The Babcock & Wilcox Company

Eastern Kentucky Power Cooperative
Spurlock Station, Unit #2

U2 SPRING 2023 OUTAGE
BOILER INSPECTION REPORT

C-E Original Contract: 17274

B&W Project No.: BA9312817

Prepared By:
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1.0 Introduction

The Babcock and Wilcox Company (B&W) was contracted by East Kentucky Power Cooperative (EKPC) to perform a Boiler Inspection evaluating the pressure part conditions and non-pressure part conditions of Spurlock Station Unit #2.

B&W Field Engineering Services were on site May 11th through May 13th, May 15th through May 19th and May 22nd through May 26th to assist with the Unit 2 Spring 2023 Outage Inspection. The inspection team consisted of four (4) B&W Field Service Engineers. After each component was inspected, a punchlist was generated and findings were prioritized with respect to impact on Unit availability. Thirty-six (36) punchlists were generated from the component inspections. B&W was also utilized to perform information only ultrasonic thickness testing on the rear pendant reheater (RH), waterwall arch tubes- beneath the rear penant RH, and the pendant platen secondary superheater (SH).

2.0 Unit Description

East Kentucky Power Cooperative, Spurlock Station, Unit No.2 is a C-E (Combustion Engineering) tangential fired boiler under original contract number 17274. The boiler is designed for a maximum continuous rate of 4,020,000 lb/hr main steam flow and 3,390,000 lb/hr reheat steam flow, with steam temperatures of 1,005°F/1,005°F. The design throttle pressure is 2610 psig, while the reheater delivers 530 psig, via the use of a radiant wall reheat and pendant reheater.

The unit is equipped with the TFS 2000™ low NOx firing system, installed in Fall 2001. This burner system is integrated with plant controls system to help control both superheat and reheat steam temperatures. Each of the four furnace corners utilize five elevations of burners, supplied with coal by the five (5) 1003 RPB type pulverizers. Retractable oil guns are also located in each of the corners, between the bottom two and top two burner elevations. Four elevations of eddy plate oil side ignitors are also used during start-up. The ignitors were replaced in the fall of 2020 with FPS Oil Horn Ignitors and Atomizing Valve Trains under FPS Contract# I20501.

During the Fall 2000 outage, the 2C and 2E pulverizers were retro-fitted with Alstom Dynamic Classifiers, while the remaining pulverizers were retro-fitted in Fall 2001.

This unit features an inline staggered spiral fin (SFS) economizer, which was replaced in the Spring 2005 outage. During the Fall 2012 outage, the entire Reheater was replaced including the inlet and outlet headers via B&W Contract No. 0635-252J.

The unit features two (2) Ljungström air preheaters, of the 30-VI-66 (T) style, which provide pre-heated primary and secondary air. During the Fall 2001 outage, these air heaters were modified from the original three-layer tri-sector design to the Alstom Air Preheater “Clear Flow” design. This modification was in preparation for the SCR installation, which was commissioned in the Spring of 2002.

Other unit modifications include the bottom half of the DA tank being replaced in the Fall 2003 outage, the ID fan replacement in Spring 2008 outage for preparation of the scrubber tie-in, air heater directions reversed in Spring 2008 outage to restore them to original rotation, six sootblowers installed in the Economizer Spring 2008, economizer hoppers replaced in Fall 2014 outage, bottom ash seal trough replaced in Fall 2014, air preheaters overhauled in Fall 2016 outage, Coutant Slope replacement in Fall 2017 and the SH Pendant platen replacement during the 2021 outage. Two diamond power sootblowers along with tube openings were installed through the SH division panels in the fall of 2021.

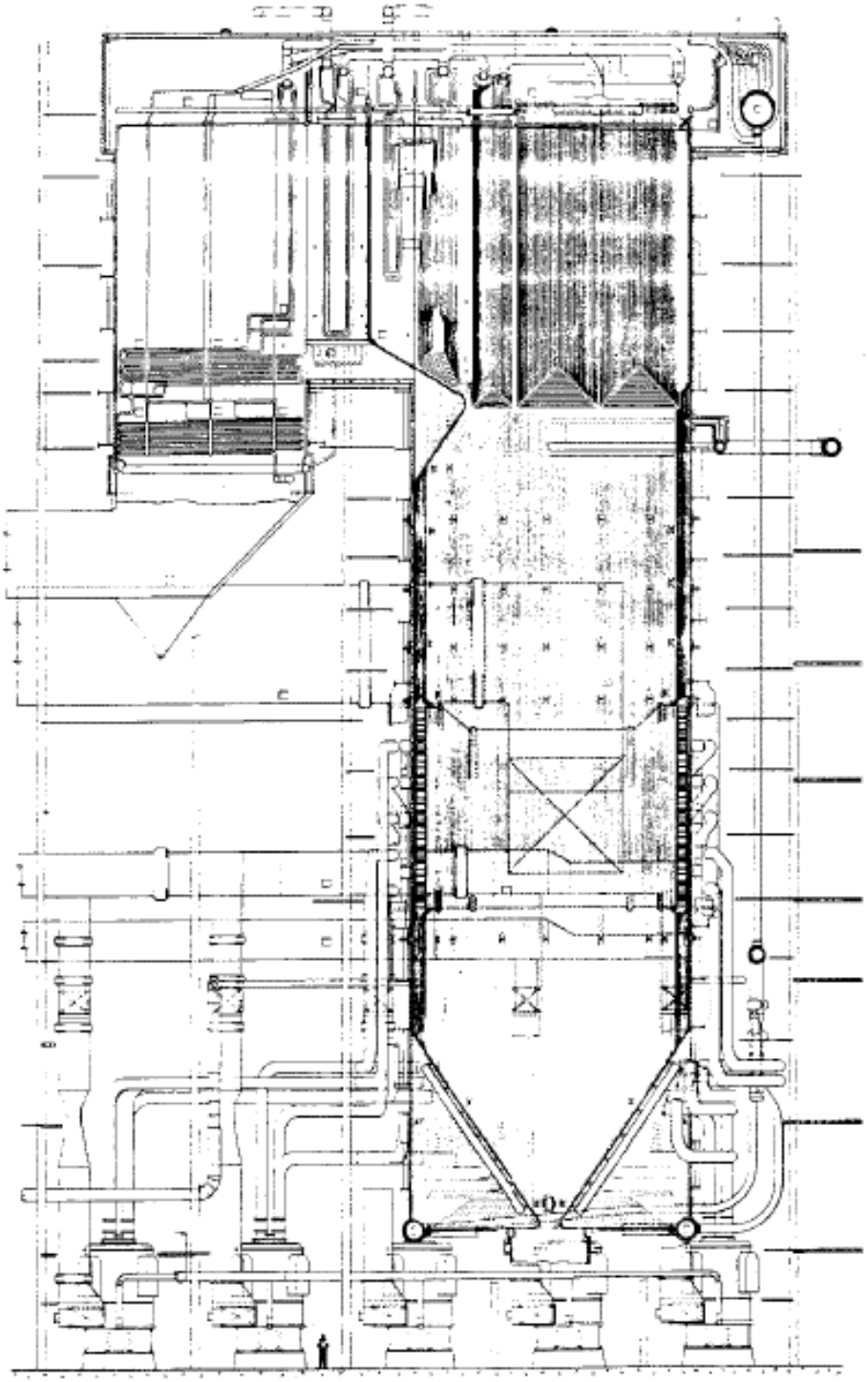


Figure 1. Sectional Side View

3.0 Executive Summary

EKPC Spurlock Unit 2 outage started on May 8th, 2023. B&W Field Service mobilized to the area and began the boiler inspection on Thursday morning May 11th. One team performed the inspection working 10-hr days.

The planned inspection included a detailed visual inspection of all boiler pressure parts, flues, ducts, fans and enclosures. The inspection started in the backpass, flues and ductwork. All inspections, except the burners, ESP inlets and outlets, and miscellaneous ducts/flues were completed by the middle of the second week. The burners were inspected by the end of the second week and two of the service engineers were released from the inspection. The remaining two service engineers returned for the third week to finish the inspection as components came available and to assist with UT measurements.

The Radiant Reheater, front Pendant Reheater, Pendant Platen Superheater, Superheater Division Panels, Finishing Superheater, LTSH, and Coutant Slopes were completed without major findings. Additionally, the three drums were inspected thus completing the pressure part inspection.

The remainder of this summary goes into a more depth on conditions observed in each boiler component.

The Furnace Walls major attention was the refractory around the IR openings. The lower Furnace Walls are experiencing coal ash corrosion because of combustion zone reducing atmosphere. The plant completed a UT survey and determined overlay work was required during the 2020 outage. A lower furnace UT survey was completed by GECKO during th2021 outage.

A ZOLO BOSS Boiler Optimization - Spectroscopy Sensor system was installed during the 2021 outage to optimize combustion.

Over time, the crotch plates have burned out above and below the IR openings. This has precipitated repairs in the form of packing refractory in the upper and lower crotch areas during every major scheduled outage. Refractory repairs are a yearly maintenance requirement.

A furnace camera was installed during the 2021 outage on the FW at the upper furnace to provide a continuous view of the face of the Pendant platens for slagging during operation.

SH Pendant Platens were inspected and wear at the WCS tube and failed clips were the most severe items found. The component was replaced during the 2021 outage and only minor issues were noted.

SH Division Panels showed only slight wear this year as there had been considerable repairs performed in this area in the past. New IKs were installed through the side walls along with WOL SH Division panel openings between the panels (See Figure 2 below). The damage found in 2021 is a result of three (3) mechanisms - mechanical rubbing at flex ties, damaged tube shields and mechanical rubbing at the horizontal spacer tube. Gas temperatures are high in this area, so when installing tube shields they should be short in length, thin gauge, welded to the tubes on one end, and clipped on the other to take advantage of cooling from internal steam flow.

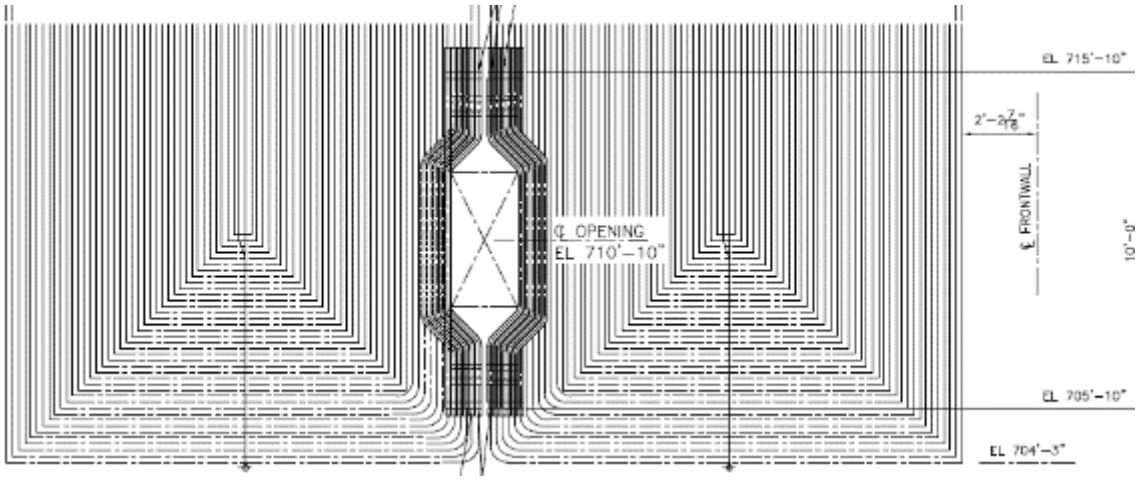


Figure 2. SH Division Panel IK Openings

The Coutant Slopes were replaced with weld-overlay tubes in 2017. This outage a few nicks and dings were identified in tubes located below the weld overlay.

The Reheater Front Pendants inspection found very little tube damage except for the misalignment from lack of clips. Minor erosion is occurring on the SW tubes at the arch tubes. Minor erosion was found on the furnace rear wall support tubes just below the existing tube shields. This area (penetration of support tubes through arch) should be monitored in future outages.

Upper Arch from the furnace, the casing behind the arch tubes had holes in the casing (can also be seen from inside the upper dead air space). Due to a tube leak and internal tube damage, multiple tubes and casing sections were replaced just above the nose of the arch in 2023.

The Reheater Rear Pendants and Crossover Tubes were accessed from a base scaffold located below the lower loops and a ladder was installed to access the crossover tubes. During previous outages it was found that the leading-edge tubes of the rear reheater were thinned from coal ash corrosion between the bottom bend and the spacer tube. The leading-edge tubes were replaced with new bend tubes with weld overlay, during the 2023 outage. The 2nd and 3rd tubes in each pendant were thinned from coal ash corrosion in a localized area above the bottom bend.

The Radiant Reheater had minor refractory missing at the lower tube bend penetrations which in the past has allowed minor tube corrosion to take place but this was not evident in 2023. An IK opening was installed on each SW for the new SH division panel IKs in 2021 and nothing was noted in this area.

The Finishing Superheater mainly entailed damage to the fore-to-aft alignment bars which has been documented in previous inspections.

The Low Temperature Superheater was in good condition with only minor findings. One being mechanical rubbing at the side-to-side spacer bar U-clamps in both the horizontal and pendant sections. The inlet header and inlet header tube stubs have been eroded from sootblower operation and will need to be monitored in the future. Stub repairs were made in 2020. Needed tube shields and other minor items were also identified.

The Rear Pendant Superheater has been plagued with fouling in the past. To combat this, during this outage, IKs were installed on the front of the component at the 740'-5" elevations and to the rear of the component, near the top of the Low Temperature Superheater at the 716'-3" elevation.

The Economizer was also in good condition. Minor items were identified such as mechanical tube rubbing on the stringer tubes above the rear intermediate header and tube shield chafing at the rear economizer tube ladder hanger lugs. The bottom side was scaffolded for access and was inspected due to the scaffold required for the installation of four new IKs beneath the economizer. (See Figure 3 below)

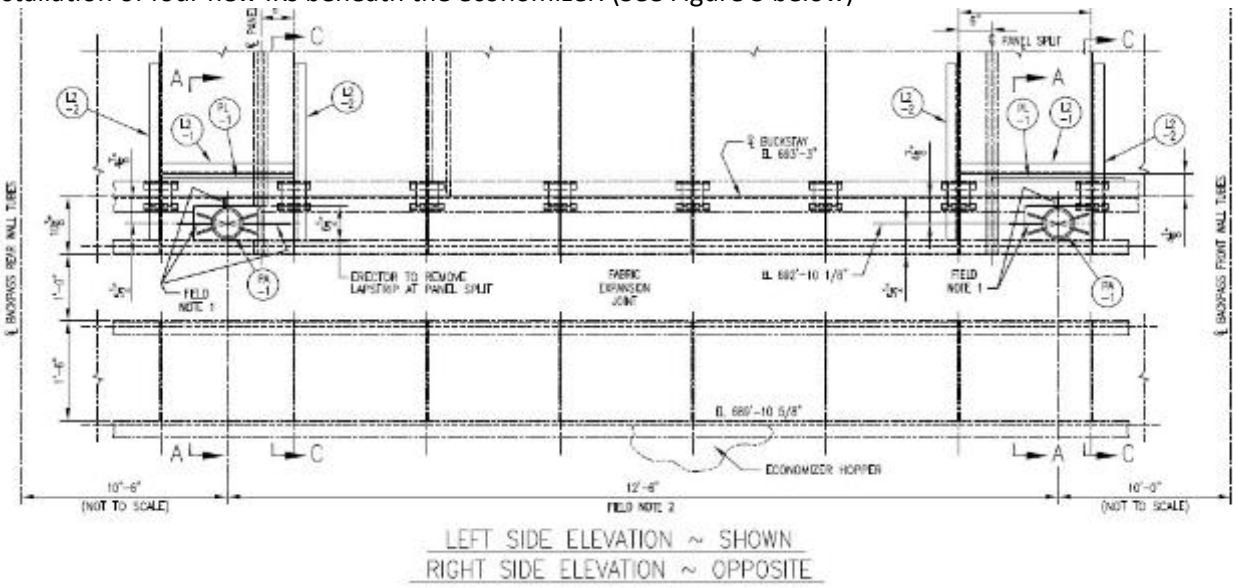


Figure 3. IK Installation beneath the Economizer

The Steam Drum was found in good condition with typical loose hardware.

The Lower Waterwall Drums were found in good condition with some typical loose hardware.

The Penthouse had the typical crown seal casing cracks and missing pipe caps on cable drops.

Windbox was found in good condition.

Burners were inspected, and many repairs/replacements of burner components were made during the 2023 outage and the plant oversaw the tilts and stroking of the dampers.

Upper Dead Air Spaces had large portions of the casing replaced due to cracks and holes during the 2023 outage. There were missing pipe caps on cable drops and insulation damage, similar to what has been identified in the past.

The Ash Hopper was replaced in 2020 along with the seal skirt and only minor items were identified.

Economizer Gas Outlet Flue had several roof casing leaks where water had infiltrated and the typical tears in expansion joint insulation pillow blocks.

Electro Static Precipitator Inlet and Outlet Flues had extensive repairs made to the casing, outlet dampers, probe taps in 2021 and the 2B Upper Inlet Expansion joint was replaced in 2020. Multiple small holes, damaged casing and expansion joints were prevalent in 2023.

Secondary Air Ducts had minor debris accumulation in the expansion joints.

Fans, SCR and Duct Work were found in good condition with the typical casing cracks and holes, cosmetic damage to fabric expansion joints, casing and stiffener erosion and corrosion and damaged access door gaskets.

Detailed Punchlist reports have been prepared for the following areas and will be included in the "hard" copy of our Final Report.

- Bottom of the Economizer
- Bottom of LTSH & Top of Econ
- Top of Horizontal Superheater (LTSH)
- Rear Pendant Superheater (LTSH)
- HTSH & Front SCW Screen Tubes
- RH Rear Pendant Crossover, RWW Screen & Hanger
- RH Front Pendants & Between SH Pendant Platens
- Radiant Reheater and Upper Furnace/Dance Floor
- SH Division Panels
- Waterwalls
- Burners
- Coutant Slopes
- Ash Hopper and Throat Tubes
- Front Waterwall Inlet Header (Mud Drum)
- Rear Waterwall Inlet Header (Mud Drum)
- Steam Drum
- Penthouse
- Upper Dead Air Spaces
- Lower Dead Air Spaces
- Economizer Outlet and Hoppers
- ESP Inlet & Outlet Flues
- SCR Inlet & Outlet Flues
- Air Preheater Gas Inlet/Outlet
- Air Preheater Air Inlet/Outlet
- ID Fans
- ID Fan Outlet Flues to Stack
- FD Fans
- PA Fans

- Steam Coil Air Heater
- Secondary Air Duct
- Primary Air Ducts
- Tempering/Cold Air Ducts
- Windbox and Connecting Ducts
- SOFA & CCOFA Inlet Ducts
- Blowdown Tank

4.0 Recommendations

Based on the inspection findings and work completed during the Fall 2018, 2019, 2020, 2021, 2022 and 2023 outages on Spurlock U2, the following recommendations are being made for the 2024 and future outages. Note that this list comprises the major recommendations, and some of these items can be referenced in more detail in the summary section of each area or in the punchlists attached at the end of this report. They are not necessarily in any order of importance. Spurlock's maintenance group has done an excellent job over the recent years at making repairs and rectifying operational issues and this practice should continue in the future.

1. Full boiler tuning based on past slagging and combustion related issues.
    a. Tuning could help to minimize reducing atmospheres, which contribute to fireside corrosion and slagging.
    b. Tuning could help reduce coal ash corrosion on the rear pendant reheater and other pendant components.
    c. Tuning could also be used in conjunction with the burner work this outage for a near best case tuning scenario.
    d. PA calibrations should be continually done, especially if pulverizer or furnace slagging issues arise.
2. Replace SH division panel girdle tube lugs.
    a. These continue to fail each year, as they are only re-welded on the overheated metal. If necessary, upgrade to a wider profile B&W plate tie.
3. Order B&W slip spacer alignment castings to use in place of the flex-tie design on the SH division panels.
    a. Existing flex ties have continued to cause chafing into adjacent tubes. Several of these have failed and require replacement during each outage.
    b. Consult B&W Field Service for them to reference B&W DWG: 355425C for part numbers and ordering based on tube material.
4. Install two new cable drop locations in the penthouse for access to the SH division panels at the following areas: RHS of panel 2 and LHS of panel 5.
    a. Inspection and repair access from a swing stage would be limited to these areas based on existing cable drop locations.
5. Continue to install new IR panels with new pipe sleeves and crotch plates at the IR Sootblower openings in the furnace.
    a. Original pipe sleeves have all burnt back, with some exposing the outer sootblower wallbox.
    b. B&W recommends initiating a tube opening replacement program with the IR openings. Replace the two-tube bent openings with four-tube bent openings. The four-tube bent openings (Figure 4) result in much smaller crotch plates, thus an improved chance for survival. Plan to replace a level of IRs each outage for the next five years. Weld overlay could be included to limit sootblower damage repairs.

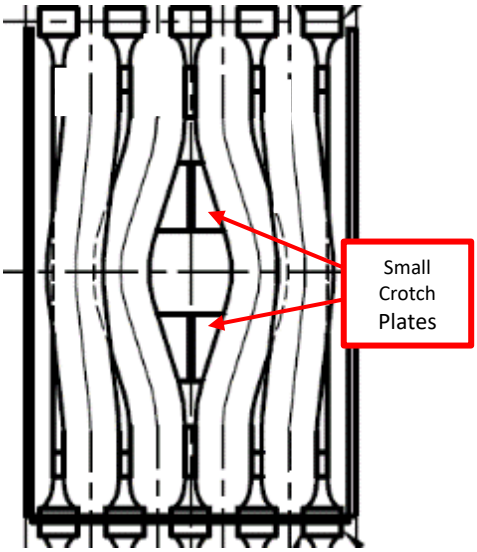


Figure 4. (Six Tube Panel – Four Bent Tubes - IR Opening)

6. Plan for UT surveys.
    a. Furnace Waterwalls - This is based on visual inspections of fireside corrosion at the coutant slope transitions, which have been overlayed, but further data will help to create a database for remaining useful life of components that aren't overlayed.
        i. A survey was completed by GECKO in 2021.
    b. SH Division Panels - panels are experiencing coal ash corrosion in the lower 8' (below the horizontal alignment tube). We recommend performing a UT survey on both sides of all six (6) panels in 2021. UT all 160 tubes on both sides of each panel for a total of 1920 UT points (Figure 5.)

