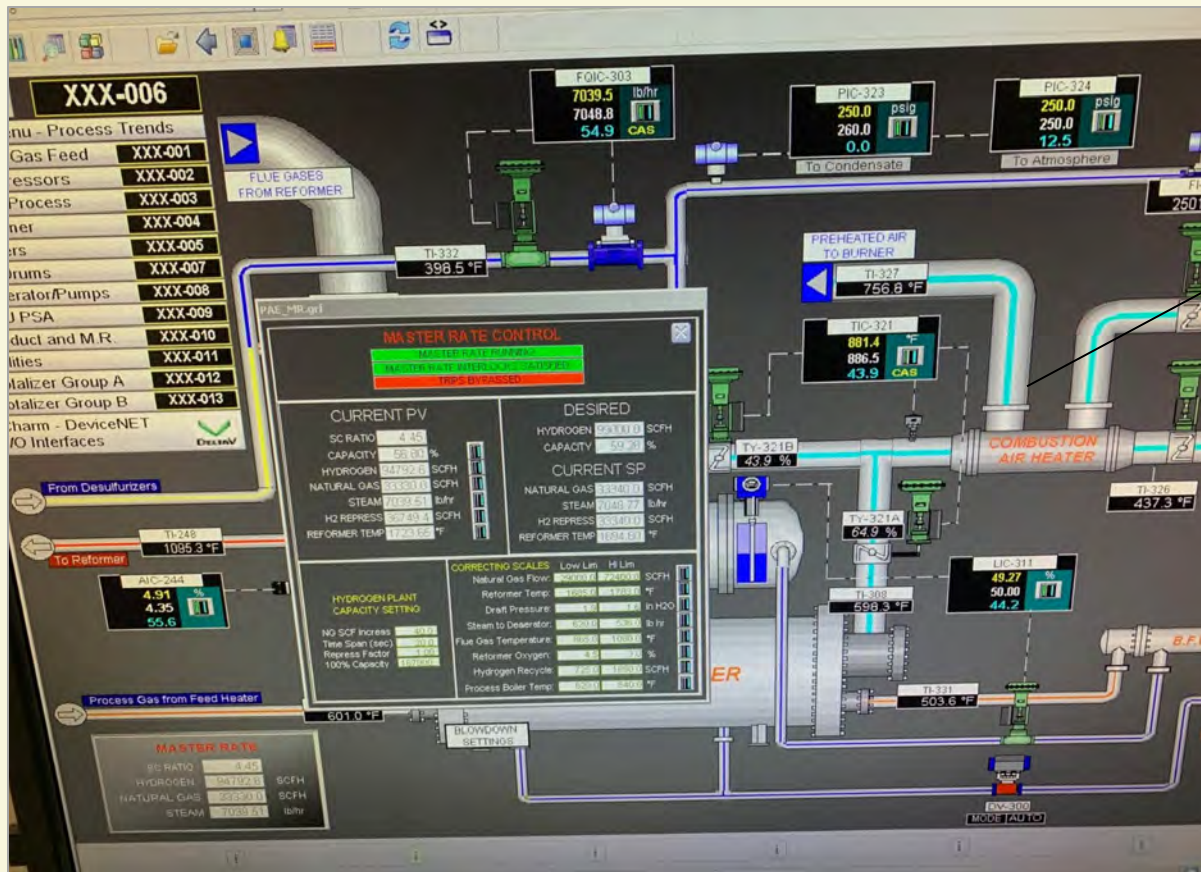
Photo 2023

**BFW Storage
Tank and Pumps**

EQUIPMENT

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HMI Control Screen

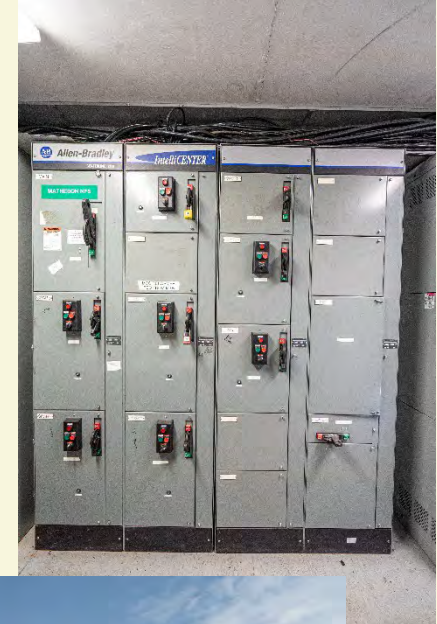


DCS HMI
during Start-
up, Illustration

SYSTEMS ELECTRICAL & CONTROL

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- Transformer
- Switchgear GE Spectra
- MCC Allen Bradley
- Emergency Generator
- Controls
 - Delta V DCS



FEEDWATER & AIR COMPRESSOR

- RO/DI Feedwater System
- Storage Tank & Pumps



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Air Compressor

Kaeser SM15 at 15 HP 55 cfm