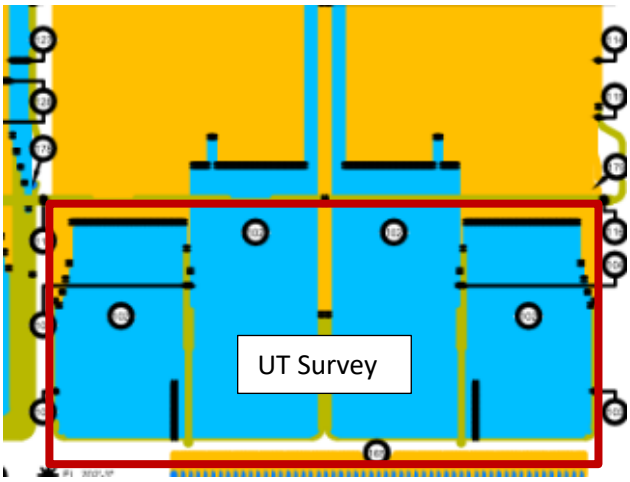


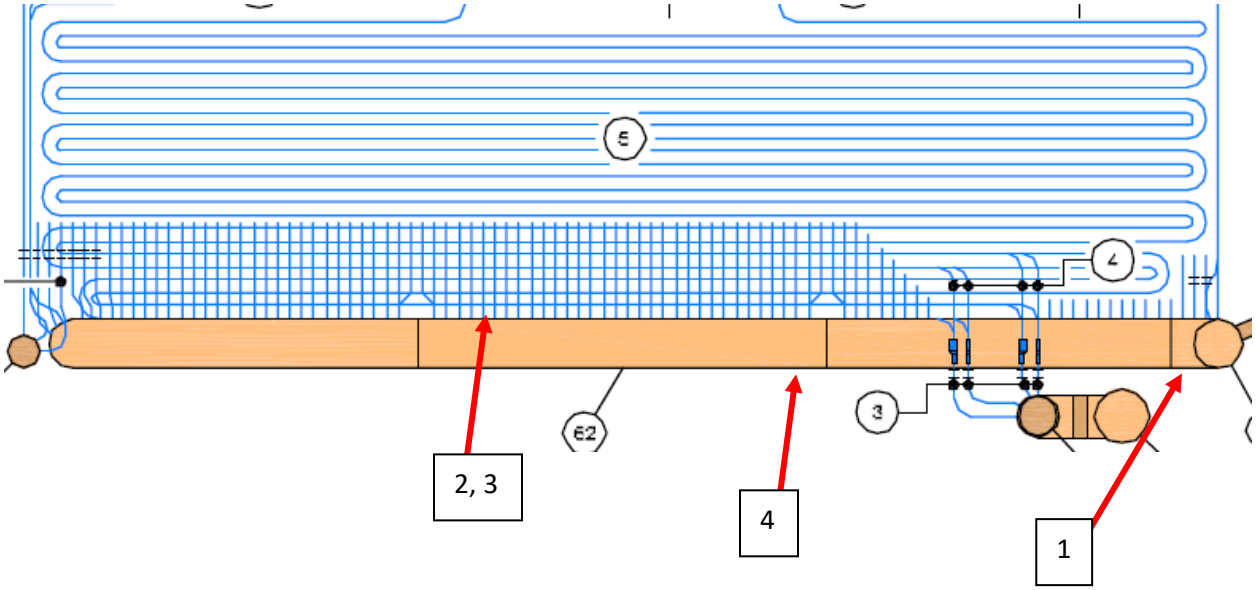
Figure 5. (UT the Lower Loops of the SH Division Panels)

    c. Rear Pendant Reheater – The leading-edge tube has signs of coal ash corrosion and a baseline of data should be acquired to determine rate of wall loss.
    d. Superheater Pendant Platens – Due to the replacement in 2021, a baseline set of data could be used to determine future repairs.
7. Remove at least one turbo separator from the steam drum for inspection below the belly plates, and of the turbo separator condition.

8. Plan to build scaffolding to the bottom of the economizer for inspection to review the status of the component after operation with the new IKs that were installed during this outage.
9. Continue condition assessment work on HEP, headers and pressure part components.

5.0 Inspection Component Punchlists

#2 Economizer Bottom Side



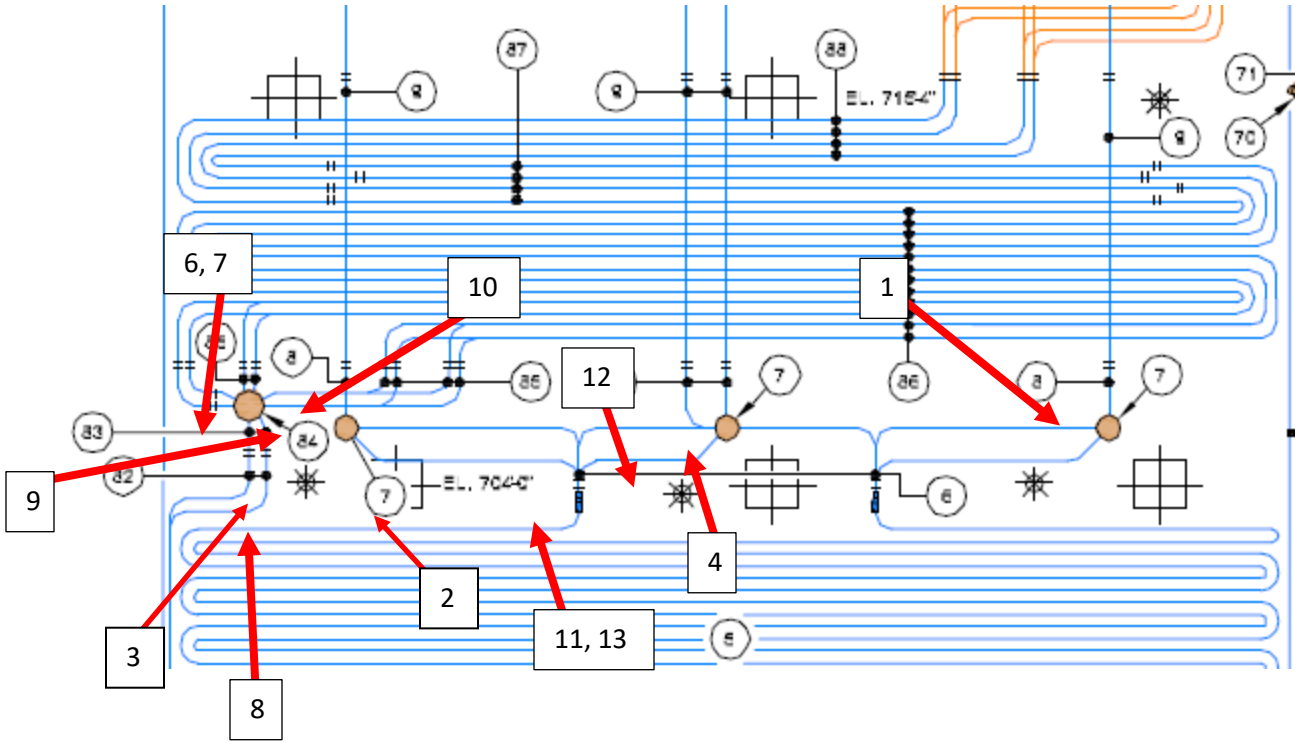
Date: 05/12/2023	**Inspected by:** B&W BC	**Unit:** 2	**Item: BOTECON 1**
Component Inspected: Bottom of the Economizer			
Condition Assessment: A small section of refectory Approx. 3’ has broken off exposing the expanded metal beneath			
Recommendations: Repair the missing refractory			
Criticality: P3			
Risk if NOT Performed: This could allow erosion of the underlaying metal.			
EKPC Comments:			
Photos: 			

Date: 05/12/23	**Inspected by:** B&W ECC	**Unit:** 2	**Item: BLTSHTOEC 3**
Component Inspected: Bottom Economizer			
Condition Assessment: The bottom tube of the first and last elements have erosion of the fins in the middle of the tube above a support.			
Recommendations: This area has a tube shield but erosion is occurring past the shield, a longer shield should be installed.			
Criticality: P3			
Risk if NOT Performed: Fins will continue to erode and it is likely the tube is eroding between the fins.			
EKPC Comments:			
Photos: 			

Date: 5/12/2023	Inspected by: B&W - CSH	Unit: 2	Item: BOTECON 3
Component Inspected: Bottom of the Economizer			
Condition Assessment: Above the header shield, the RHSW section of refractory missing near the midpoint of the wall.			
Recommendations: Replace missing refractory.			
Criticality: P2 **Due to accessibility.** Bottom of the economizer isn't scaffolded every year.			
Risk if NOT Performed: This allow flue gas to erode the backpass header.			
EKPC Comments:			
Photos: 			

Date: 05/12/23	**Inspected by:** B&W ECC	**Unit:** 2	**Item: BLTSHTOEC 4**
Component Inspected: Bottom Economizer			
Condition Assessment: The 6th retaining clip for the inner deflector shield from the front on the left side.			
Recommendations: Replace the clip			
Criticality: P3			
Risk if NOT Performed: Nothing of consequence.			
EKPC Comments:			
Photos: 			

#3 Bottom of LTSH Top of Economizer



Date: 5/12/2023	Inspected by: B&W RJP	Unit: 2	Item: BLTSHTOC 1
Component Inspected: Bottom of LTSH & Top of Economizer (Front Crawl)			
Condition Assessment: The front crawl had broken or completely fallen off refractory on the left and right ends of the header.			
Recommendations: Replace refractory.			
Criticality: P3			
Risk if NOT Performed: Erosion will occur because there is no protective barrier to protect the header.			
EKP Comments:			
Photos:			

Date: 5/12/2023	Inspected by: B&W RJP	Unit: 2	Item: BLTSHTOC 2
Component Inspected: Bottom of LTSH & Top of Economizer (Rear Crawl)			
Condition Assessment: There were missing sections of refractory below the rear crawl access doors on the left and right side.			
Recommendations: Apply refractory to make a good seal on the casing to limit fly ash erosion on the convection pass.			
Criticality: P3			
Risk if NOT Performed: Fly ash may bypass the refractory and result in erosion to side walls or tubes.			
EKP Comments:			

Photos:

Date: 05/12/2023	Inspected by: B&W RJP	Unit: 2	Item: BLTSHTOC 3
Component Inspected: Bottom of LTSH & Top of Economizer (Rear Crawl)			
Condition Assessment: Damaged refractory was found on the left-hand side wall below sootblower 29 as well as a separated support.			
Recommendations: Replace refractory.			
Criticality: P3			
Risk if NOT Performed: The perforated plate will not be able to properly protective the side walls.			
EKP Comments:			

Photos:

Date: 05/12/2023	**Inspected by: B&W RJP**	**Unit: 2**	**Item: BLTSHTOC 4**
Component Inspected: Bottom of LTSH & Top of Economizer (Middle Crawl)			
Condition Assessment: The middle crawl was missing refractory on the right-hand end of the header.			
Recommendations: Replace refractory.			
Criticality: P3			
Risk if NOT Performed: Erosion to the header may occur due to there being no protective barrier.			
EKP Comments:			
Photos: 			

Date: 5/12/2023	Inspected by: B&W - CSH	Unit: 2	Item: BLTSHTOEC 5
Component Inspected: Bottom of LTSH & Top of Economizer			
Condition Assessment: Center & Rear Crawls – The refractory along the rear wall, LHSW and RHSW was loose and falling away from the walls.			
Recommendations: Remove and replace the refractory.			
Criticality: P3			
Risk if NOT Performed: Flyash can channel down rear wall causing erosion on the steam cooled wall tubes.			
EKP Comments:			

Photos:

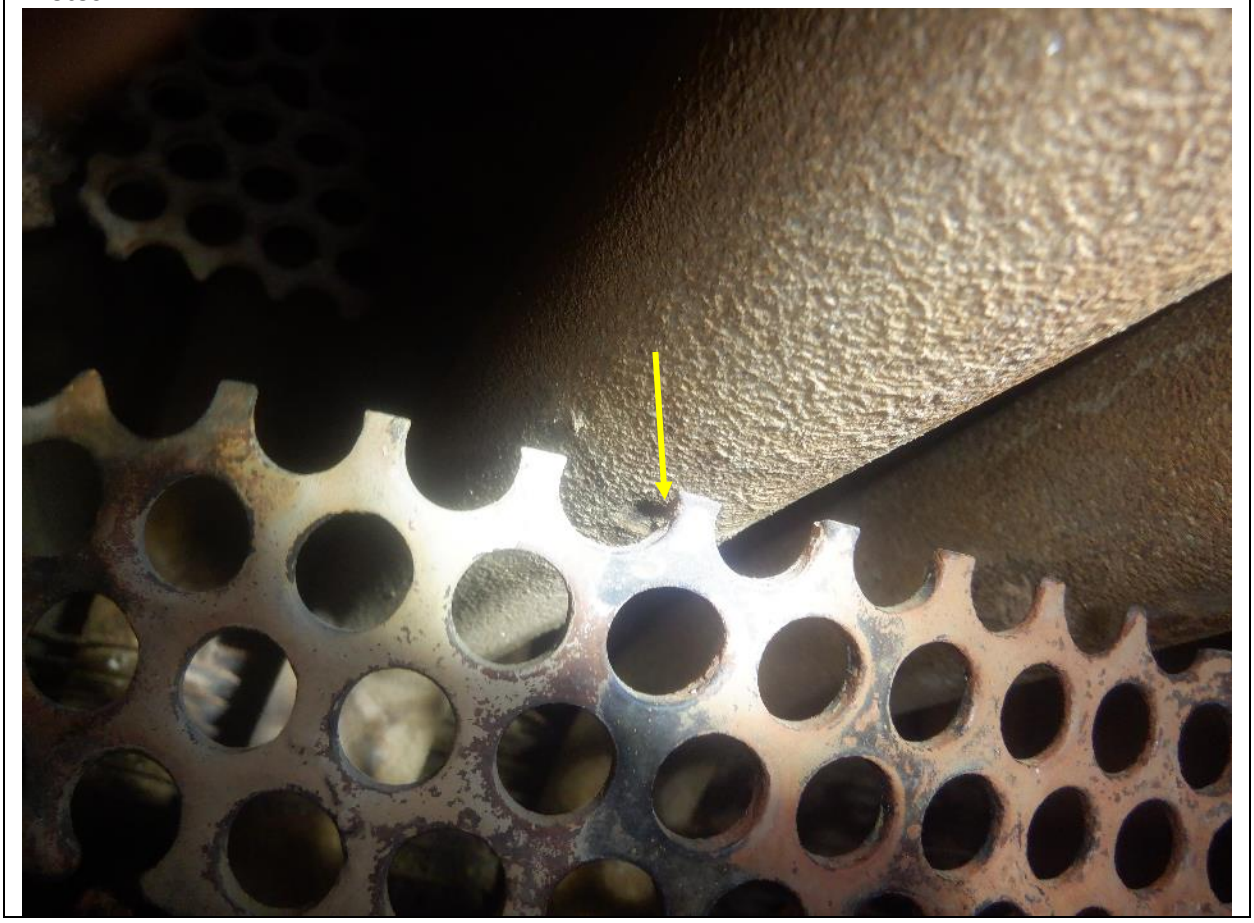
Date: 5/12/2023	Inspected by: B&W - CSH	Unit: 2	Item: BLTSHTOEC 6
Component Inspected: Top of the economizer.			
Condition Assessment: IK 29/30 Lane: There was minor to moderate sootblower erosion on the rear horizontal superheater inlet header nipples: 52 – 58, just below the weld to the header.			
Recommendations: Continue to monitor, if time allows install a shield or padweld. Inlet nipples are 2.50" OD s .300" MW, SA210-A1.			
Criticality: P3			
Risk if NOT Performed: Worse erosion to the header nipples.			
EKPC Comments:			
Photos:			

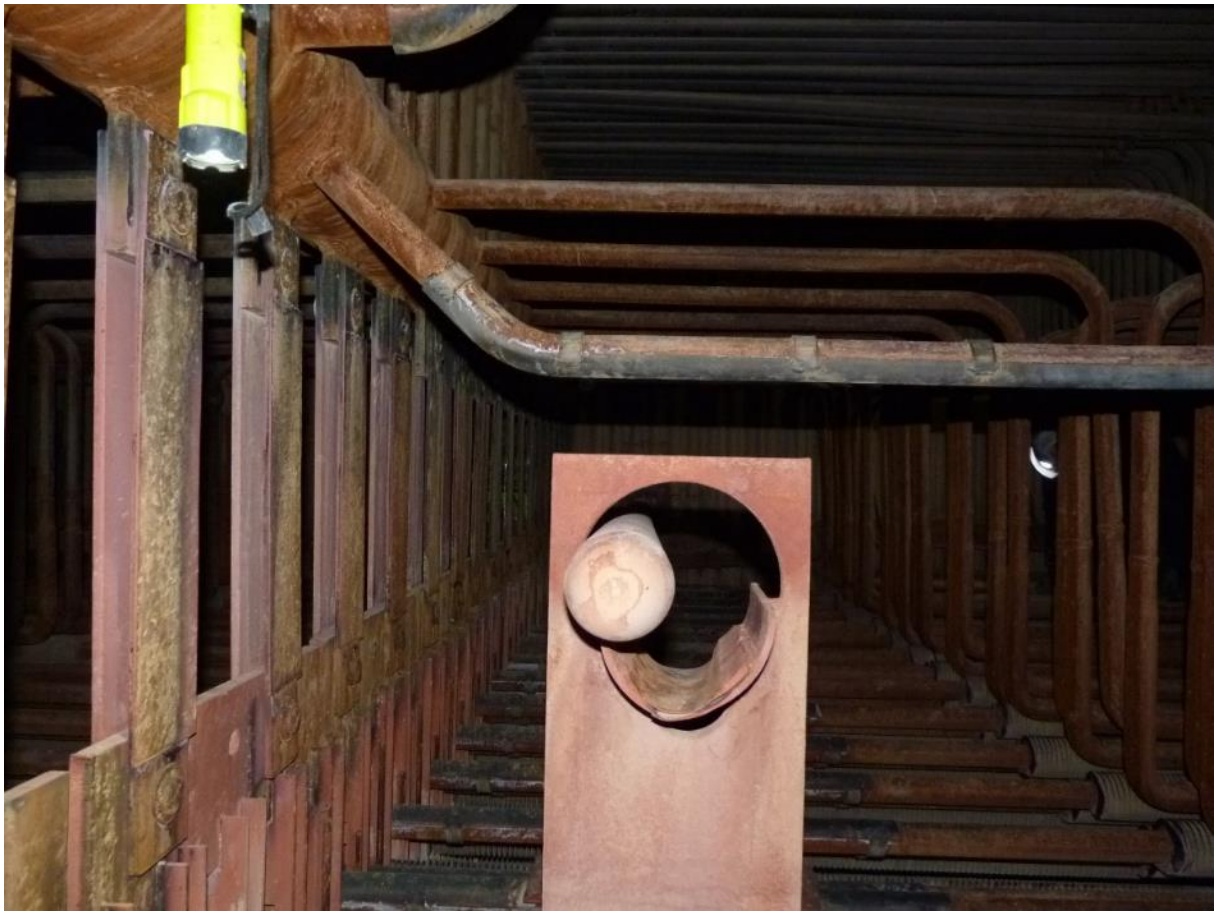
Date: 5/12/2023	Inspected by: B&W - CSH	Unit: 2	Item: BLTSHTOEC 7
Component Inspected: Top of the economizer.			
Condition Assessment: IK 29/30 Lane: There was a hole in the rear horizontal superheater inlet header shield, above the RHS access opening. There was minor erosion on the header at the LHS access opening.			
Recommendations: Patch the area with new metal. The header is 10.75" OD and the damaged area is about 2.5" wide and 6" long at the RHS and about 3" x 3" on the LHS access.			
Criticality: P3			
Risk if NOT Performed: Erosion to the header.			
EKPC Comments:			
Photos: 			

Date: 5/12/2023	Inspected by: B&W - CSH	Unit: 2	Item: BLTSHTOEC 8
Component Inspected: Top of the economizer.			
Condition Assessment: IK 30 Lane: There was a hole in a tube shield, below the tip of the IK lance, near the RHS access opening.			
Recommendations: Replace the economizer tube shield that is about 36" long. Economizer tubes are 2.00" OD.			
Criticality: P3			
Risk if NOT Performed: Erosion to the unprotected tube could lead to a tube failure.			
EKPC Comments:			
Photos: 			

Date: 5/12/2023	Inspected by: B&W - CSH	Unit: 2	Item: BLTSHTOEC 9
Component Inspected: Top of the economizer.			
Condition Assessment: IK 30 Lane: There was minor erosion to the rear economizer intermediate header at the end of a damaged shield.			
Recommendations: Replace the economizer header shield or extend the existing by about 12". Economizer intermediate headers are 8.625" OD.			
Criticality: P3			
Risk if NOT Performed: Erosion to the unprotected header.			
EKPC Comments:			
Photos: 			

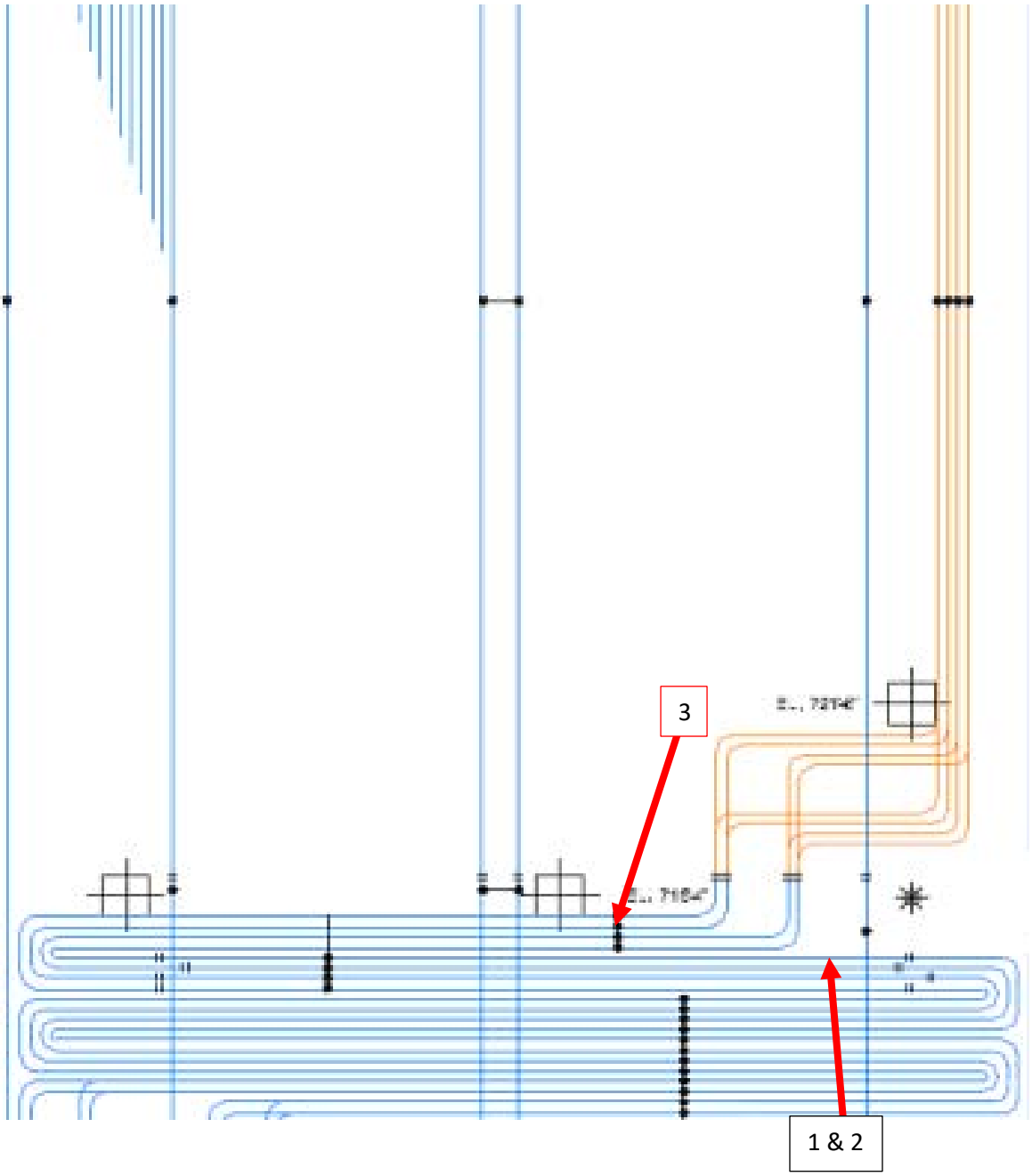
Date: 5/12/2023	**Inspected by:** B&W - CSH	**Unit:** 2	**Item: BLTSHTOEC 10**
Component Inspected: Top of the economizer.			
Condition Assessment: Rear Crawl: There was minor erosion to the 2nd from the RHSW, rear economizer header nipple.			
Recommendations: Install a 6” long shield. Economizer header nipples are 1.75” OD.			
Criticality: P3			
Risk if NOT Performed: Erosion could further damage the tube.			
EKPC Comments:			
Photos: 			

Date: 5/12/2023	Inspected by: B&W - CSH	Unit: 2	Item: BLTSHTOEC 11
Component Inspected: Top of the economizer.			
Condition Assessment: Center Crawl: There was minor erosion the vertical economizer tubes, just above the bend from the perforated baffle rubbing the tubes of assemblies 1 & 2.			
Recommendations: Cut the perforated plate about 1" away from the neighboring tubes.			
Criticality: P3			
Risk if NOT Performed: Erosion could further damage the tube.			
EKPC Comments:			
Photos: 			

Date: 05/12/2023	**Inspected by:** B&W -BC	**Unit:** 2	**Item: BLTSHTOC 12**
Component Inspected: Top of Economizer			
Condition Assessment: Center Crawl: Soot blower/ IK 27 cradle is out of alignment.			
Recommendations: Realign soot blower cradle			
Criticality: P3			
Risk if NOT Performed: Shortening of soot blower life due to unnecessary wear.			
EKPC Comments:			
Photos: 			

Date: 05/12/2023	**Inspected by:** B&W - BC	**Unit:** 2	**Item: BLTSHTOC 13**
Component Inspected: Top of the Economizer			
Condition Assessment: Center Crawl: Minor sootblower erosion was found in on the fins where ladder bars connect to the outlet headers			
Recommendations: Monitor in future outages to prevent economizer tube failure.			
Criticality: P3			
Risk if NOT Performed: Tube leak in the economizer			
EKPC Comments:			
Photos:			

#4 Top of LTSH



Date: 5/12/2023	Inspected by: B&W -CSH	Unit: 2	Item: TOPLTSH 1
Component Inspected: Top of LTSH Front Crawl			
Condition Assessment: There was minor-erosion on the front economizer stringer tubes at the alignment bar U straps at rows: 45 & 67			
Recommendations: Continue to monitor. If time allows - Cut off U strap, install a 4” long shield on aforementioned tubes and install a new U strap. Tube Material: SA210-A1, 2.00” OD, .220” MW			
Criticality: P3			
Risk if NOT Performed: Erosion could worsen causing a tube leak.			
EKP Comments:			

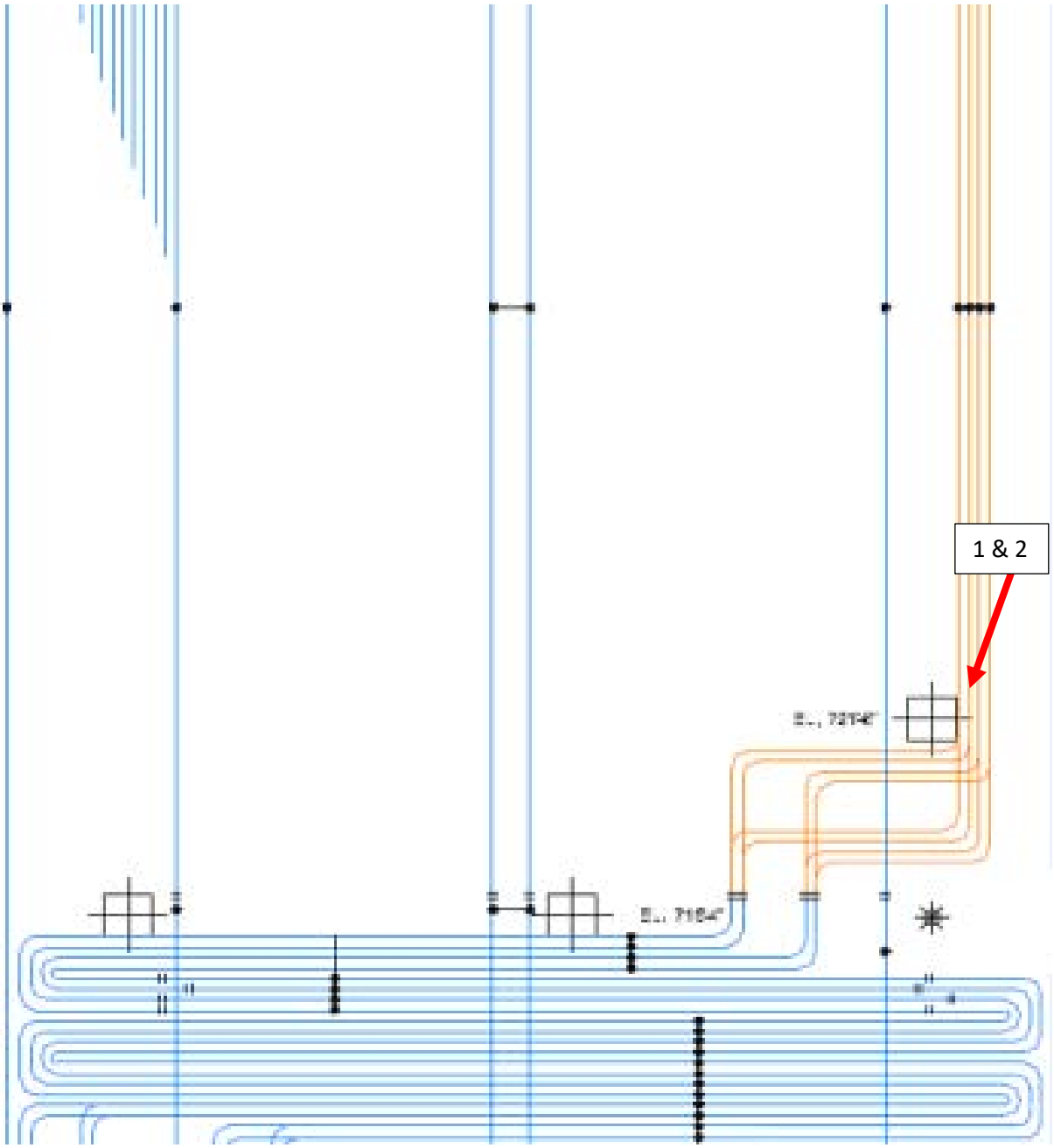
Photos:

Date: 5/12/2023	**Inspected by: B&W -CSH**	**Unit: 2**	**Item: TOPLTSH 2**
Component Inspected: Top of LTSH Front Crawl			
Condition Assessment: The u strap was broken from the side to side alignment bar at front economizer support tube 65.			
Recommendations: Set the LTSH spacing at 4” on centers and re-weld the u strap to the alignment bar.			
Criticality: P3			
Risk if NOT Performed: Could allow the LTSH to become misaligned/have the incorrect side to side spacing.			
EKP Comments:			
Photos: 			

Date: 5/12/2023	**Inspected by: B&W -CSH**	**Unit: 2**	**Item: TOPLTSH 3**
Component Inspected: Top of LTSH (Center Crawl)			
Condition Assessment: The front most diverter plate was pulling away from the LHSW at the bottom.			
Recommendations: Remove the existing refractory and fasten the bottom of the diverter plate to the LHSW and pack with refractory.			
Criticality: P3			
Risk if NOT Performed: Flyash could channel through the tighter opening and cause erosion on the LTSH.			
EKP Comments:			

Photos:

#5 Rear Pendant SH (LTSH)



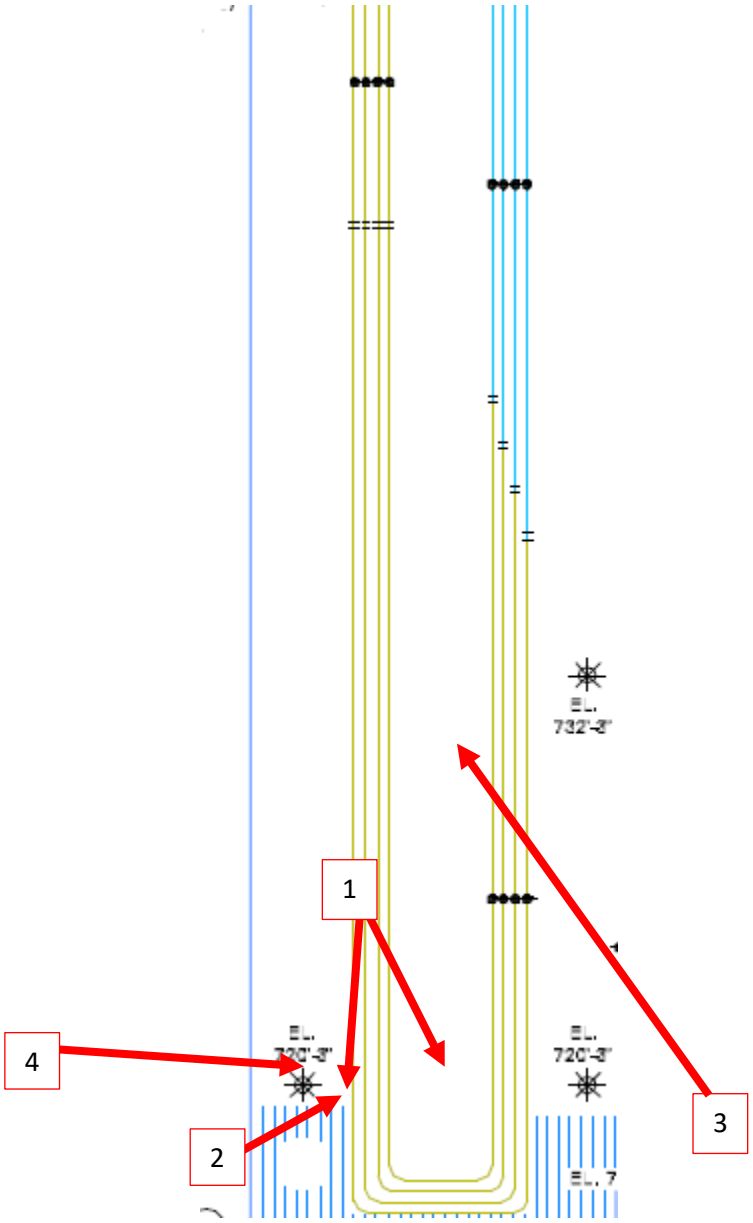
Date: 5/12/2023	Inspected by: B&W - CSH	Unit: 2	Item: RPENDSH 1
Component Inspected: Rear Pendant Superheater (LTSH)			
Condition Assessment: The front to rear alignment bars at the front of the LTSH, from the boiler center line to the RHSW were damaged throughout but were holding the tubes in place.			
Recommendations: Continue to monitor and prepare to have failed bars to replace in future outages.			
Criticality: P3			
Risk if NOT Performed: Tube alignment issues.			
EKP Comments:			

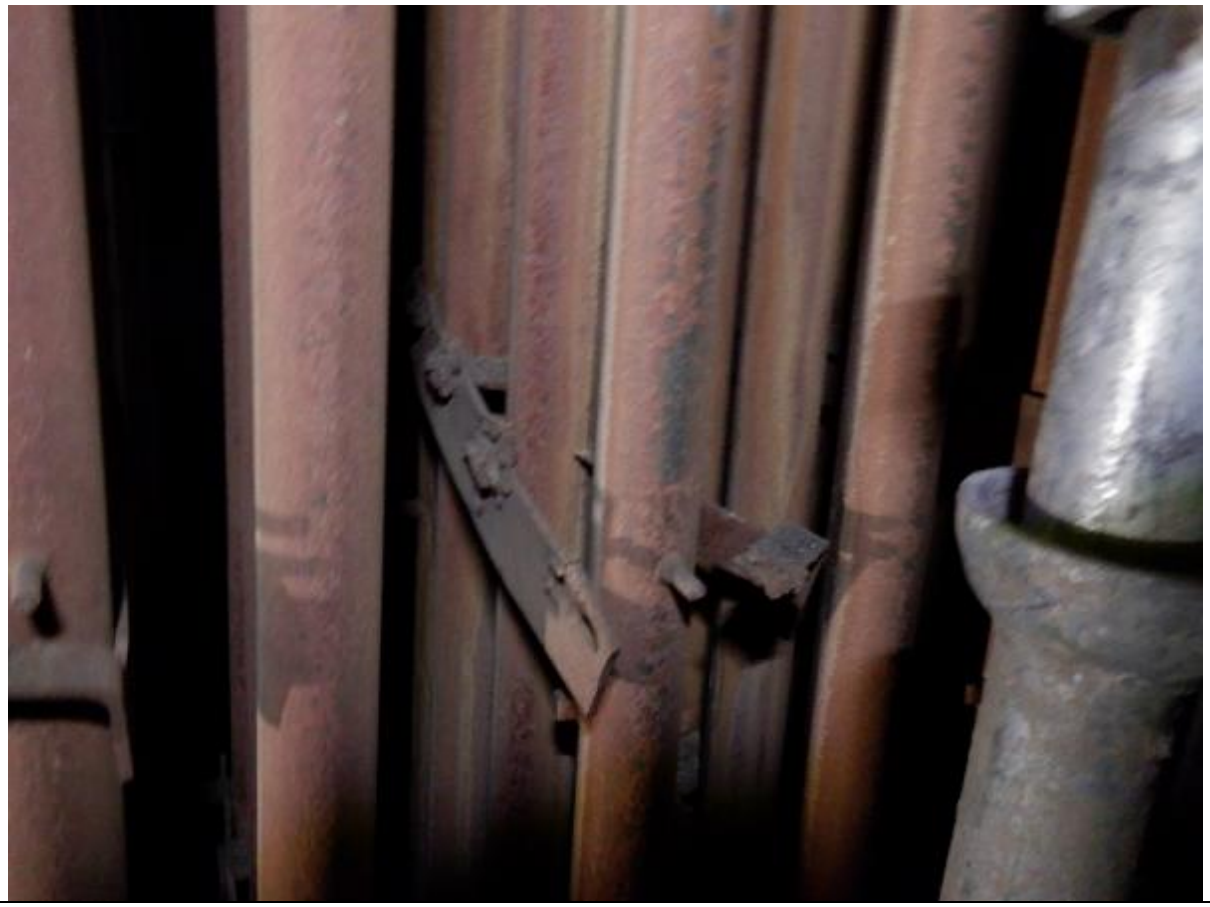
Photos:

Date: 5/12/2023	Inspected by: B&W - CSH	Unit: 2	Item: RPENDSH 2
Component Inspected: Rear Pendant Superheater (LTSH)			
Condition Assessment: There were failed welds at the U strap to the alignment bar at the front of the LTSH assemblies: 73, 133, 142, 154 & 157.			
Recommendations: Install new U straps.			
Criticality: P3			
Risk if NOT Performed: If the alignment bars get loose by missing U straps, they could fall out of place and allow misalignment.			
EKP Comments:			

Photos:

#6 HTSH & Front Screen Tubes

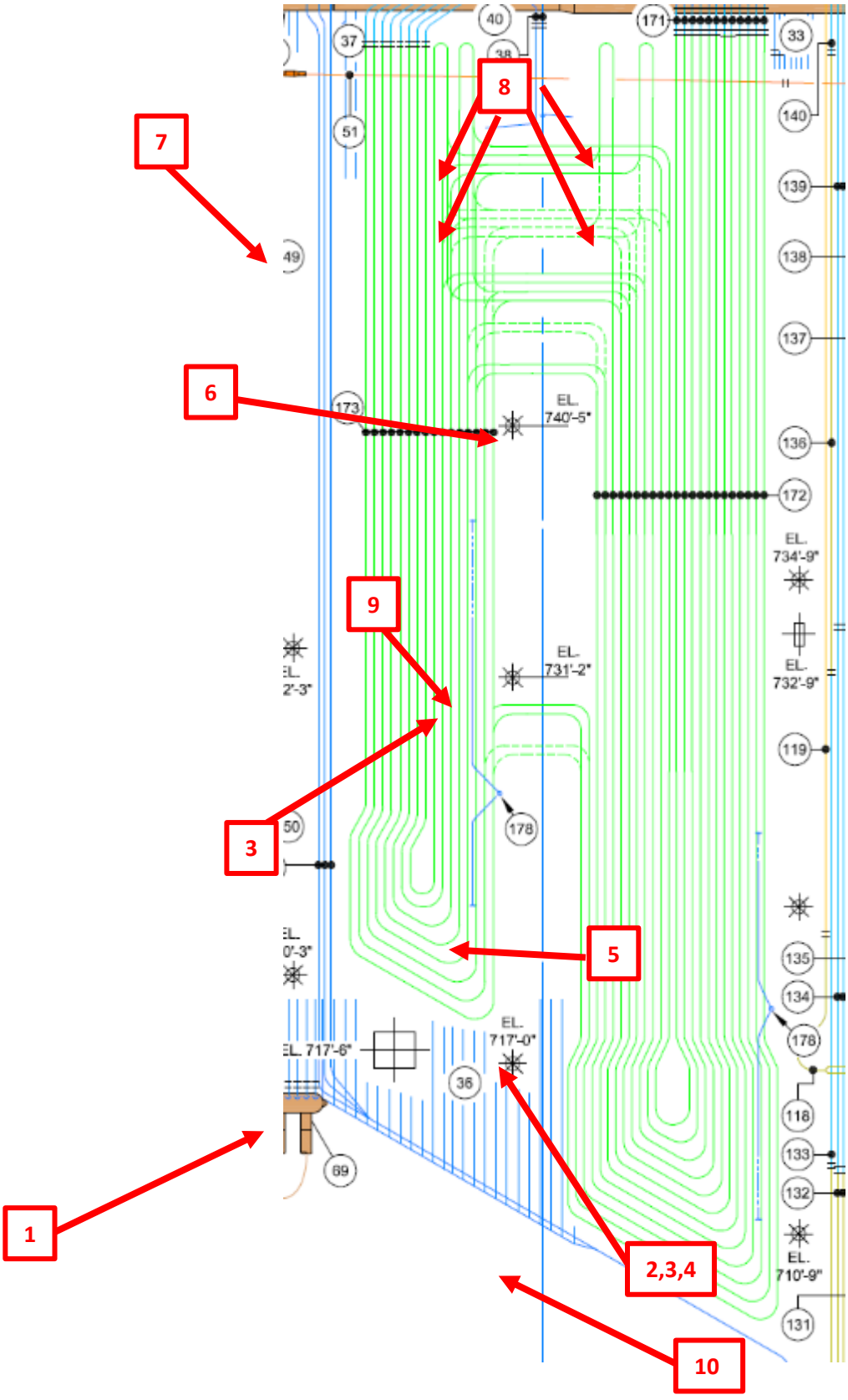


Date: 05/11/23	Inspected by: B&W	Unit: 2	Item: HTSHFSCW 1
Component Inspected: HTSH (Standing in loops)			
Condition Assessment: **Rear side of HTSH-** The following alignment bars were broken at the front: Assemblies found warped and allowing the bar to slip over the support stud on the pendant: 32, 41, 45, 55, 61, 63, 65, 67, 68, 70, 73, 81, 86, 87, 91, 93, 97, 100, 101, 102, 103, 106, 122, 128, 129, 131, 133, 138, 139 **Front side of HTSH-** Broken alignment bars were found at the front at the bottom elevation of assemblies 16, 30, 31, 34, 124,, 132, 140. At the second elevation of assemblies: 10, 16, 18, 24, 28, 30, 32, 42, 47, 50, 54, 58, 59, 64, 78, 80, 82, 84, 88, 98, 100, 104, 106, 108, 110, 112, 114, 118, 120, 128, 130, 135, 136, and 138.			
Recommendations: Remove the damaged alignment bars and replace to correct position.			
Criticality: P3			
Risk if NOT Performed: Broken alignment bars could allow the HTSH tubes to shift.			
EKP Comments:			
Photos: 			

Date: 5/11/23	Inspected by: B&W ECC	Unit: 2	Item: HTSHFSCW 2
Component Inspected: HTSH (Standing in loops)			
Condition Assessment: **Rear side of HTSH-** The alignment bar support stud was missing on the leading edge of the rear loop of assembly 86, and 132.			
Recommendations: Put the alignment bar back into the correct position and weld a new support stud to the tube.			
Criticality: P3			
Risk if NOT Performed: The alignment bar could drop to the bends and chafe the tube. Misalignment could occur if the bar breaks.			
EKP Comments:			
Photos: 			

Date: 05/11/23	**Inspected by: B&W ECC CSH**	**Unit: 2**	**Item: HTSHFSCW 3**
Component Inspected: HTSH			
Condition Assessment: **HTSH Front section-** The HTSH tubes had broken alignment bars fallen from the second elevation of alignment bars: 8, 24, 30, 32, 50, 80, 82, 110 & 118.			
Recommendations: Remove fallen alignment bars and replace with new alignment bars for each pendant.			
Criticality: P3			
Risk if NOT Performed: Broken alignment bars could allow the HTSH tubes to become misaligned.			
EKP Comments:			
Photos:			

Date: 05/11/2023	Inspected by: B&W BNC	Unit: 2	Item: HTSHFSCW 4
Component Inspected: HTSH & Front SCW Screen Tubes			
Condition Assessment: Rear of the HTSH – alignment bars where found to be in poor condition on elements: 86,100,120,128			
Recommendations: Replace the damaged alignment bars and install studs to prevent the bars from moving up the bank.			
Criticality: P3			
Risk if NOT Performed: Tubes and assemblies can become misaligned and experience a premature failure.			
EKP Comments:			
Photos: 			



Date: 5/17/23	Inspected by: B&W ECC	Unit: 2	Item: RRHCORSCR 8
Component Inspected: WW Screen tubes			
Large sections of the refractory dam are missing at tube 60 and from tube 41 to 44.			
Recommendations: Replace the refractory. Install additional refractory ties to maintain the refractory.			
Criticality: P2			
Risk if NOT Performed: Tubes are subject to erosion and corrosion. Flue gas or tramp air can enter the space between the tubes and dead air space casing through the gaps between the tubes.			
EKP Comments:			
Photos: 			

Date: 5/17/23	**Inspected by: B&W ECC**	**Unit: 2**	**Item: RRHCORSCR 2**
Component Inspected: Hanger Tubes			
Tube shield welds are broken on tubes: 1, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 20, 22, 23, 24, 25, 26, 27, 29, 30, 31, 32, 40, 42, 43, 48, 50, 51, 55, 58, 57, 61, 26			
Recommendations: Replace the tube shield, tube OD is 2-3/8”. At minimum pull the shield to the tube and weld.			
Criticality: P3			
Risk if NOT Performed: Eddies can from where the weld broke at the top of the shield pulled away from the tube which could cause accelerated corrosion. Gaps caused by mid-shield broken welds expose the tube to damage.			
EKP Comments:			
Photos: 			

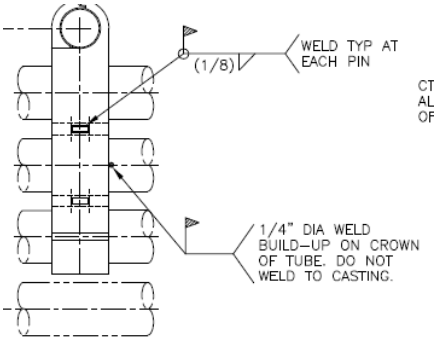
Date: 5/17/23	Inspected by: B&W ECC	Unit: 2	Item: RRHCORSCR 3
Component Inspected: Hanger Tubes			
Tube portion or the full shield is missing on tubes: 34, 35, 43, 46, 52, 53, 54, 60, 63, 65, 66			
Recommendations: Install new tube shields. Tube OD is 2-3/8”			
Criticality: P2			
Risk if NOT Performed: Tubes are subject to erosion and corrosion.			
EKP Comments:			
Photos: 			

Date: 5/17/23	Inspected by: B&W ECC	Unit: 2	Item: RRHCORSCR 4
Component Inspected: Hanger Tubes			
Tube shield straps have corroded and broke from the shield: 23, 28, 40, 42, 48, 54, 56, 57, 63, 64			
Recommendations: Install new straps.			
Criticality: P3			
Risk if NOT Performed: Shields will pull from the tube creating a gap for ash and flue gas to cause erosion and corrosion.			
EKP Comments:			
Photos: 			

Date: 5/17/23	Inspected by: B&W ECC	Unit: 2	Item: RRHCORSCR 5

Component Inspected: RH Rear pendant

The water-cooled spacer tube is sloped down on the left side. The spacer casting slipped down the tubes because a sufficient weld on the tube to support the casting was not installed. Many of the castings simply slipped over the weld.



Recommendations: Put a large weld bead under the casting to prevent it from slipping. Take care not to weld the casting to the tube.

Criticality: P3

Risk if NOT Performed: The castings could slip more.

EKP Comments:

Photos:

Date: 5/18/2023	Inspected by: B&W - CSH	Unit: 2	Item: RRHCORSCR 6
Component Inspected: RH Rear Pendants & Crossover, Rear WW Screen & Hanger Tubes			
Condition Assessment: Upper Crossover - Rear side of WW Hanger Tubes – There was sootblower erosion on the WW screen tubes 8, 9, 10, 14, 21, 24(UT-.293”), 26(UT-.299”), 29 (behind the ladder pole) at the IK 17 lane. The severity on all tubes could not be thoroughly inspected due to lack of accessibility. Tube #8 appeared to have the worst damage.			
Recommendations: Scaffold will be required for access to these repairs. Shield tubes 24, 26, & 29. Determine repairs (shields or padwelds) after a thorough inspection. Tubes are 2.25”OD x .320”MW, SA210A1.			
Criticality: P2			
Risk if NOT Performed: Erosion will continue and could lead to tube leaks.			
EKP Comments:			

Photos:

Date: 5/18/2023	Inspected by: B&W - CSH	Unit: 2	Item: RRHCORSCR 7
Component Inspected: RH Rear Pendants & Crossover, Rear WW Screen & Hanger Tubes			
Condition Assessment: WW Screen Tubes, Rear Side – The alignment bar U straps were broken or missing at tube 69.			
Recommendations: Install a new U strap. Scaffold will be required for access.			
Criticality: P3			
Risk if NOT Performed: Tube misalignment.			
EKP Comments:			

Photos:

Date: 5/18/2023	Inspected by: B&W - CSH	Unit: 2	Item: RRHCORSCR 8
Component Inspected: RH Rear Pendants & Crossover, Rear WW Screen & Hanger Tubes			
Condition Assessment: Crossovers – There were multiple crossover tubes rubbing the following locations: Rear of RH Inlet at Middle Elevation: 1, 4, 6 Front of RH Outlet at Middle Elevation: 3, 6 (from the RHSW) Rear of RH Inlet at Upper Elevation: 20,			
Recommendations: Install 6" shields on each tube. If time allows reinstall the interlocking castings. The rubbing tubes are from tubes being out of the castings, causing misalignment. Front RH pendants are 2.5" OD. Rear RH pendants are 2.75" OD.			
Criticality: P3			
Risk if NOT Performed: Tube failures.			
EKP Comments:			

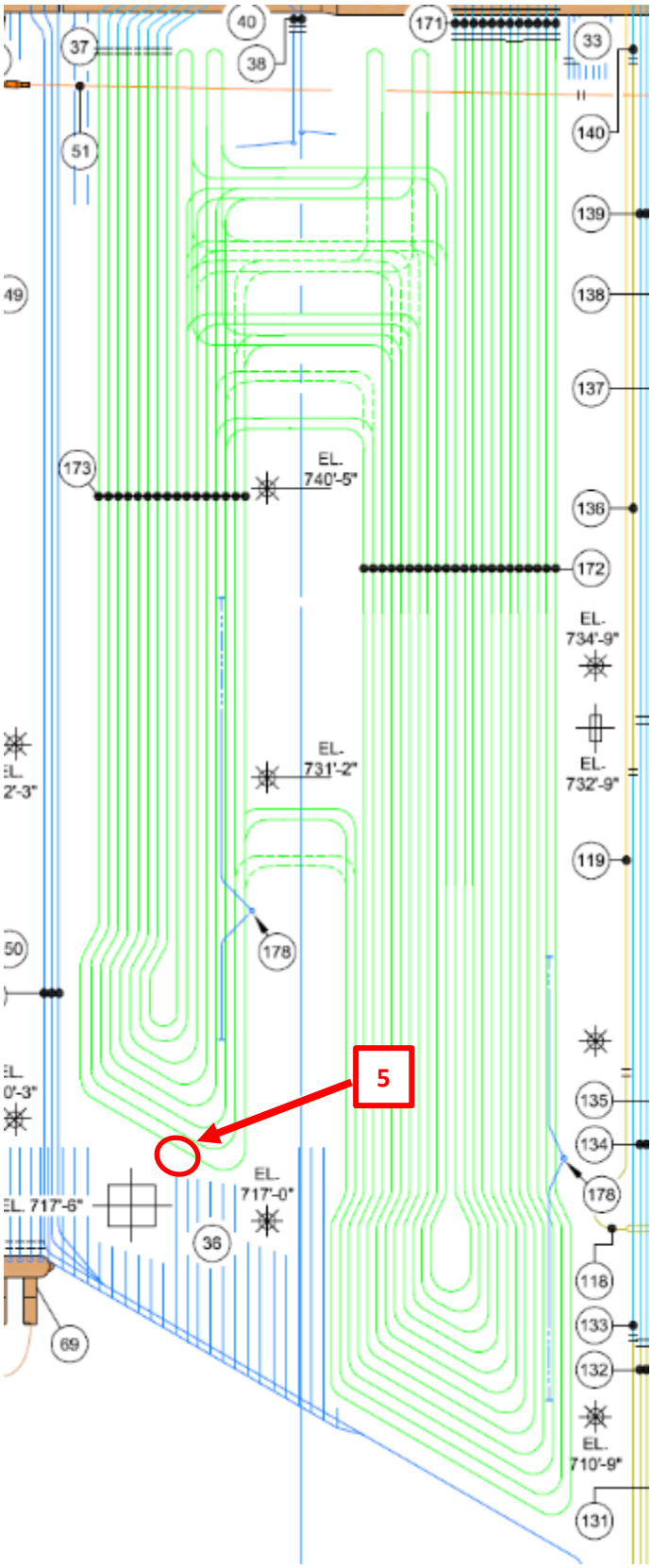
Photos:

Date: 5/18/2023	Inspected by: B&W - CSH	Unit: 2	Item: RRHCORSCR 9
Component Inspected: RH Rear Pendants & Crossover, Rear WW Screen & Hanger Tubes			
Condition Assessment: Lower Crossovers – There were damaged tube shields at the leading edge of the rear pendant reheat assemblies: 21, 32, 33, 34, 37, 44, 53, 56, and 67.			
Recommendations: Replace shields.			
Criticality: P3			
Risk if NOT Performed: Tube failures.			
EKP Comments:			

Photos:

Date: 5/17/2023	Inspected by: B&W - CSH	Unit: 2	Item: RRHCORSCR 10
Component Inspected: RH Rear Pendants & Crossover, Rear WW Screen & Hanger Tubes			
Condition Assessment: Front side of WW Hanger Tubes – There were holes in shields above the arch penetrations at hanger tubes: 39, 51, 54, 56, 57, 59, 61.			
Recommendations: Replace the 18” shields. WW hanger tubes are 2.25” OD.			
Criticality: P2			
Risk if NOT Performed: Erosion will continue and could lead to tube leaks.			
EKP Comments:			

Photos:



Date: 5/17/23	**Inspected by: B&W**	**Unit: 2**	**Item: RRHCORSCR 8**

Component Inspected: RH Outlet

Condition Assessment: RH Outlet tubes 2 and 3 were measured for thickness during this outage on both sides of the tubes just above the bend. About a 1.5" x 10" area was scanned, and the lowest reading was saved. Moderate corrosion was identified on tubes 2 & 3 per the following table.

Assembly	Tube(**L**eft or **R**ight side)	UTT	Priority
63	2L	.096	P1
64	3L	.114	P2
67	2L & 3L	.114, .105	P2
57	3L	.128	P3
60	2L	.126	P3
61	3L & 3R	.122, .12	P3
63	3L	.116	P3
64	3R	.126	P3

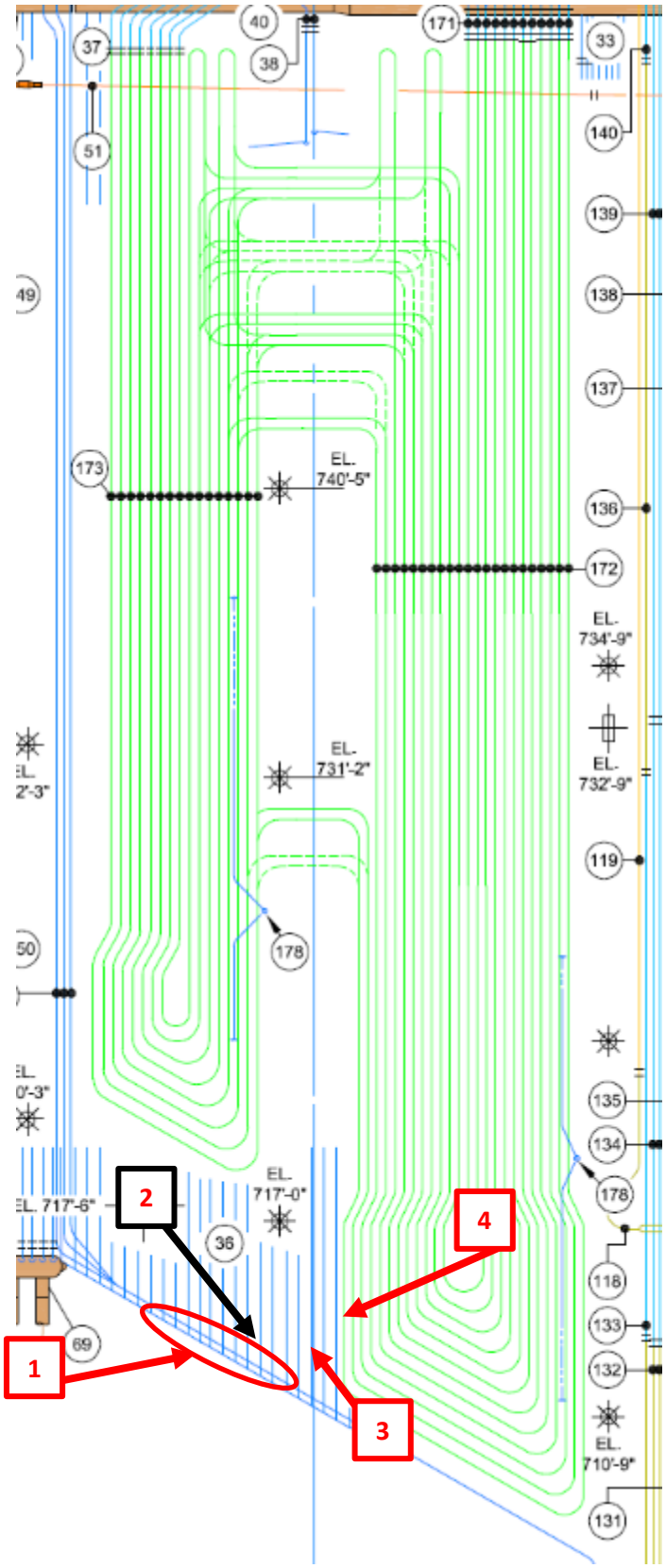
Recommendations: Install 2"x 8" padwelds per the table above. RHO tubes are 2.5"OD x .165"MW, SA213TP304H. Continue to monitor this area in the future with continued UTT surveys.

Criticality: P1 – P3

Risk if NOT Performed: Tubes are subject to continued corrosion and wall loss which could lead to tube failures.

EKP Comments:

Photos:



Date: 5/27/23	**Inspected by: B&W**	**Unit: 2**	**Item: RRHCORSCR 1**

Component Inspected: Upper Arch Tubes Beneath RHO

Condition Assessment: Minor sootblower erosion was found throughout with moderate to severe at the following locations.

Tube	Distance up the arch from the RW Hanger Tubes	UTT	Repair	Priority
2, 3, 4, 5,	1’ - 5’	NA	48” Dutchman	P1
6,7, 8, 9, 10	2’-4’	NA	24” Dutchman	P2
11, 12, 13, 14, 15, 76	2’-3’	NA	12” PW	P3
84	2’-3.5’	NA	30” Dutchman	P3
85	3’	NA	6” PW	P3
114	3’	.202	10” PW	P3
124	4’	.206	10” PW	P3
125	4’	.207	10” PW	P3
129	3.5’	.205	10” PW	P3
136	2.5’	.190	10” PW	P3
137	2.5’-4.5’	.195	24” Dutchman	P3
138	2’-4.5’	.184	30” Dutchman	P3
139	2’-4.5’	.184	30” Dutchman	P3
140	2.5’-4’	.194	24” Dutchman	P3
141	3’	.188	10” PW	P3
143	3’	.198	10” PW	P3
144	2’-4’	.178	36” Dutchman	P2
145	2’-4’	.172	36” Dutchman	P2
146	2’-4’	.167	36” Dutchman	P2
147	2’-4’	.194	36” Dutchman	P3
148	2’-4’	.188	36” Dutchman	P3
149	2.5’-3.5’	.193	12” PW	P3
150	3’-4’	.196	10” PW	P3
151	2’-4’	.171	36” Dutchman	P2
152	2’-3’	.197	10” PW	P3
153	2.5’	.207	10” PW	P3
155	2.5’	.204	10” PW	P3
160	3’	.197	8” PW	P3
161	3’	.200	8” PW	P3
162	3’	.176	8” PW	P2
163	3’	.180	4” PW	P2
164	3’	.149	4” PW	P1
165	3’	.154	8” PW	P1
166	3’	.155	8” PW	P1
167	3’	.154	8” PW	P1
168	3’	.144	8” PW	P1
169	3’	.156	8” PW	P2

Recommendations: Install repairs per the table above. Upper arch tubes are 2.375”OD x .260”MW,

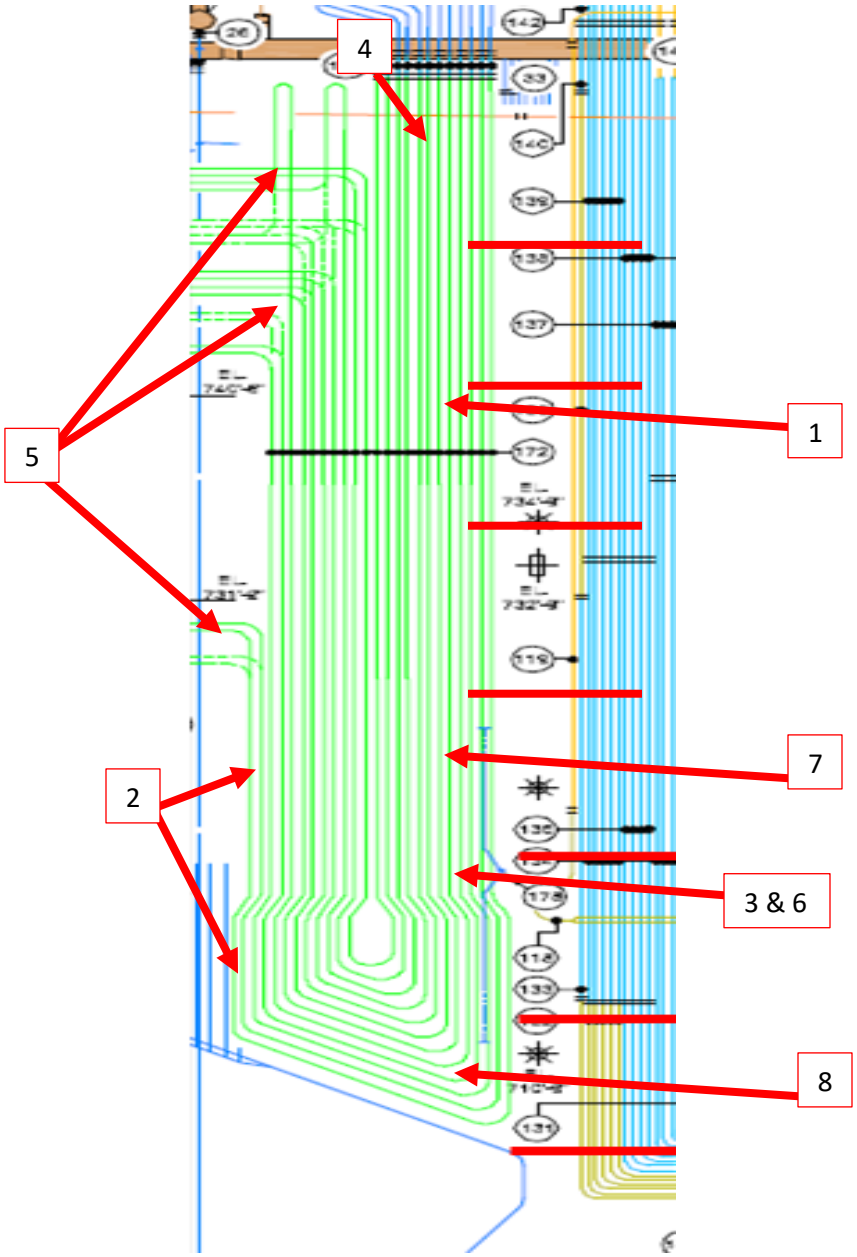
SA210-A1. Continue to monitor this area in the future with continued UTT surveys.
Criticality: P1 – P3
Risk if NOT Performed: Tubes are subject to continued erosion and wall loss which could lead to tube failures.
EKP Comments:
Photos: 

Date: 5/27/23	Inspected by: B&W	Unit: 2	Item: RRHCORSCR 2
Component Inspected: Upper Arch Beneath RHO			
Condition Assessment: Minor sootblower erosion was found on the WCS tube, above the arch penetration on the LHS.			
Recommendations: Install a 24” long shield. WCS tubes are 2.00”OD.			
Criticality: P3			
Risk if NOT Performed: Tubes are subject to continued erosion and wall loss which could lead to tube failures.			
EKP Comments:			
Photos: 			

Date: 5/27/23	Inspected by: B&W	Unit: 2	Item: RRHCORSCR 3
Component Inspected: RW Hanger Tubes at the Upper Arch			
Condition Assessment: There were missing shields on the rear side of the RW hanger tubes, in the lower IK lane at tubes: 28, 37, 46, 54, 56, 59			
Recommendations: Install a 48” long shield. RW hanger tubes are 2.25”OD.			
Criticality: P3			
Risk if NOT Performed: Tubes are subject to continued erosion and wall loss which could lead to tube failures.			
EKP Comments:			
Photos: 			

Date: 5/27/23	Inspected by: B&W	Unit: 2	Item: RRHCORSCR 4
Component Inspected: Rear of RH Inlet			
Condition Assessment: The rear of the rear tube of RH Inlet assembly 6 had minor erosion.			
Recommendations: Install a 24” long shield. RH Inlet tubes are 2.50”OD.			
Criticality: P3			
Risk if NOT Performed: Tubes are subject to continued erosion and wall loss which could lead to tube failures.			
EKP Comments:			
Photos: 			

#8 RH Front Pendants



Date: 5/15/2023	Inspected by: B&W - CSH	Unit: 2	Item: RHFPEND 1
Component Inspected: RH Front Pendant & Between SH Pendant Platens			
Condition Assessment: Scaffold Level 5 RH Front Pendant – Loose and damaged shield clips were found on the rear of the leading-edge tubes of assemblies: 5, 16 & 20.			
Recommendations: Remove damaged clips.			
Criticality: P3			
Risk if NOT Performed: Clips could get overheated, deform and rub a neighboring tube.			
EKP Comments:			
Photos: 			

Date: 5/15/2023	Inspected by: B&W - CSH	Unit: 2	Item: RHFPEND 2
Component Inspected: RH Front Pendant & Between SH Pendant Platens			
Condition Assessment: Slip spacers were disengaged at multiple elevations. See locations below. **Level 3:** 23, 42, 43 **Level 1:** 25, 30, 43, 45			
Recommendations: Replace the disengaged slip spacers. **B&W Part Numbers: 3099889 & 7004750**			
Criticality: P3			
Risk if NOT Performed: Disengaged slip spacers can lead to misalignment.			
EKP Comments:			

Photos:

Date: 5/15/2023	**Inspected by: B&W - CSH**	**Unit: 2**	**Item: RHFPEND 3**
Component Inspected: RH Front Pendant & Between SH Pendant Platens			
Condition Assessment: Scaffold Level 2**:** The WCS bilateral casting was overheated at the front of assembly 24.			
Recommendations: Continue to monitor, replacing the casting would result in a similar result to a new casting due to the two open (uncooled) spaces in the casting.			
Criticality: Information only.			
Risk if NOT Performed: None.			
EKP Comments:			
Photos: 			

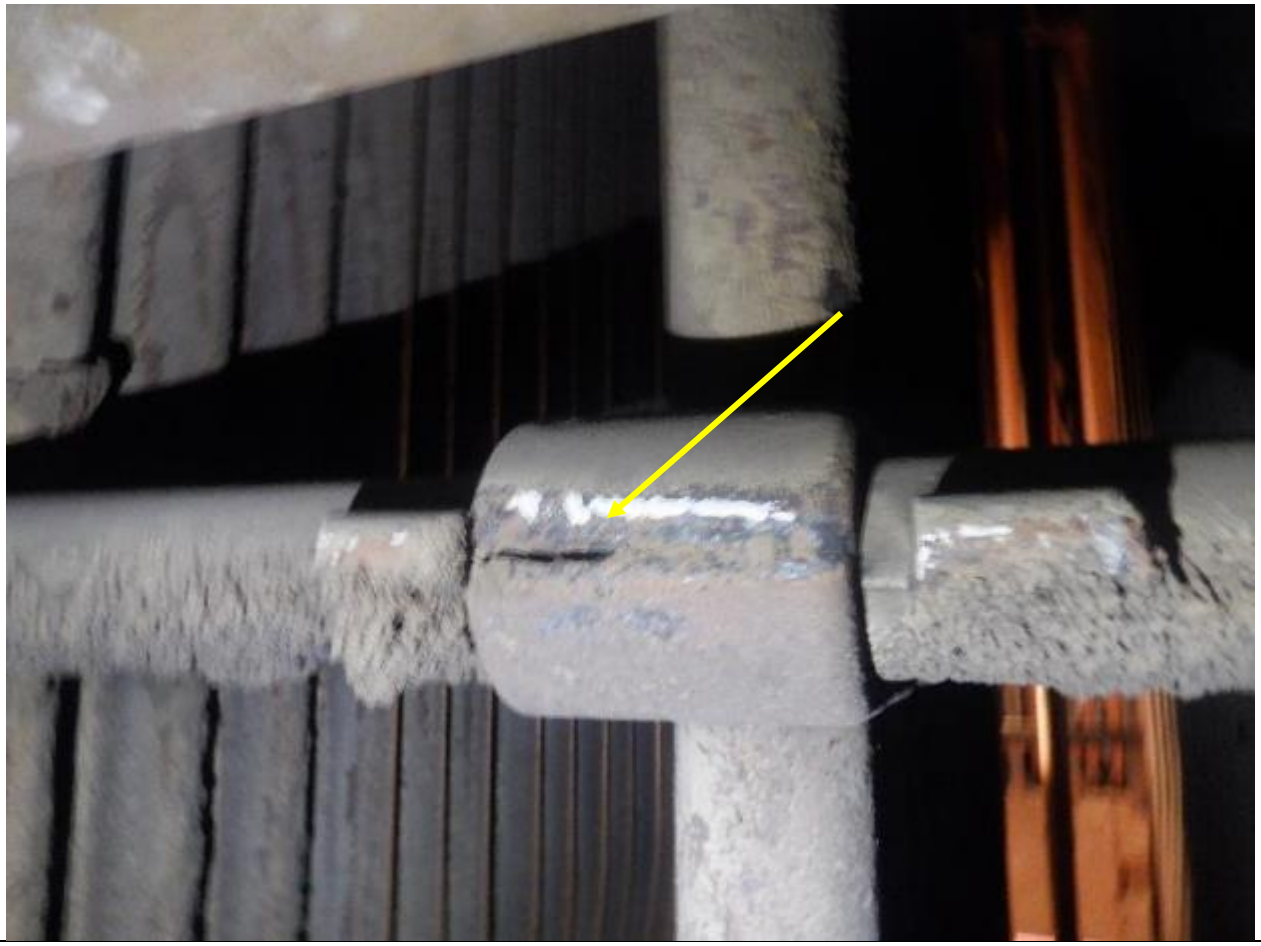
Date: 5/15/2023	Inspected by: B&W - CSH	Unit: 2	Item: RHFPEND 4
Component Inspected: RH Front Pendant & Between SH Pendant Platens			
Condition Assessment: Scaffold Level 7: The WCS U strap was overheated and cracked at the LHSW.			
Recommendations: Replace the U-strap.			
Criticality: P3			
Risk if NOT Performed: The strap could fail and allow the WCS tube to swing loose.			
EKP Comments:			

Photos:

Date: 5/15/2023	Inspected by: B&W - CSH	Unit: 2	Item: RHFPEND 5
Component Inspected: RH Front Pendant & Between SH Pendant Platens			
Condition Assessment: There were disengaged interlock support castings at the rear of the pendants at the following elevations and locations: **Scaffold Level 7:** 34 **Scaffold Level 6:** 5, 12, 13, 15, 16, 17, 18, 19, 25, 26, 27, 30, 31, 39, 40, 41, 42, 43, 44 **Scaffold Level 4:** 19, 20, 21, 38, 43			
Recommendations: Continue to monitor, replacing the castings would likely result in a similar result.			
Criticality: Information only.			
Risk if NOT Performed: None.			
EKP Comments:			
Photos: 			

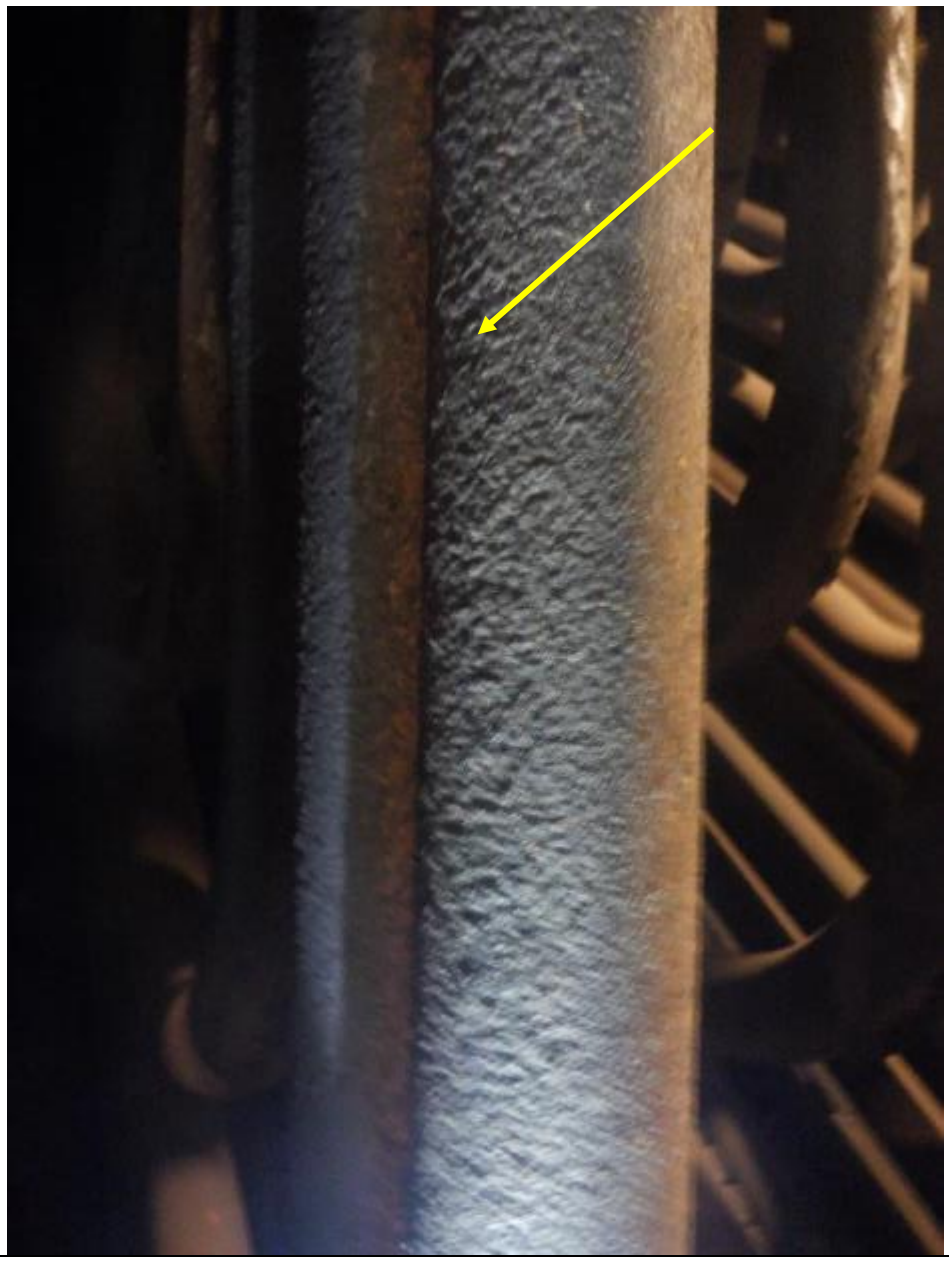
Date: 5/15/2023	Inspected by: B&W - CSH	Unit: 2	Item: RHFPEND 6
Component Inspected: RH Front Pendant & Between SH Pendant Platens			
Condition Assessment: Scaffold Level 2**:** The WCS bilateral castings had cracked welds at the leading edge of assemblies: 3, 10, 16, 17, 20, 21, 22, 32 The incorrect bilateral model number SRC was used on assembly 3.			
Recommendations: Replace the bi-lateral castings.			
Criticality: P3			
Risk if NOT Performed: Casting failures which will lead to WCS deformation and the assemblies will be able to swing loose.			
EKP Comments:			

Photos:

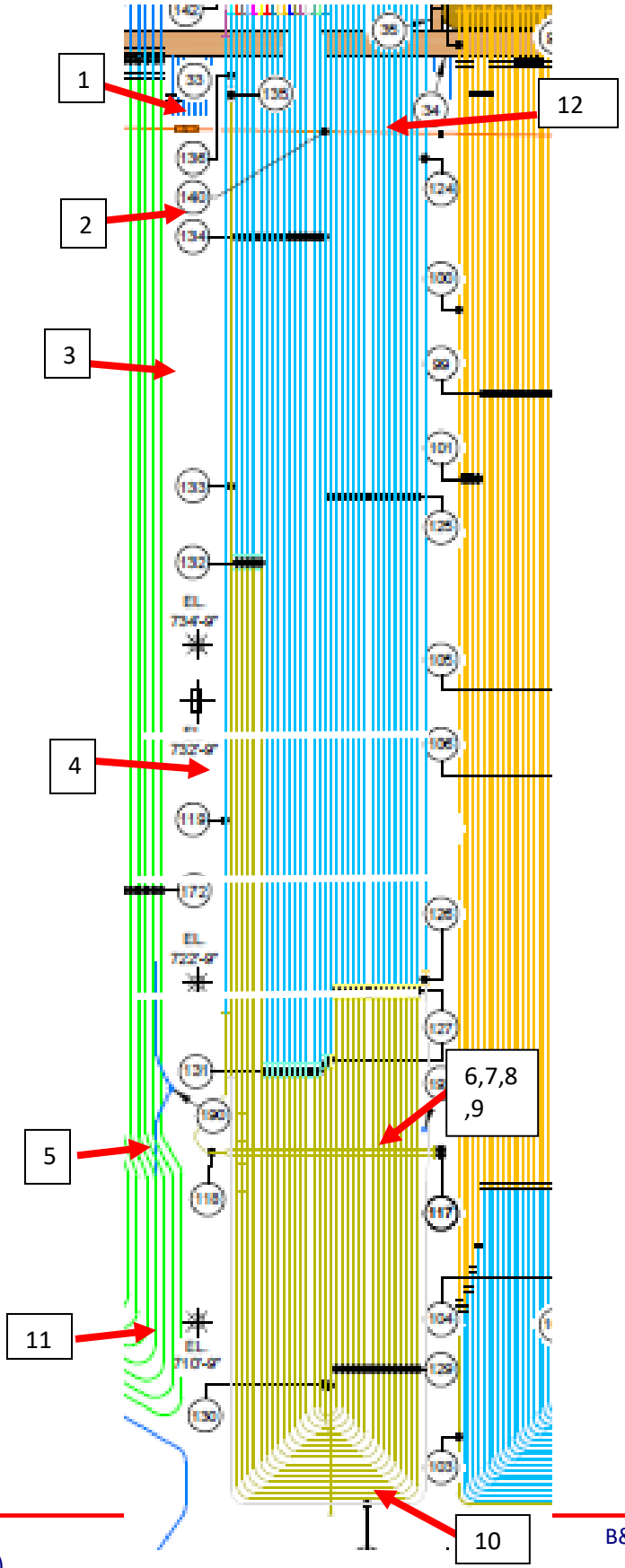


Date: 5/15/2023	Inspected by: B&W - CSH	Unit: 2	Item: RHFPEND 7
Component Inspected: RH Front Pendant & Between SH Pendant Platens			
Condition Assessment: Scaffold Level 3: Where the old shields were removed, there are wafer wheel cuts in the leading-edge tubes of assemblies: 10, 28, 31, 33-37.			
Recommendations: Remove the remaining portion of the shield and install a padweld over the cuts. RH Inlet Tubes are 2.50" OD x .165" MW, SA213TP304H.			
Criticality: P3			
Risk if NOT Performed: Tube failure if wear occurs at the thinned locations.			
EKP Comments:			

Photos:

Date: 5/15/2023	Inspected by: B&W - CSH	Unit: 2	Item: RHFPEND 8
Component Inspected: RH Front Pendant & Between SH Pendant Platens			
Condition Assessment: Scaffold Level 1: There was minor corrosion damage, likely carburization, on the leading edge of assemblies(UT): 24(.148), 26(.140), 28(.143) UT readings were performed at the worst appearing tubes. The damage appeared to be localized to the center of the boiler from the bottom bend up about three feet.			
Recommendations: Schedule at UT survey and monitor status during future outages.			
Criticality: P3			
Risk if NOT Performed: Tube failure if damage worsens.			
EKP Comments:			
Photos: 			

#9 SH Pendant Platens between the SH Division Panels



Date: 05/15/23	Inspected by: B&W ECC	Unit: 2	Item: SHPENDPL 1
Component Inspected: SH Pendant Platens & Between SH Division Panels			
Condition Assessment: Scaffold elevation 5 element 1 & 2: Mechanical damage to the training edge tube. The tube was likely bent during installation. Some tool marking are present in element 2 trailing edge tube. The tube is still in plan with the element.			
Recommendations: When installing sections make sure the elements are properly rigged to prevent damage.			
Criticality: Noted for future inspections			
Risk if NOT Performed:			
EKP Comments:			
Photos: 			

Date: 5/15/23	Inspected by: B&W ECC	Unit: 2	Item: SHPENDPL 2
Component Inspected: SH Pendant Platens & Between SH Division Panels			
Condition Assessment: Scaffold elevation 5: Missing slip spacers between tubes 33 and 34 on element 17.			
Recommendations: Replace slip spacer			
Criticality: P3			
Risk if NOT Performed: Tube could move out of plane with the element providing an area for slag to collect narrowing the side spacing and increasing gas velocity between the tubes.			
EKP Comments:			

Photos:

Date: 05/15/23	Inspected by: B&W ECC	Unit: 2	Item: SHPENDPL 3
Component Inspected: SH Pendant Platens & Between SH Division Panels			
Condition Assessment: Scaffold elevation 4 element 23: Mechanical damage to the training edge tube. The tube was likely bent during installation. Some tool marking are present on the trailing edge tube. The tube is still in plan with the element.			
Recommendations: When installing sections make sure the elements are properly rigged to prevent damage.			
Criticality: Noted for future inspections			
Risk if NOT Performed:			
EKP Comments:			
Photos: 			

Date: 5/15/23	Inspected by: B&W ECC	Unit: 2	Item: SHPENDPL 4
Component Inspected: SH Pendant Platens & Between SH Division Panels			
Condition Assessment: Scaffold elevation 3: Missing slip spacers between tubes 33 and 34 on elements 3, 7, 10, 14, 17 and 21.			
Recommendations: Replace slip spacer			
Criticality: P3			
Risk if NOT Performed: Tube could move out of plane with the element providing an area for slag to collect narrowing the side spacing and increasing gas velocity between the tubes.			
EKP Comments:			

Photos:

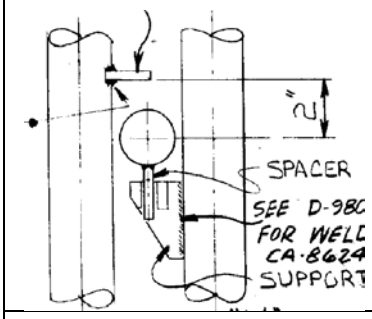
Date: 05/15/23	Inspected by: B&W ECC	Unit: 2	Item: SHPENDPL 5
Component Inspected: SH Pendant Platens & Between SH Division Panels			
Condition Assessment Scaffold Elevation 3: Ties on the wrap-around tube of the element have indications in the welds or missing welds on elements 7 and 21.			
Recommendations: Grind out the indication and weld. Weld areas where the welds are missing.			
Criticality: P3			
Risk if NOT Performed: Tie could fall off. Alignment would be maintained from the slip spacers.			
EKP Comments:			

Photos:

Date: 05/15/23	Inspected by: B&W ECC	Unit: 2	Item: SHPENDPL 6

Component Inspected: SH Pendant Platens & Between SH Division Panels

Condition Assessment: Water cooled spacer tube: The spacer is very worn from contact with the element tube on tubes: 3, 6



Recommendations: Pad weld the water cooled spacer and shield tube 2 of the element. At minimum install a tube shield on the water cooled spacer tube.

Criticality: P1

Risk if NOT Performed: The water cooled spacer tube could fail as wear continues.

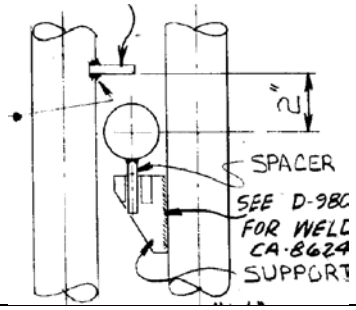
EKP Comments:

Photos:

Date: 05/15/23	Inspected by: B&W ECC	Unit: 2	Item: SHPENDPL 7

Component Inspected: SH Pendant Platens & Between SH Division Panels

Condition Assessment water cooled spacer tube: The spacer is worn from contact with the element tube on tubes: 17



Recommendations: Install a tube shield on the water cooled spacer.

Criticality: P3

Risk if NOT Performed: The water cooled spacer tube could fail as wear continues.

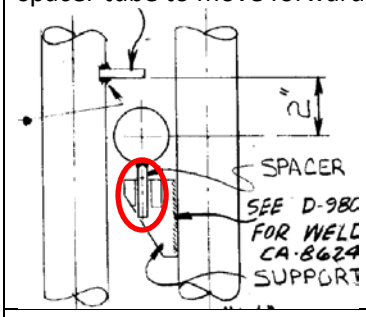
EKP Comments:

Photos:

Date: 05/15/23	Inspected by: B&W	Unit: 2	Item: SHPENDPL 8

Component Inspected: SH Pendant Platens & Between SH Division Panels

Condition Assessment: The clip on the water cooled spacer at elements 19 and 20 is enlarged allowing the spacer tube to move forward past the stop of the base.



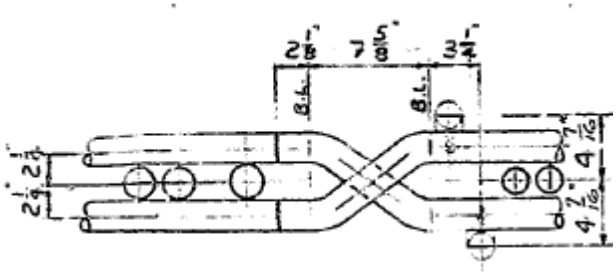
Recommendations: Replace the clip on the spacer tube.

Criticality: P3

Risk if NOT Performed: The spacer tube can move forward and cause fretting with the first tube in the element.

EKP Comments:

Photos:

Date: 05/15/23	Inspected by: B&W ECC	Unit: 2	Item: SHPENDPL 9
Component Inspected: SH Pendant Platens & Between SH Division Panels			
Condition Assessment: The top wrap around tube on element 21 has a gouge at the cross between the pendent superheater and division panel. 			
Recommendations: Pad weld the gouge.			
Criticality: P3			
Risk if NOT Performed: Damage could continue to failure.			
EKP Comments:			
Photos: 			

Date: 05/15/23	Inspected by: B&W ECC	Unit: 2	Item: SHPENDPL 10
Component Inspected: SH Pendant Platens & Between SH Division Panels			
Condition Assessment: Light to moderate corrosion is present on the lower section of the elements on the outer loop.			
Recommendations: Tubes have been cleaned for UT testing above the bend, extend the cleaned area through the bend to the horizontal.			
Criticality: P3			
Risk if NOT Performed: The worst area of corrosion may be missed failing to gather the best data to estimate corrosion rates.			
EKP Comments:			

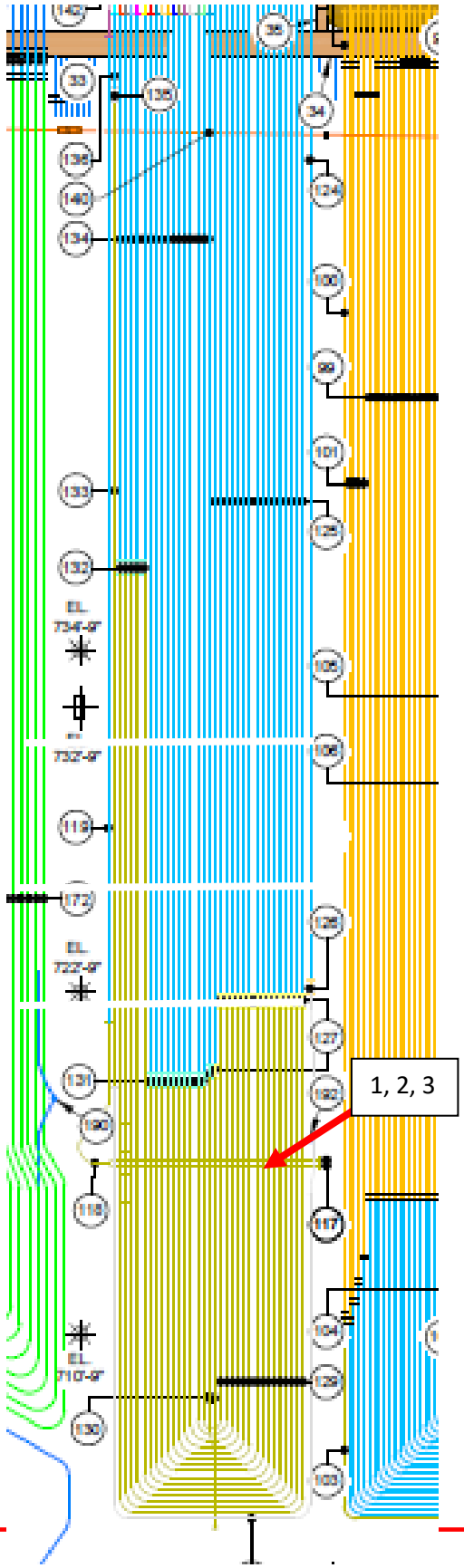
Photos:

Date: 05/15/23	Inspected by: B&W ECC	Unit: 2	Item: SHPENDPL 11
Component Inspected: SH Pendant Platens & Between SH Division Panels			
Condition Assessment: IK 9 & 10 refractory damage and missing throat plate.			
Recommendations: Replace throat plates and refractory.			
Criticality: P3			
Risk if NOT Performed: Damage to sootblower opening sleeve and increased air in leakage.			
EKP Comments:			

Photos:

Date: 05/15/23	Inspected by: B&W ECC	Unit: 2	Item: SHPENDPL 12
Component Inspected: SH Pendant Platens & Between SH Division Panels			
Condition Assessment: The right side furnace pressure tap on scaffold elevation 6 between the division panel and pendent superheat is missing refractory box plate at 4 o'clock.			
Recommendations: Replace the refractory box plate.			
Criticality: P3			
Risk if NOT Performed: Damage to refractory.			
EKP Comments:			

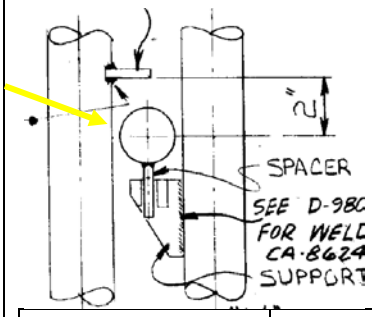
Photos:



Date: 05/22/23	Inspected by: B&W - CSH	Unit: 2	Item: SHPENDPL 1

Component Inspected: SH Pendant Platens & Between SH Division Panels

Condition Assessment: Water cooled spacer tube: The front side of the water-cooled spacer tube is severely worn from contact with the rear side of tube 1 of the pendant platens at the following assemblies.



Assembly	Repair	Priority
3, 20, 21	Padweld WCS, shield front side of WCS & rear side pendant platen tube 1	P1
15, 19	Shield front side of WCS & rear side pendant platen tube 1	P2

Recommendations: Repair per the table above. **WCS tube is 2.00”OD x .200”MW, SA210-A1. Pendant Platen Tube 1 is 2.250”OD x .260”MW, S30432.**

Criticality: P1 & P2

Risk if NOT Performed: The water cooled spacer tube could fail as wear continues.

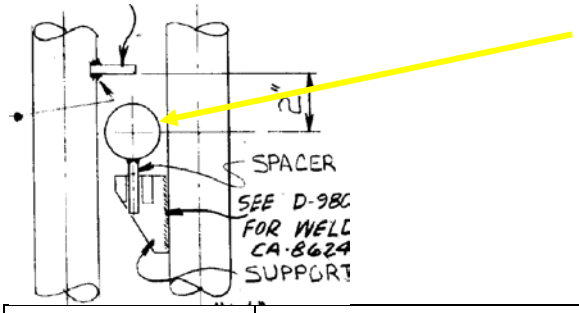
EKP Comments:

Photos:

Date: 05/22/23	Inspected by: B&W - CSH	Unit: 2	Item: SHPENDPL 2

Component Inspected: SH Pendant Platens & Between SH Division Panels

Condition Assessment water cooled spacer tube: The rear side of the water cooled spacer tube is moderately worn from contact with the front side of tube 2 of the pendant platens at the following assemblies.



Assembly	Repair	Priority
6, 8, 10, 11, 14, 17	Padweld WCS, shield rear side of WCS & front side pendant platen tube 2	P2
2, 4, 5, 7, 9, 16	Shield rear side of WCS & front side pendant platen tube 2	P3

Recommendations: Repair per table above. **WCS tube is 2.00”OD x .200”MW, SA210-A1. Pendant Platen Tube 2 is 2.125”OD x .240”MW, SA213TP347H.**

Criticality: P2 & P3

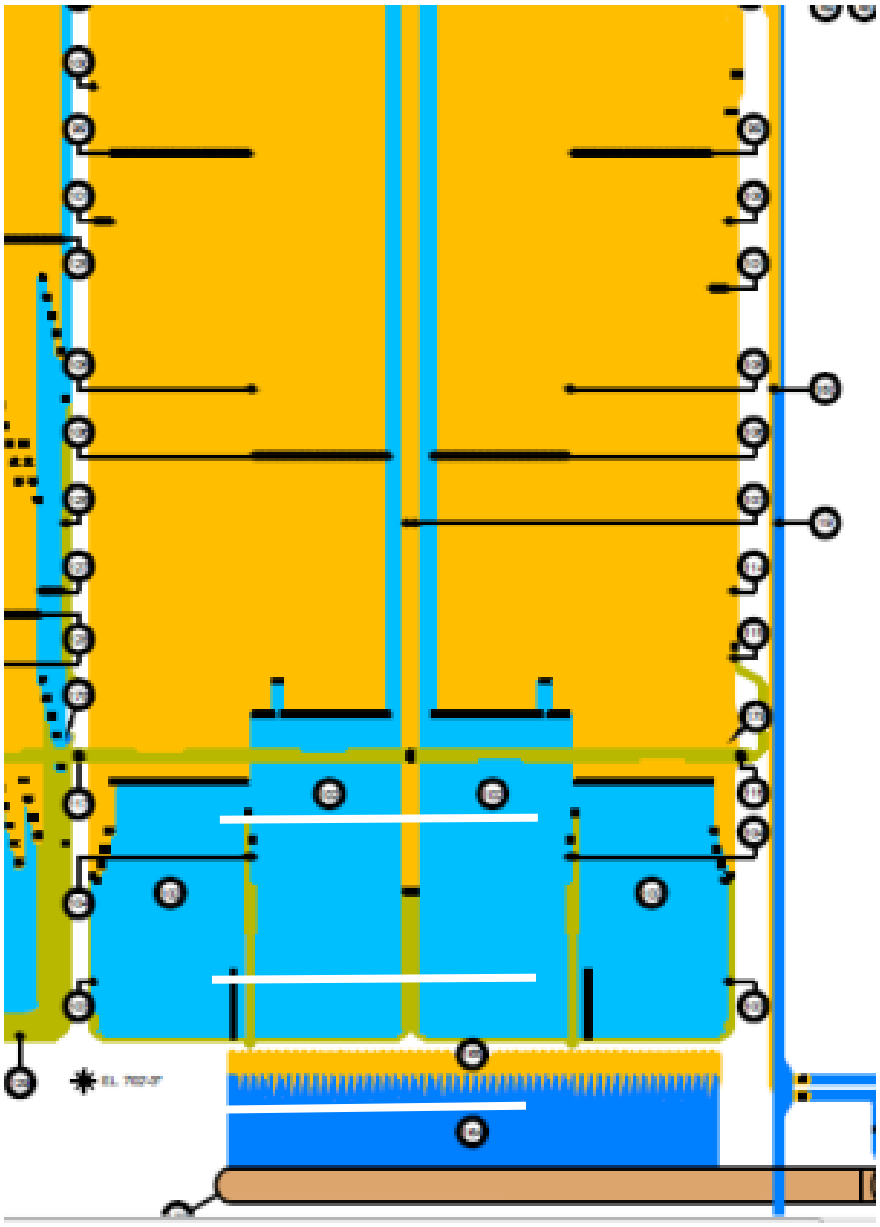
Risk if NOT Performed: The water cooled spacer tube could fail as wear continues.

EKP Comments:

Photos:

Date: 05/23/23	Inspected by: B&W - CSH	Unit: 2	Item: SHPENDPL 3
Component Inspected: SH Pendant Platens & Between SH Division Panels			
Condition Assessment water cooled spacer tube: The WCS tube bends have rubbed against the LHSW & RHSW tubes.			
Recommendations: Install a 24” shield on the WCS tube at each SW. Install two (2) shields on the LHSW tubes and one (1) shield on the RHSW tube, adjacent to the WCS. SW tubes are 2” OD. The WCS is 2” OD.			
Criticality: P2			
Risk if NOT Performed: The water-cooled spacer or side wall tubes could fail as wear continues.			
EKP Comments:			
Photos: 			

#10 SH Division Panels



Date: 05/15/2023	Inspected by: B&W RJP	Unit: 2	Item: SHDIVPAN 1

Component Inspected: SH Division Panels

Condition Assessment: Flex ties were damaged or missing in the following area:

Landing #6
-Front Panel #4, Right-hand side, Pendants 2 & 5.
Landing #4
-Front Panel #6, Right-hand side, Pendant 1.
-Rear Panel #6, Right-hand side, Pendants 8-11.
Landing #3
-Rear Panel #6, Right-hand side, Pendant 78.
-Front Panel #6, Left-hand side, Pendant 4.
-Rear Panel #5, Right-hand side, Pendant 77 & 79.
-Rear Panel #5, Left-hand side, Pendant 77 & 78.
-Rear Panel #4, Right-hand side, Pendant 27.
-Front Panel #4, Right-hand side, Pendant 48 & 68.
Landing #2
-Rear Panel #3, Right-hand side, Pendants 53, 65, 67.
Landing #1
Rear Panel #6, Right-hand side, Pendant 80.
Rear Panel #6, Left-hand side, Pendant 1 & 3.
Rear Panel #5, Right-hand side, Pendant 70 & 76.
Rear Panel #5, Left-hand side, Pendant 2, 74, 76.
Rear Panel #4, Right-hand side, Pendants 70, 74, 76, 78, 79.
Front Panel #4, Right hand side, Pendant 68.
Rear Panel #4, Left hand side, Pendants 62, 64, 71, 72, 74, 75, 76, 78, 79.
Front Panel #4, Left hand side, Pendants 1, 4, 68.

Recommendations: Flex ties should be ground off and replaced.

Criticality: P3

Risk if NOT Performed: Pendants in the panel will veer out of alignment without ties supporting its placement.

EKP Comments:

Photos:

Date: 05/15/2023	Inspected by: B&W RJP	Unit: 2	Item: SHDIVPAN 2
Component Inspected: SH Division Panels, Landing 4, Front Panel #6			
Condition Assessment: Minor to moderate wear was found at the weld of the flex tie on the left-hand side on Pendant 48.			
Recommendations: Monitor condition for future outages.			
Criticality: P3			
Risk if NOT Performed: Wear may result into a damaged clip or pad weld.			
EKP Comments:			

Photos:

Date: 05/15/12023	Inspected by: B&W RJP	Unit: 2	Item: SHDIVPAN 3
Component Inspected: SH Division Panels, Landing #3, Front Panel #5			
Condition Assessment: Moderate to heavy wear from the flex tie rubbing on the left-hand side of Pendant 4.			
Recommendations: Pad weld wear and replace flex ties.			
Criticality: P1			
Risk if NOT Performed: Further material loss will occur and potentially result in a dutchman replacement.			
EKP Comments:			

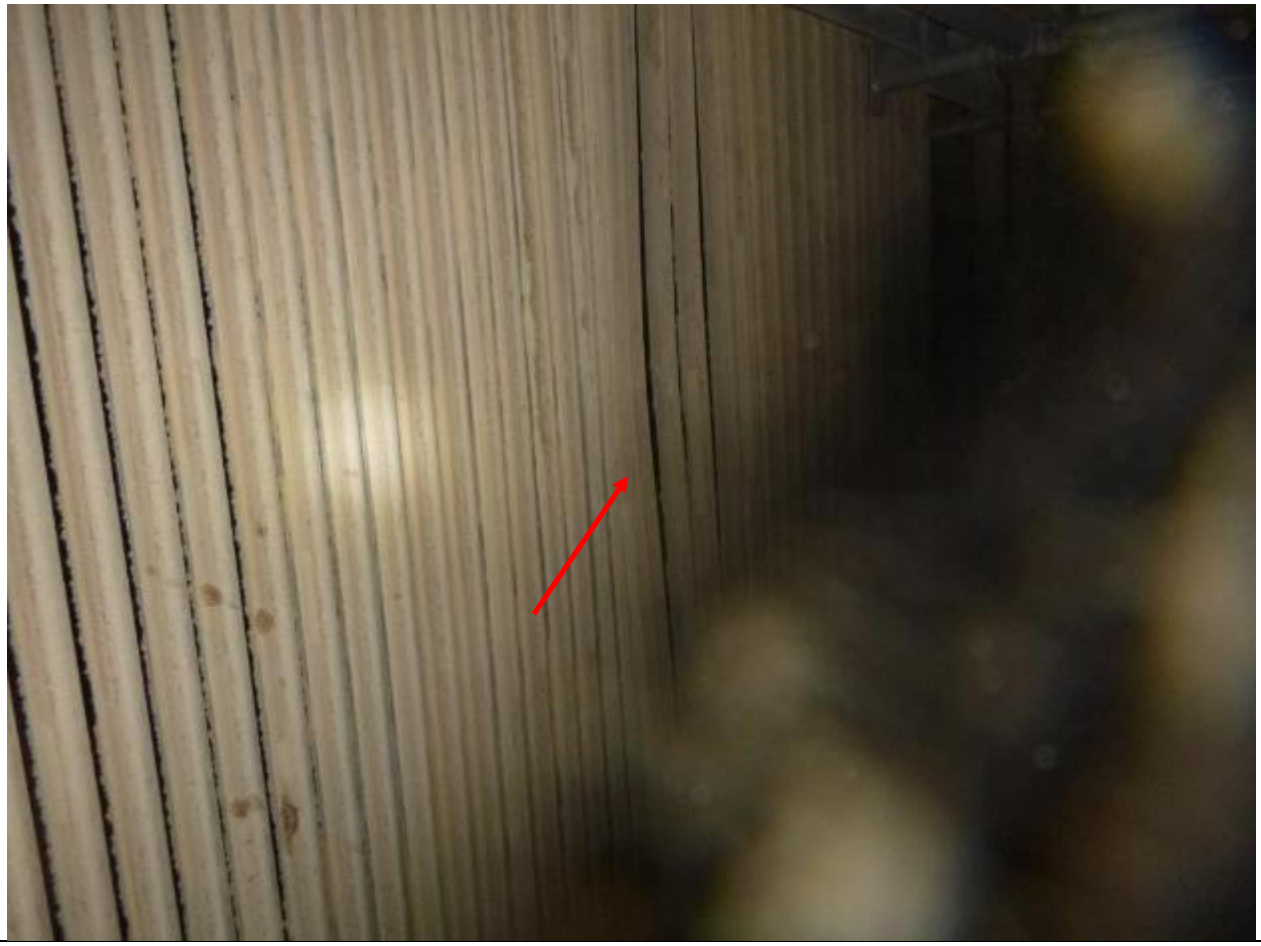
Photos:

Date: 05/15/2023	Inspected by: B&W RJP	Unit: 2	Item: SHDIVPAN 4
Component Inspected: SH Division Panels			
Condition Assessment: Landing #3, Front Panel #5 There was minor to moderate rubbing on the left-hand side of pendant 73 from the flex tie. Landing #6, Rear Panel #6 There was minor to moderate rubbing on pendants Tube 74 and 75 from the flex tie.			
Recommendations: Remove clip and UT for material loss. May result in pad weld.			
Criticality: P2			
Risk if NOT Performed: Further material loss could result in dutchmen if issue persists.			
EKP Comments:			

Photos:

Date: 05/15/2023	Inspected by: B&W RJP	Unit: 2	Item: SHDIVPAN 5
Component Inspected: SH Division Panels, Landing #3, Rear Panel #6			
Condition Assessment: There was moderate bowing at pendants 60-65.			
Recommendations: Monitor condition for future outages.			
Criticality: P3			
Risk if NOT Performed: Pendants may continue bow.			
EKP Comments:			

Photos:



Date: 05/15/2023	Inspected by: B&W RJP	Unit: 2	Item: SHDIVPAN 6
Component Inspected: SH Division Panels, Landing #2, Rear Panel #3			
Condition Assessment: Lower slip spacers were damaged or missing on the right-hand side on pendants 7, 9, 11, 14.			
Recommendations: Replace slip spacers.			
Criticality: P3			
Risk if NOT Performed: The pendants may go out of alignment.			
EKP Comments:			

Photos:

Date: 05/15/2023	Inspected by: B&W RJP	Unit: 2	Item: SHDIVPAN 7
Component Inspected: SH Division Panels, Landing #1, Rear Panel #4			
Condition Assessment: There was a broken alignment lug at the center of the panel.			
Recommendations: Repair weld the broken lug.			
Criticality: P3			
Risk if NOT Performed: Tube misalignment.			
EKP Comments:			

Photos:

Date: 5/15/2023	Inspected by: B&W BC	Unit: 2	Item: SHDIVPAN 8
Component Inspected: SH Division Panels			
Condition Assessment: Scaffold Level 2**:** The wrap around tube at the front panel of assembly 1 was bent away from the panel on the LHS and bent downward on the RHS of the panel. SCS wrap around tube: SA213-TP347-H, 2.00” OD, .240” MW and BIFURCATES at Front			
Recommendations: Replace the wraparound tube from the bifurcate to crossover at the rear of the front panel.			
Criticality: P3			
Risk if NOT Performed: Division panel tubes will be able to move more than designed and wear on the damaged wrap around tube.			
EKP Comments:			

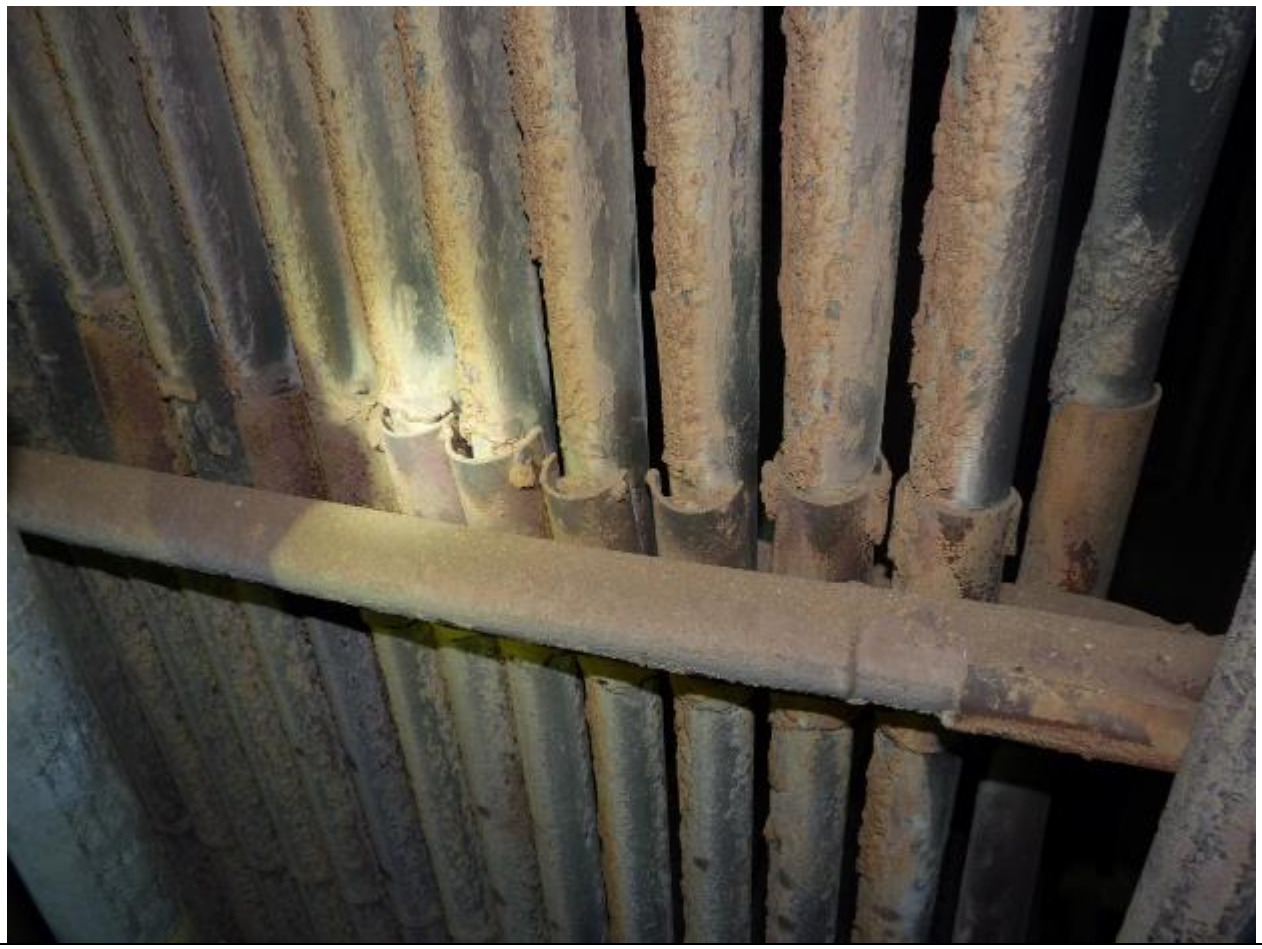
Photos:

Date: 05/15/2023	Inspected by: B&W BC	Unit: 2	Item: SHDIVPAN 9
Component Inspected: SH Division Panels			
Condition Assessment: Scaffold Level 2: The lower bumper wear sleeves have cracked in multiple locations			
Recommendations: V out the crack with a burr bit, weld the crack and grind the sleeve face flush. **NOTE: Material of sleeve is unknown. Prior to welding determine material so a proper weld procedure can be used to prevent damage/cracking of the sleeve.**			
Criticality: P3			
Risk if NOT Performed: Crack could grow, the sleeve could fail, and the tube could be left unprotected/susceptible to mechanical erosion.			
EKP Comments:			

Photos:

Date: 05/15/2023	Inspected by: B&W BC	Unit: 2	Item: SHDIVPAN 10
Component Inspected: SH Division Panels			
Condition Assessment: Scaffold Level 2: Loose tube shields on the RHS of the Rear tube panel on tubes 72-80. It is possible the shield has fallen from the spacer tube elevation.			
Recommendations: Remove the shield or Repair tube shields			
Criticality: P3			
Risk if NOT Performed: Shield could rub into neighboring tubes.			
EKP Comments:			

Photos:



#11 Radiant RH & Upper Furnace

Date: 5/15/2023	**Inspected by: B&W - CSH**	**Unit: 2**	**Item: RADRHT 1**

Component Inspected: Radiant Reheater & Upper Furnace/Dance Floor

Condition Assessment: Scaffold Level 7**:**

A. The first 10 roof tubes from the LHSW were sagging down approximately 12”.
B. The first 6 roof tubes from the RHSW were sagging down approximately 4”.
C. The first 2 tubes on the LHS of division panel 3 were sagging down approximately 2”.
D. The first tube on the LHS of division panel 4 was sagging down approximately 2”.

All areas listed above were sagging down from the FW to the front of the SH Pendant Platens.

Recommendations: Continue to monitor.

Criticality: Information only.

Risk if NOT Performed:

EKP Comments:

Photos:

Date: 5/15/2023	Inspected by: B&W -CSH	Unit: 2	Item: RADRHT 2
Component Inspected: Radiant Reheater & Upper Furnace/Dance Floor			
Condition Assessment: Scaffold Dancefloor Level -**:** There was minor refractory damage at the radiant reheat inlet penetrations. There were portions missing at the FW and LHSW.			
Recommendations: Remove loose refractory and install new at the one location.			
Criticality: P3			
Risk if NOT Performed: The wall seal will continue to deteriorate.			
EKP Comments:			

Photos:

#12 Waterwalls

NOTE: The scaffold levels are numbered from the dancefloor (Level 0) down.

Date: 5/16/2023	**Inspected by: B&W**	**Unit: 2**	**Item: WW 1**
Component Inspected: Water Walls			
Condition Assessment: There was damaged refractory at most IR openings. LHSW: 1-5, 23-27, 45-49, 67, 69 – 71, 89 - 93 RW: 6-11, 28-33, 50-55, 72-77, 95-99 RHSW: 12-16, 34-38, 56-60, 78-80, 82, 101-104 FW: 17-22, 39-40, 42-44, 61-66, 83-84, 86-87, 105-110			
Recommendations: Apply refractory.			
Criticality: P3			
Risk if NOT Performed: If the wallboxes are missing refractory, slag will build further back into the wall boxes and slag covered wall boxes limit the operation of the IR's. Therefore, limiting the cleaning of the waterwall tubes.			
EKP Comments:			
Photos: 			

Date: 5/16/2023	Inspected by: B&W	Unit: 2	Item: WW 2
Component Inspected: Water Walls			
Condition Assessment: RW Scaffold Level 7 – The wall box sleeves at IRs 29 and 33 have warped into the nozzles insertion path and are rubbing the nozzles when they insert.			
Recommendations: Replace the damaged sleeves or salvage the warped sleeves by trimming the existing sleeve so it won't rub the IR while it is inserting into the furnace.			
Criticality: P3			
Risk if NOT Performed: Premature nozzle failure or it may prevent the nozzle from inserting into the furnace.			
EKP Comments:			

Photos:

Date: 5/16/2023	Inspected by: B&W	Unit: 2	Item: WW 3
Component Inspected: Water Walls			
Condition Assessment: LHSW Scaffold Level 6: There was a hole in the nozzle at IR 46.			
Recommendations: Replace the IR nozzle.			
Criticality: P3			
Risk if NOT Performed: IF the nozzle tip fails, slag will build up because the IR cannot effectively clean the wall because it is blowing straight into the furnace.			
EKP Comments:			

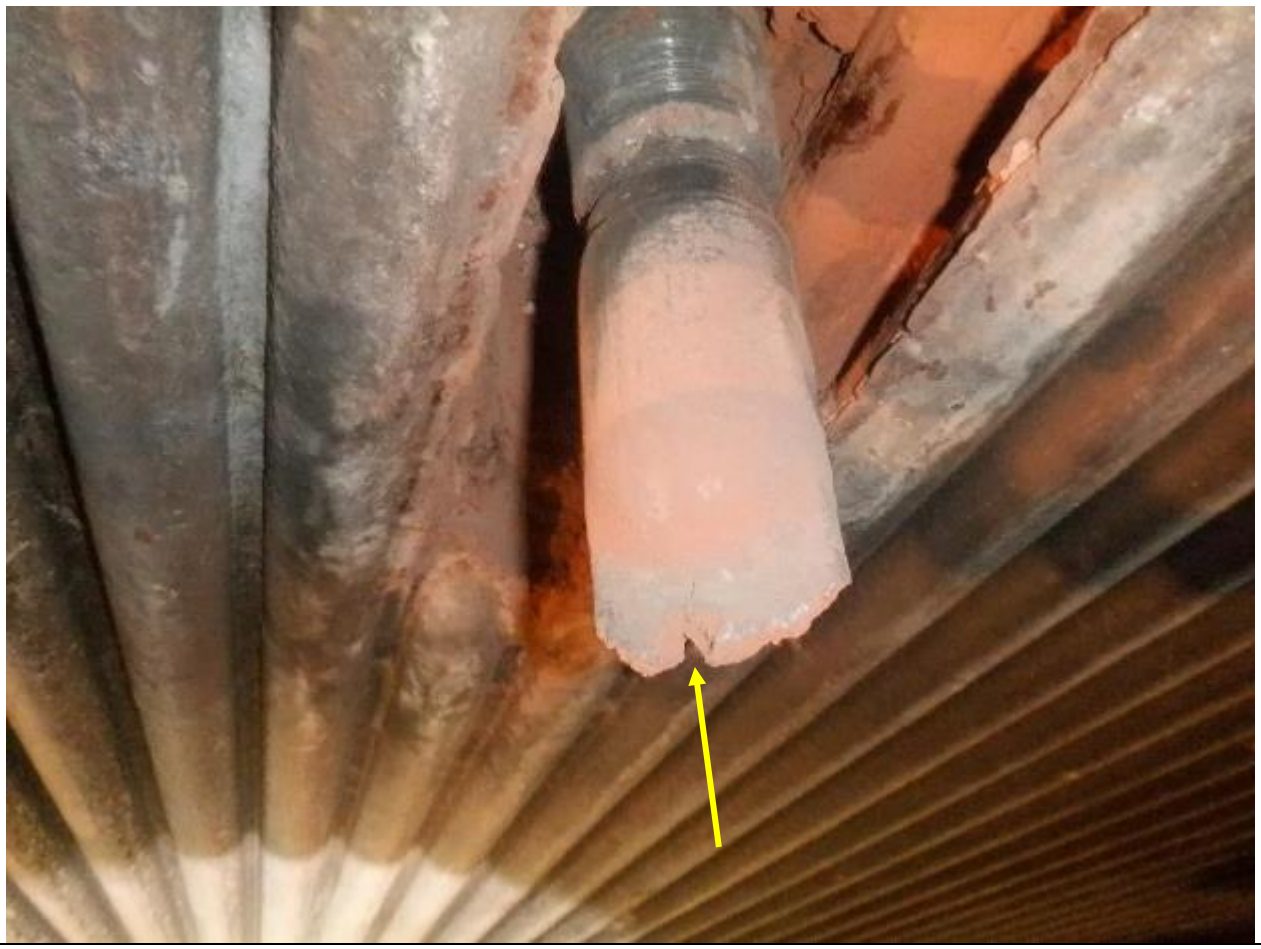
Photos:

Date: 5/16/2023	Inspected by: B&W	Unit: 2	Item: WW 4
Component Inspected: Water Walls			
Condition Assessment: FW Scaffold Level 4: The sleeve of IR 87 was plugged.			
Recommendations: Clean the debris from the IR sleeve and inspect the IR nozzle.			
Criticality: P3			
Risk if NOT Performed: IR lance could be damaged and can't be seen.			
EKP Comments:			

Photos:

Date: 5/16/2023	Inspected by: B&W	Unit: 2	Item: WW 5
Component Inspected: Water Walls			
Condition Assessment: RW and RHSW Scaffold Level 7: The slag buster points were cracked at IR 30 (RW) and IR 36 (RHSW).			
Recommendations: Replace the IR nozzle.			
Criticality: P3			
Risk if NOT Performed: If the cracked protrudes and the nozzle tip fails, slag will build up because the IR cannot effectively clean the wall because it is blowing straight into the furnace.			
EKP Comments:			

Photos:



Date: 5/16/2023	**Inspected by: B&W**	**Unit: 2**	**Item: WW 6**

Component Inspected: Water Walls

Condition Assessment: FW & LHSW Scaffold Level 2: There was minor sootblower erosion at the following locations.

Wall	IR#	Tube(**L**eft or **R**ight of blower)	Repair
LHSW	91	2(L)	Padweld 1”x6” (UT .176”)
LHSW	93	5(L)	Padweld 1”x6” (UT not accessible, localized pit at the end of an existing padweld)
FW	109	2 (R)	Padweld 2”x6” (UT .190”)

Recommendations: Install padwelds per table above.

Criticality: P3

Risk if NOT Performed: If erosion continues, tube failures could occur.

EKP Comments:

Photos:

Date: 5/16/2023	**Inspected by: B&W**	**Unit: 2**	**Item: WW 7**

Component Inspected: Water Walls

Condition Assessment: There was minor refractory damage at the following observation door locations.

Wall	Location	Scaffold Elevation
LHSW	At FW and RW corners	7
FW	At RHSW corner	10
RW	At RHSW and LHSW corners	10
RW	At RHSW corner	13

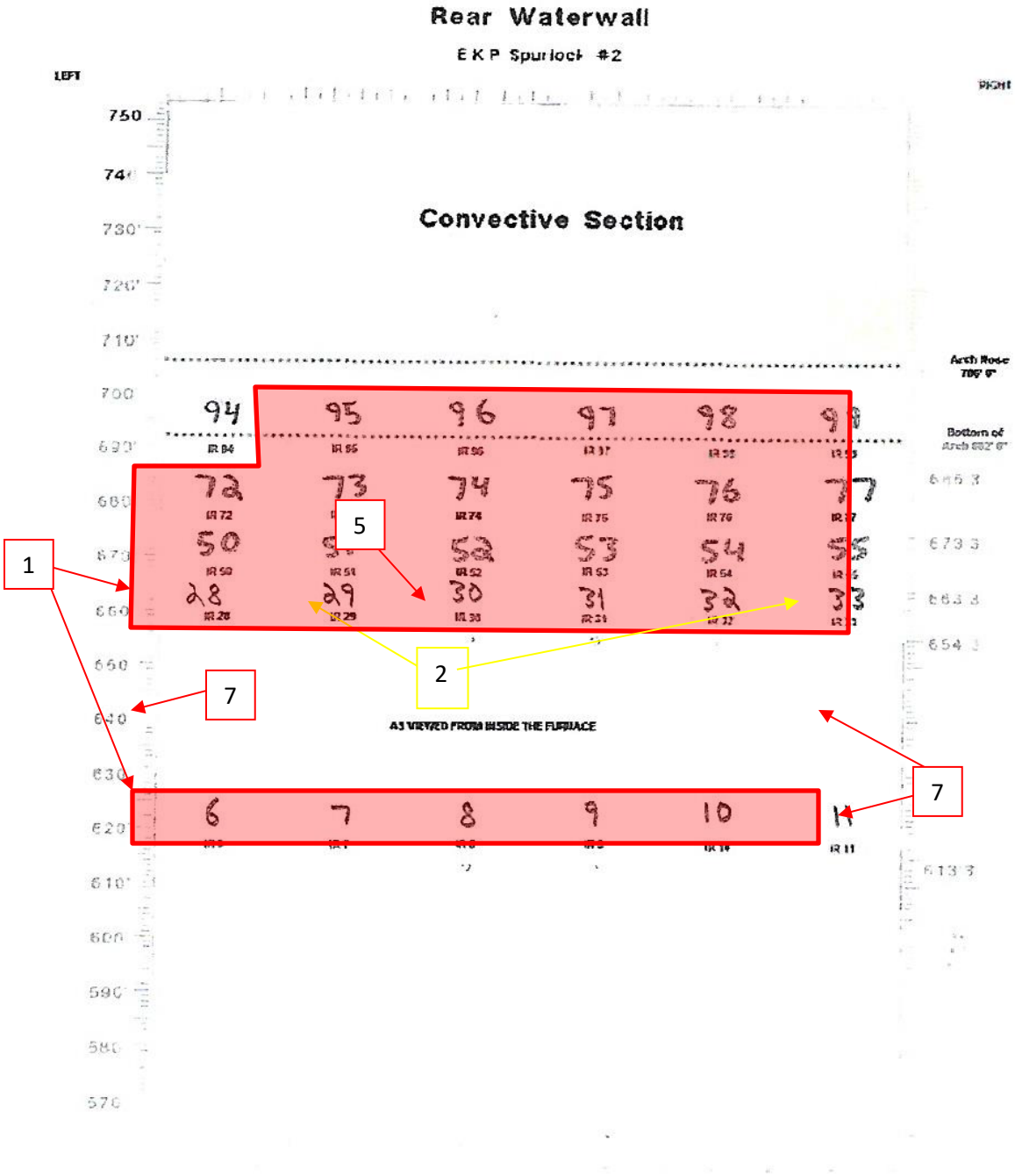
Recommendations: Replace the refractory.

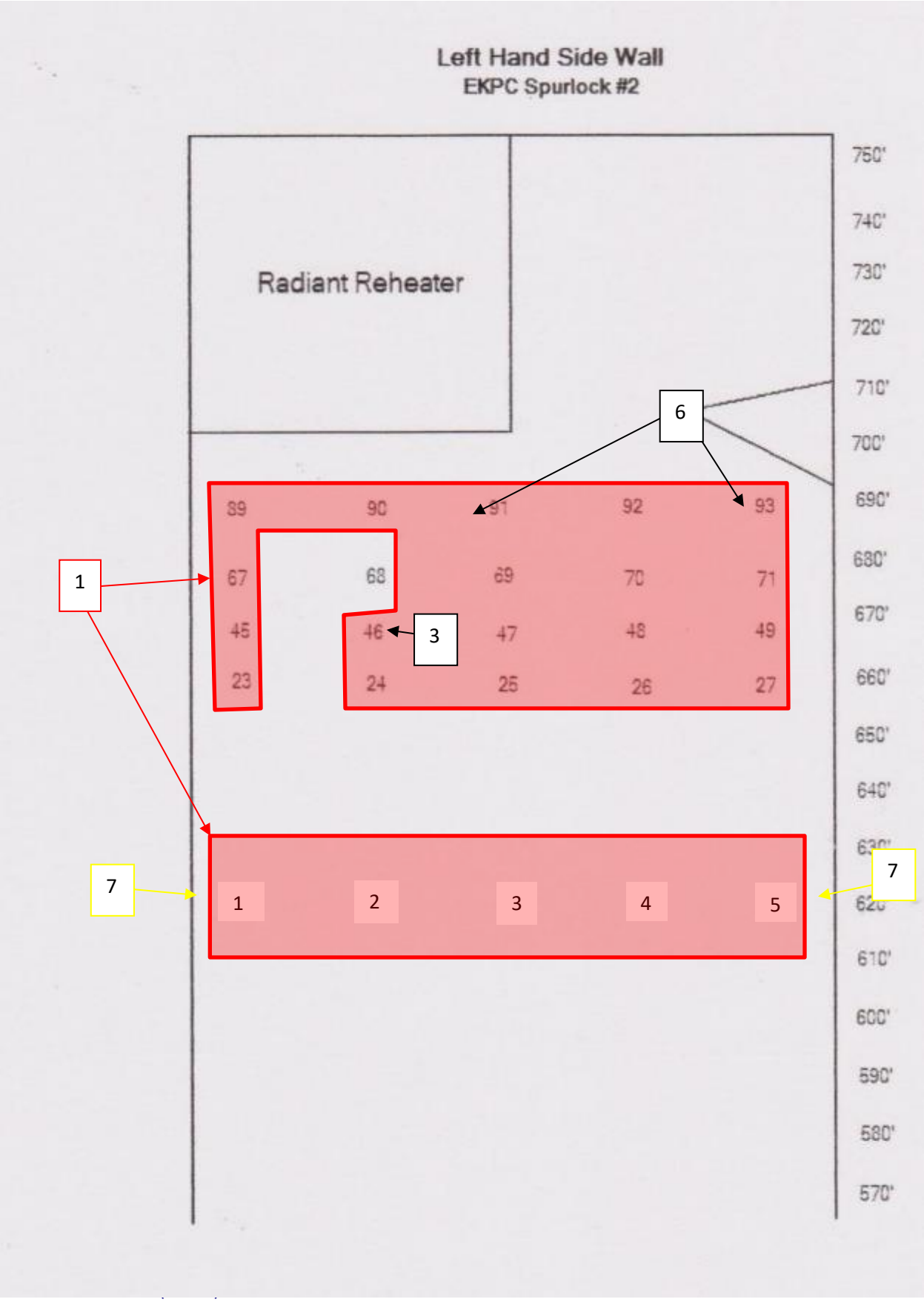
Criticality: P3

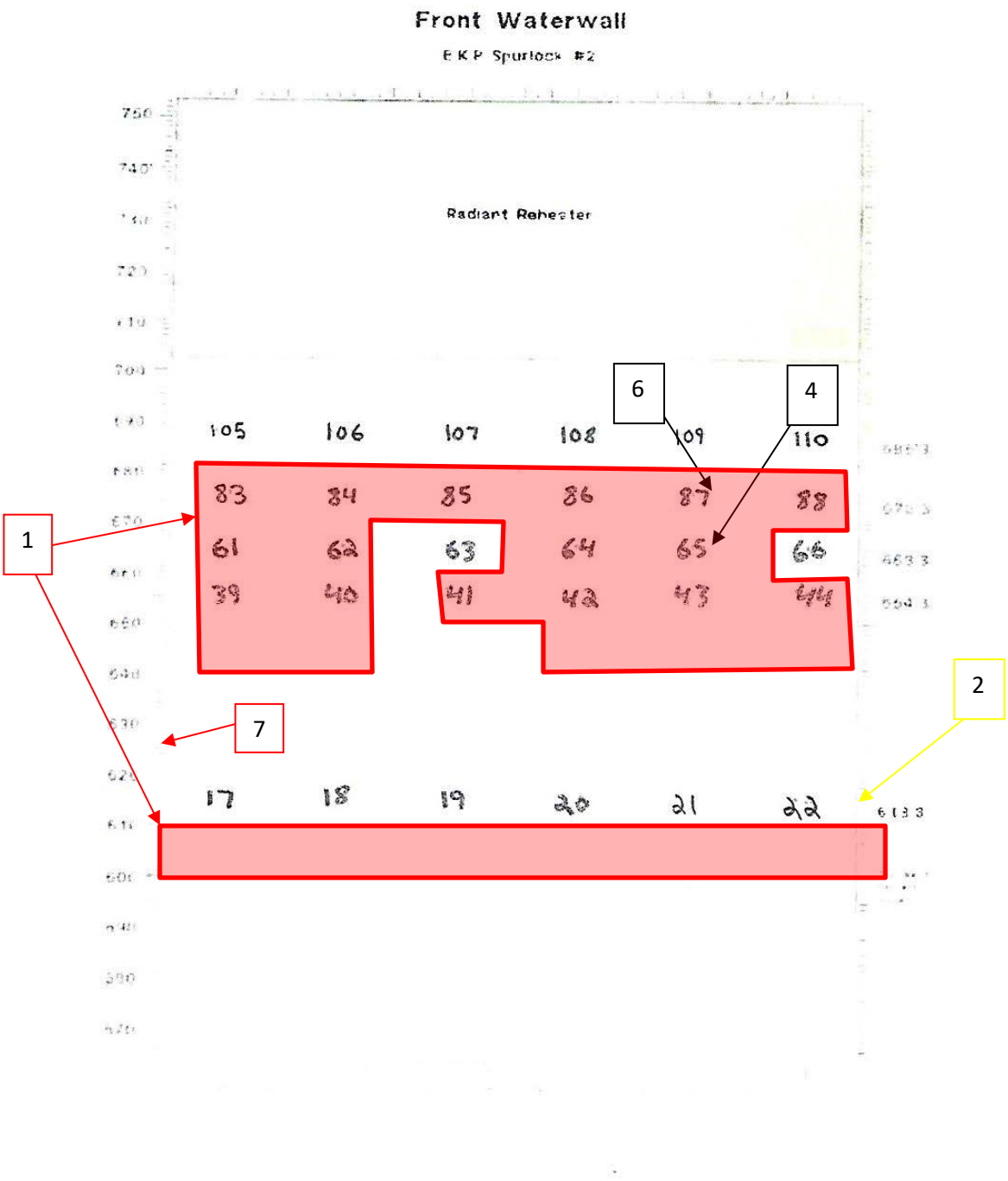
Risk if NOT Performed: Refractory will continue to deteriorate and could overheat the wallbox.

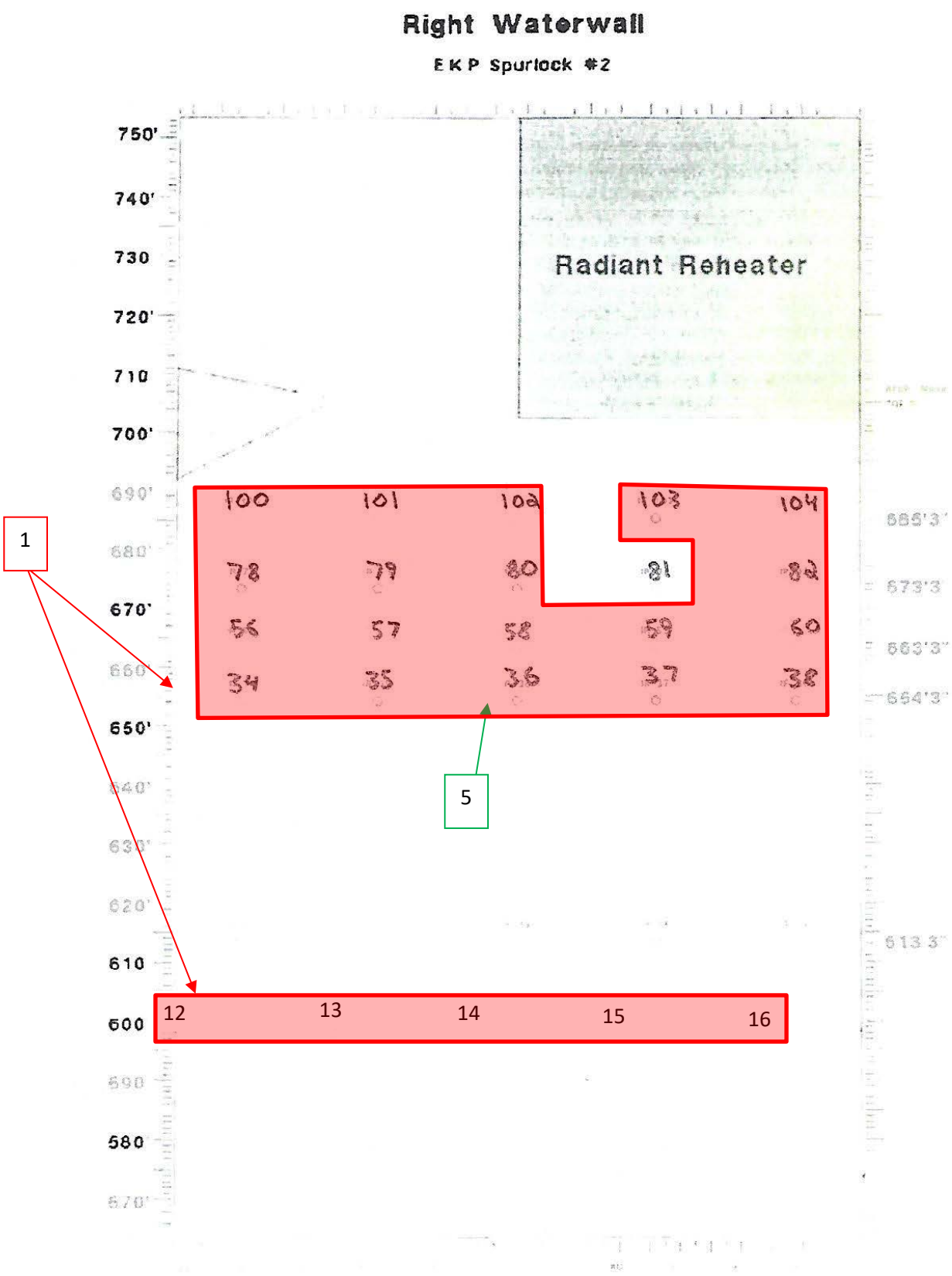
EKP Comments:

Photos:

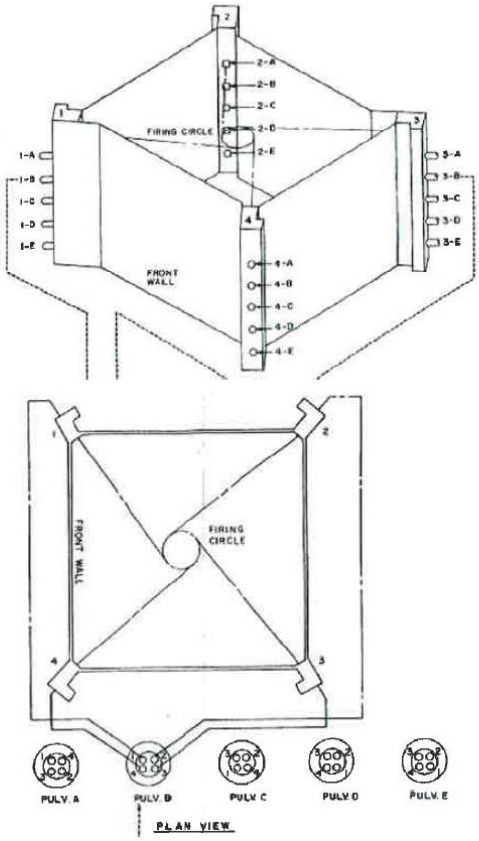


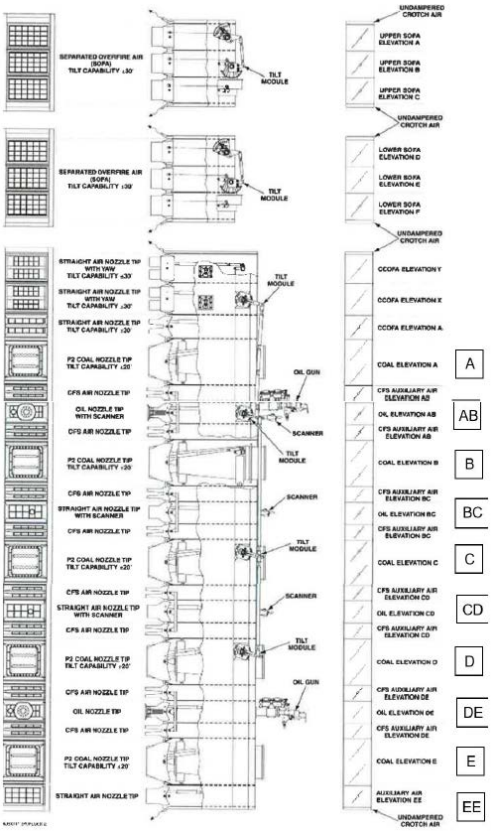






#13 Burners





Date: 5/19/23	**Inspected by: B&W**	**Unit: 2**	**Item: Burner 1**
Component Inspected: Burner 1 A			
Condition Assessment: Distortion on the upper seal plate.			
Recommendations: Monitor			
Criticality: P3			
Risk if NOT Performed: Sec air bypassing the burner.			
EKP Comments:			

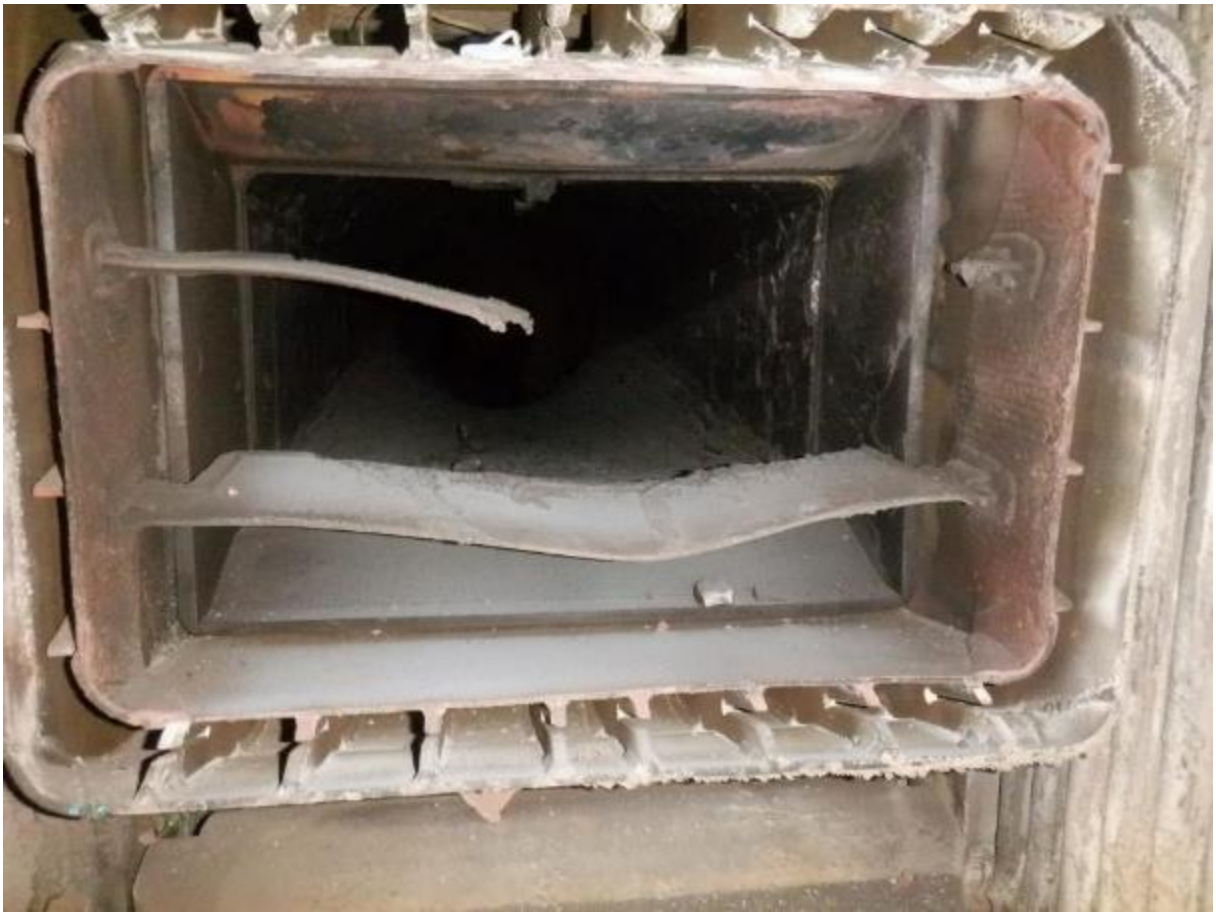
Photos:

Date: 5/19/2023	Inspected by: B&W	Unit: 2	Item: Burner 2
Component Inspected: CPS Lower and Lower All elevations			
Condition Assessment: The right corners of the top and bottom nozzles are distorted.			
Recommendations: Monitor			
Criticality: P3			
Risk if NOT Performed: Further distortion			
EKP Comments:			

Photos:

Date: 5/19/2023	**Inspected by: B&W**	**Unit: 2**	**Item: Burner 3**
Component Inspected: 1B Burner			
Condition Assessment: Burner splitter plates are damaged.			
Recommendations: Replace the burner tip			
Criticality: P2			
Risk if NOT Performed: Coal stream will not be distributed properly and combustion performance will degrade.			
EKP Comments:			

Photos:



Date: 5/19/2023	Inspected by: B&W	Unit: 2	Item: Burner 4
Component Inspected: 1C& 1E Ignitor			
Condition Assessment: Deformation in the ignitor housing			
Recommendations: Repair the cracks and check the width to ensure the spark rod can insert.			
Criticality: P3			
Risk if NOT Performed: Deformation may worsen and compromise ignitor reliability.			
EKP Comments:			

Photos:

Date: 5/19/2023	Inspected by: B&W	Unit: 2	Item: Burner 5
Component Inspected: 1E Burner			
Condition Assessment: The lower portion of the burner is warped up into the burner.			
Recommendations: Replace the burner tip. If not replacing, replace splitter plates and straighten the bottom of the tip and weld to the stiffeners on the bottom of the plate.			
Criticality: P2			
Risk if NOT Performed: The distortion reduces the coal free flow area and opens the air anulus both changing the combustion characteristics of the burner.			
EKP Comments:			

Photos:

Date: 05/19/2023	Inspected by: B&W RJP	Unit: 2	Item: BURNERS 6
Component Inspected: Corner 2 Burners			
Condition Assessment: Above 2CCOFA Elevation Y refractory was missing and a hole in the upper crotch plate.			
Recommendations: Install new crotch plate and refractory.			
Criticality: P3			
Risk if NOT Performed: Potential for continued damage and windbox to furnace leakage.			
EKP Comments:			

Photos:

Date: 05/19/2023	Inspected by: B&W RJP	Unit: 2	Item: BURNERS 7
Component Inspected: Corner 2 Burners			
Condition Assessment: There was a bent plate at the spark rod penetration at the oil nozzle tip, oil elevation 2AB.			
Recommendations: Repair the ignitor housing to allow smooth operation of the spark rod.			
Criticality: P2			
Risk if NOT Performed: The spark rod may be prevented from properly inserting and lighting the ignitor.			
EKP Comments:			
Photos:			

Date: 5/15/2023	**Inspected by: BC**	**Unit: 2**	**Item: Burner 8**
Component Inspected: B3			
Condition Assessment: Splitter plates were found missing and debris has collected in the burner opening			
Recommendations: Replace the burner tip. If not replacing, replace splitter plates and straighten the bottom of the tip and weld to the stiffeners on the bottom of the plate.			
Criticality: P2			
Risk if NOT Performed: Burner fires.			
EKP Comments:			
Photos: 			

Date: 5/19/2023	Inspected by: B&W	Unit: 2	Item: BURNERS 9
Component Inspected: Burners – Corner 4			
Condition Assessment: 4E burner was severely warped at the bottom and the bottom splitter plate was missing a large portion.			
Recommendations: Replace the burner. If not replacing, replace splitter plates and straighten the bottom of the tip and weld to the stiffeners on the bottom of the plate.			
Criticality: P2			
Risk if NOT Performed: Burner fire.			
EKP Comments:			

Photos:

Date: 5/19/2023	Inspected by: B&W -CSH	Unit: 2	Item: BURNERS 10
Component Inspected: Burners – Corner 4			
Condition Assessment: There were cracks in most of the CFS, SOFA, existing burner parts. See the following sheet for locations and sizes of weld repairs.			
Recommendations: Weld the cracks. New plates may be required to straighten the tips.			
Criticality: P2			
Risk if NOT Performed: Burner parts will fail prematurely.			
EKP Comments:			

Photos:

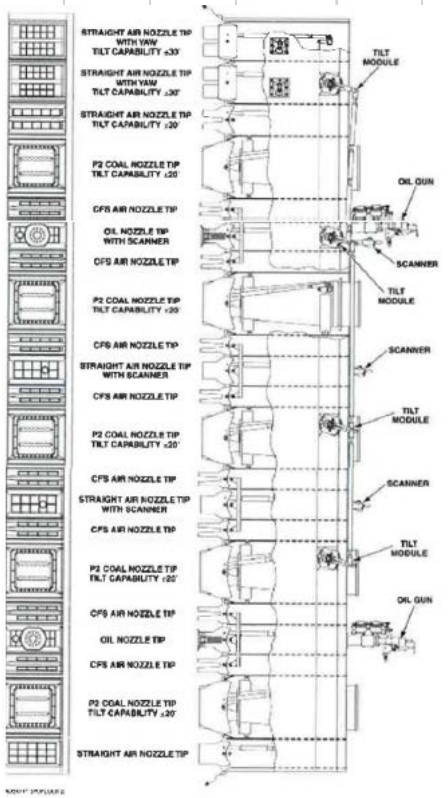
Date: 5/19/2023	Inspected by: B&W	Unit: 2	Item: BURNERS 11
Component Inspected: 4B Ignitor			
Condition Assessment: Fuel oil was dripping from the main ignitor.			
Recommendations: Verify LOTO and that investigate if oil is leaking by.			
Criticality: P3			
Risk if NOT Performed: Fuel oil leaking into the furnace.			
EKP Comments:			
Photos: 			

Date: 5/19/2023	Inspected by: B&W	Unit: 2	Item: BURNERS 12
Component Inspected: Burner TCs			
Condition Assessment: The burner TCs were not attached to the burner tips at burners: 4A, 2A, & 1A			
Recommendations: Reweld the TCs to the burner tips.			
Criticality: P3			
Risk if NOT Performed: False burner temps at tips.			
EKP Comments:			
Photos: 			

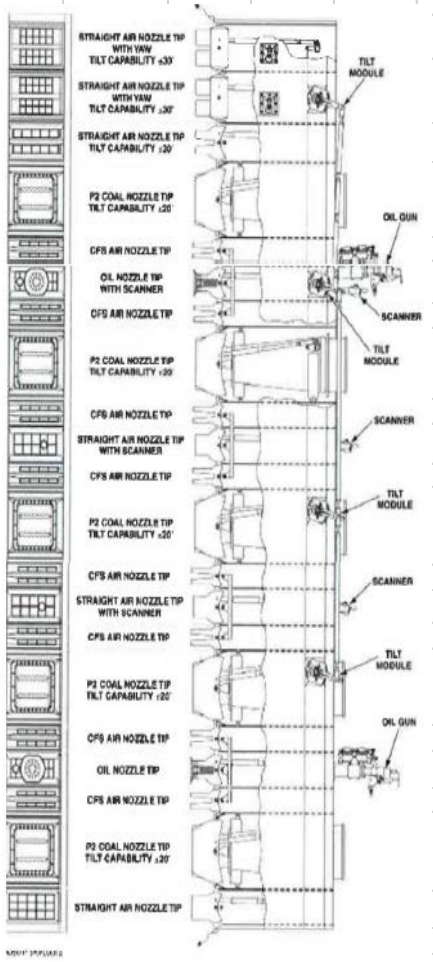
Date: 5/19/2023	Inspected by: B&W -CSH	Unit: 2	Item: BURNERS 13
Component Inspected: Burners – All Corners			
Condition Assessment: There were cracks in most of the CFS, SOFA, existing burner parts. See the following sheet for locations and sizes of weld repairs.			
Recommendations: Weld the cracks. New plates may be required to straighten the tips.			
Criticality: P2			
Risk if NOT Performed: Burner parts will fail prematurely.			
EKP Comments:			

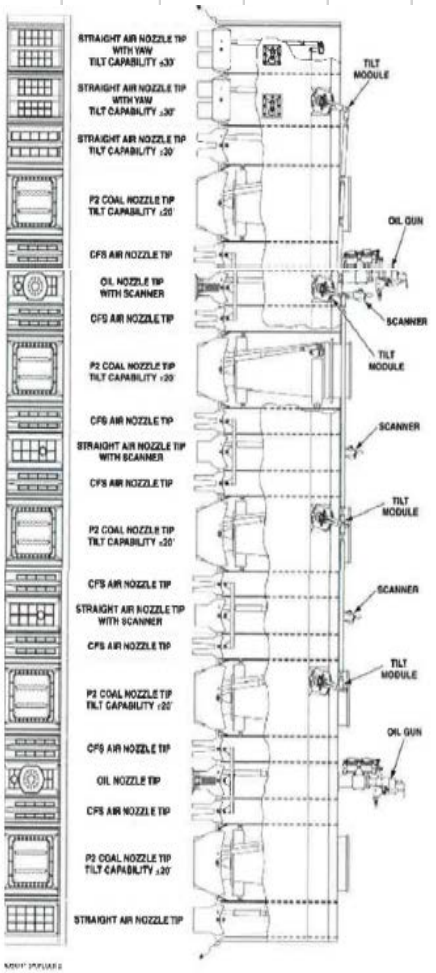
Photos:

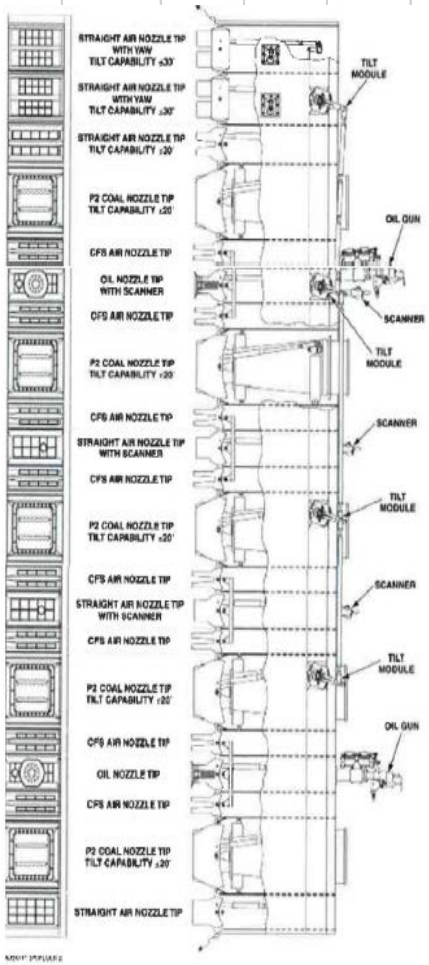
Date	5/19/2023	
Corner	1	



		Crack Length (inches)									
		0.25	0.5	0.75	1	2	3	4	5	6	
CCOFA	Y		3						2		
CCOFA	X	13	3		3						
CCOFA	AA	13	2		1	1					
A1 COAL NOZZLE	A				9		2				
CFS AIR NOZZLE TIP - UPPER	AB		2		5	1				2	
OIL NOZZLE TIP	AB		3			1					
OFA AIR NOZZLE TIP - LOWER	AB	2				6		2			
B1 COAL NOZZLE	B		1							2	
CFS AIR NOZZLE TIP - UPPER	BC					8		1	1		
STRAIGHT AIR NOZZLE TIP	BC	6	1			1					
CFS AIR NOZZLE TIP - LOWER	BC	6			1	1					
C1 COAL NOZZLE	C	REPLACED 2023 OUTAGE									
CFS AIR NOZZLE TIP - UPPER	CD	2			1						
STRAIGHT AIR NOZZLE TIP	CD		4								
CFS AIR NOZZLE TIP - LOWER	CD		2			1	7				
D1 COAL NOZZLE	D						1		1		
CFS AIR NOZZLE TIP - UPPER	DE				2						
OIL NOZZLE TIP	DE										
CFS AIR NOZZLE TIP - LOWER	DE										
E1 COAL NOZZLE	E										
STRAIGHT AIR NOZZLE TIP	EE		5			6					
Lower plate								1			
Total Cracks		42	26	0	22	26	10	3	4	4	
Linear Inches Crack		10.5	13	0	22	52	30	12	20	24	**183.5**

Date	5/19/2023														
Corner	2														
						Crack Length (inches)									
						0.25	0.5	0.75	1	2	3	4	5	6	
			CCOFA	Y		1		1		3	1			
			CCOFA	X										
			CCOFA	AA										
			A2 COAL NOZZLE	A						1				
			CFS AIR NOZZLE TIP - UPPER	AB					2	2	1			
			OIL NOZZLE TIP	AB					1					
			OFA AIR NOZZLE TIP - LOWER	AB						1	3			
			B2 COAL NOZZLE	B		1		5	2	1				
			CFS AIR NOZZLE TIP - UPPER	BC		1		4	4	1				
			STRAIGHT AIR NOZZLE TIP	BC				1	2					
			CFS AIR NOZZLE TIP - LOWER	BC		1		3	1	2				
			C2 COAL NOZZLE	C	REPLACED 2023 OUTAGE									
			CFS AIR NOZZLE TIP - UPPER	CD				1	2	1				
			STRAIGHT AIR NOZZLE TIP	CD		1		1	2					
			CFS AIR NOZZLE TIP - LOWER	CD				2	2	1				
			D2 COAL NOZZLE	D					1					
			CFS AIR NOZZLE TIP - UPPER	DE		1		3	2					
			OIL NOZZLE TIP	DE										
			CFS AIR NOZZLE TIP - LOWER	DE				1	2					
			E2 COAL NOZZLE	E										
			STRAIGHT AIR NOZZLE TIP	EE										
			Total Cracks		0	6	0	25	24	13	1	0	0	
			Linear Inches Crack		0	3	0	25	48	39	4	0	0	**119**

Date	5/19/2023												
Corner	3												
				Crack Length (inches)									
				0.25	0.5	0.75	1	2	3	4	5	6	
		CCOFA	Y					2					
		CCOFA	X		5		2		1				
		CCOFA	AA										
		A3 COAL NOZZLE	A						7				
		CFS AIR NOZZLE TIP - UPPER	AB						3			1	
		OIL NOZZLE TIP	AB						5				
		OFA AIR NOZZLE TIP - LOWER	AB			4	4					1	
		B3 COAL NOZZLE	B						4				
		CFS AIR NOZZLE TIP - UPPER	BC						8				
		STRAIGHT AIR NOZZLE TIP	BC				4						
		CFS AIR NOZZLE TIP - LOWER	BC							5			
		C3 COAL NOZZLE	C							1			
		CFS AIR NOZZLE TIP - UPPER	CD					7					
		STRAIGHT AIR NOZZLE TIP	CD				1						
		CFS AIR NOZZLE TIP - LOWER	CD										
		D3 COAL NOZZLE	D	REPLACED 2023 OUTAGE									
		CFS AIR NOZZLE TIP - UPPER	DE										
		OIL NOZZLE TIP	DE										
		CFS AIR NOZZLE TIP - LOWER	DE										
		E3 COAL NOZZLE	E	REPLACED 2023 OUTAGE									
		STRAIGHT AIR NOZZLE TIP	EE										
		Total Cracks		0	5	4	11	9	28	6	0	2	
		Linear Inches Crack		0	2.5	3	11	18	84	24	0	12	**154.5**

Date	5/19/2023														
Corner	4						Crack Length (inches)								
						0.25	0.5	0.75	1	2	3	4	5	6	
		CCOFA	Y			8									
		CCOFA	X				16								
		CCOFA	AA		5		2								
		A4 COAL NOZZLE	A				1	4							
		CFS AIR NOZZLE TIP - UPPER	AB				10			1					
		OIL NOZZLE TIP	AB												
		OFA AIR NOZZLE TIP - LOWER	AB				2	15							
		B4 COAL NOZZLE	B	REPLACED 2023 OUTAGE											
		CFS AIR NOZZLE TIP - UPPER	BC				5								
		STRAIGHT AIR NOZZLE TIP	BC			7									
		CFS AIR NOZZLE TIP - LOWER	BC				3	10							
		C4 COAL NOZZLE	C	REPLACED 2023 OUTAGE											
		CFS AIR NOZZLE TIP - UPPER	CD												
		STRAIGHT AIR NOZZLE TIP	CD												
		CFS AIR NOZZLE TIP - LOWER	CD				3	5							
		D4 COAL NOZZLE	D						1						
		CFS AIR NOZZLE TIP - UPPER	DE												
		OIL NOZZLE TIP	DE												
		CFS AIR NOZZLE TIP - LOWER	DE												
		E4 COAL NOZZLE	E												
		STRAIGHT AIR NOZZLE TIP	EE				4	8							
		Total Cracks		0	5	15	46	42	1	1	0	0			
		Linear Inches Crack		0	2.5	11.25	46	84	3	4	0	0	**150.75**		

#14 Coutant Slopes

Date: 5/16/2023	**Inspected by: B&W - CSH**	**Unit: 2**	**Item: CSLOPES 2**

Component Inspected: Coutant Slopes

Condition Assessment: Front Slope - Gouges were discovered at the following locations from the bottom of the slope.

Tube #	Height (Feet) From Nose of Slope	Priority
59	4”	3
61	4’	3
158	4’	3
212	6’	3

Recommendations: Grind smooth and install light pad welds over gouges. Slope tubes are 2.00”OD x .220:MW SA210-A1

Criticality: P3

Risk if NOT Performed: Tube leaks if erosion or another gouge occurs at the existing thinner locations.

EKP Comments:

Photos:

Date: 5/16/23	**Inspected by: B&W ECC**	**Unit: 2**	**Item: CSLOPES 2**

Component Inspected: Coutant Slopes

Condition Assessment: Rear Slope – Minor Gouges were discovered throughout and the worst are listed below:

Tube #	Height from Nose of Slope	Priority
88	30”	2
140	30”	3
125	24”	3
128	24”	3
140	30”	3
167	5’	3
276	10’	2

Recommendations: Grind smooth and install light pad welds over gouges. Slope tubes are 2.00” OD x .220” MW SA210-A1

Criticality: Per list above

Risk if NOT Performed: Tube leaks if erosion or another gouge occurs at the existing thinner locations.

EKP Comments:

Photos:

#15 Ash Hopper and Throat Tubes

Date: 5/16/2023	**Inspected by: B&W**	**Unit: 2**	**Item: ASHHOP 1**
Component Inspected: Ash Hopper and Throat Tubes from Dance Floor			
Condition Assessment: There was minor damage to the drip screens at the LHSW, the front and rear slopes. The drip screens at the RHSW were damaged with about ½ of the drip screens missing. The drip screens have been overheated.			
Recommendations: Replace the two (2) drip screens and continue to monitor the others.			
Criticality: P3			
Risk if NOT Performed: Seal skirt and trough are left open for ash to enter.			
EKP Comments:			
Photos: 			

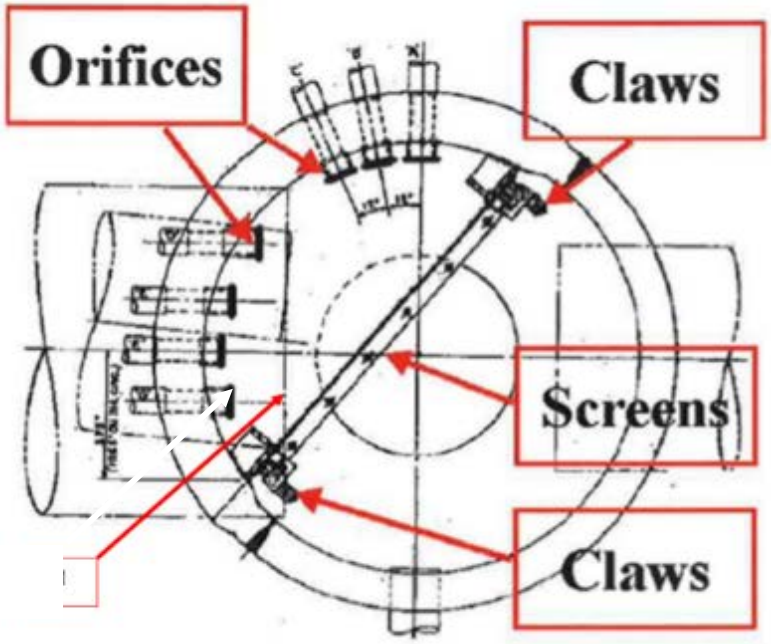
Date: 5/16/2023	Inspected by: B&W	Unit: 2	Item: ASHHOP 2
Component Inspected: Ash Hopper and Throat Tubes from Dance Floor			
Condition Assessment: There was minor refractory damage throughout the hoppers, especially, around the view port spouts. D hopper was the worst.			
Recommendations: Remove a portion of the refractory to allow new anchors to be attached to casing and install new refractory.			
Criticality: P3			
Risk if NOT Performed: Refractory will continue to deteriorate and could allow the casing to overheat.			
EKP Comments:			

Photos:

Date: 5/16/2023	Inspected by: B&W	Unit: 2	Item: ASHHOP 3
Component Inspected: Ash Hopper and Throat Tubes from Dance Floor			
Condition Assessment: The knife gates at hoppers A and D weren't fully closed.			
Recommendations: Stroke dampers and rebuild the seal above the gates on D hopper.			
Criticality: P3			
Risk if NOT Performed: If the knife gate is open while the unit is online, ash can go through the opening.			
EKP Comments:			

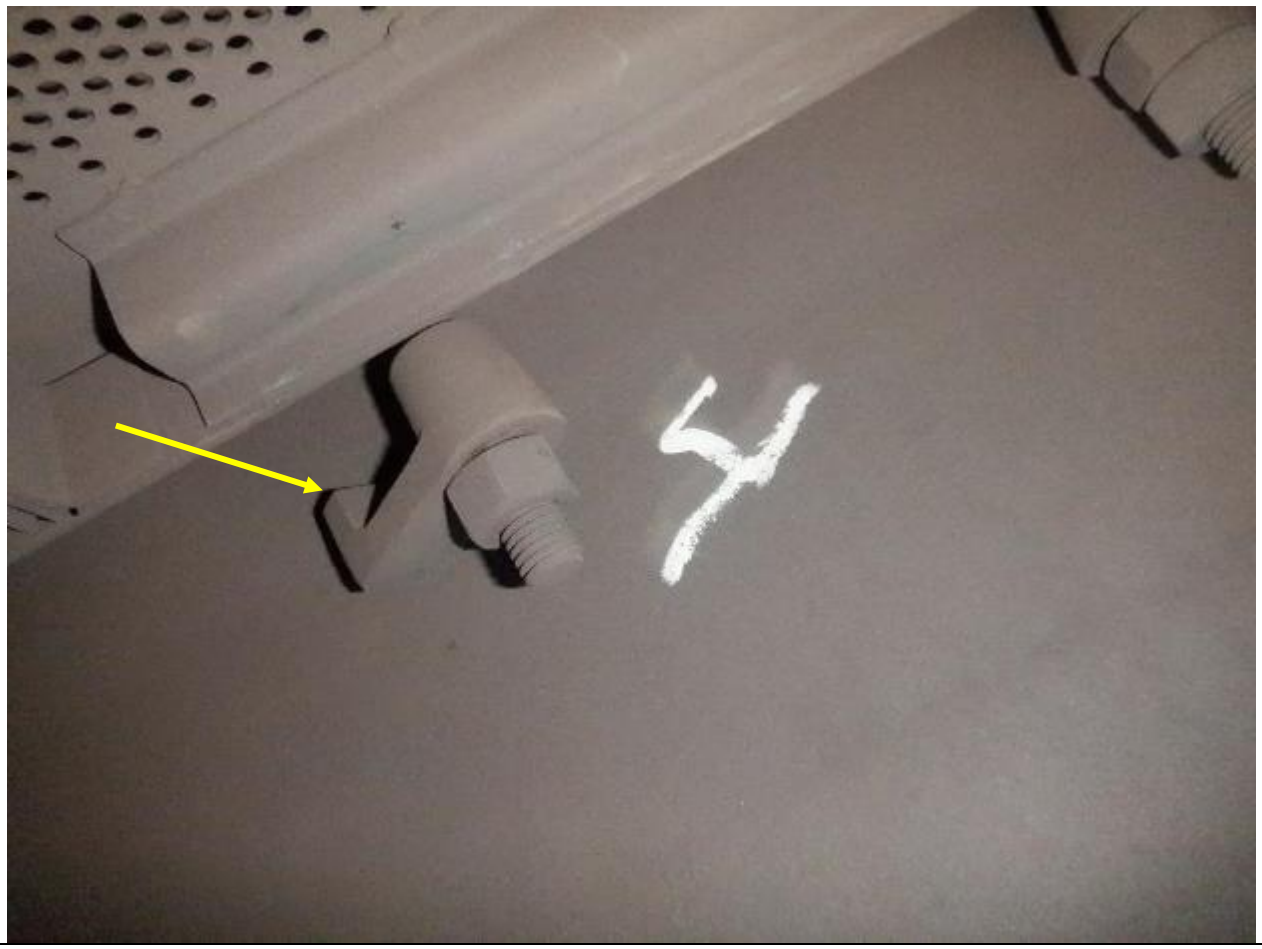
Photos:

#16 Front Waterwall Inlet Header



Date: 5/25/2023	Inspected by: B&W	Unit: 2	Item: FWWINHDR 1
Component Inspected: Front Waterwall Inlet Header (Mud Drum)			
Condition Assessment: There were loose screen claws at the following locations. *3T, 4B, 9T, 27T* *Screen number counted from LHSW to RHSW(**T**op or **B**ottom)*			
Recommendations: Loosen the lock nut, tighten the claw nut, then tighten the lock nut.			
Criticality: P3			
Risk if NOT Performed: Claws could work loose which could allow screens to work loose.			
EKP Comments:			

Photos:



Date: 10/8/2021	Inspected by: B&W	Unit: 2	Item: FWWINHDR 2
Component Inspected: Front Waterwall Inlet Header (Mud Drum)			
Condition Assessment: There were pieces of door gasket in the header on each end.			
Recommendations: Remove the gasket material.			
Criticality: P2			
Risk if NOT Performed: The gasket material will plate out inside a furnace tube.			
EKP Comments:			

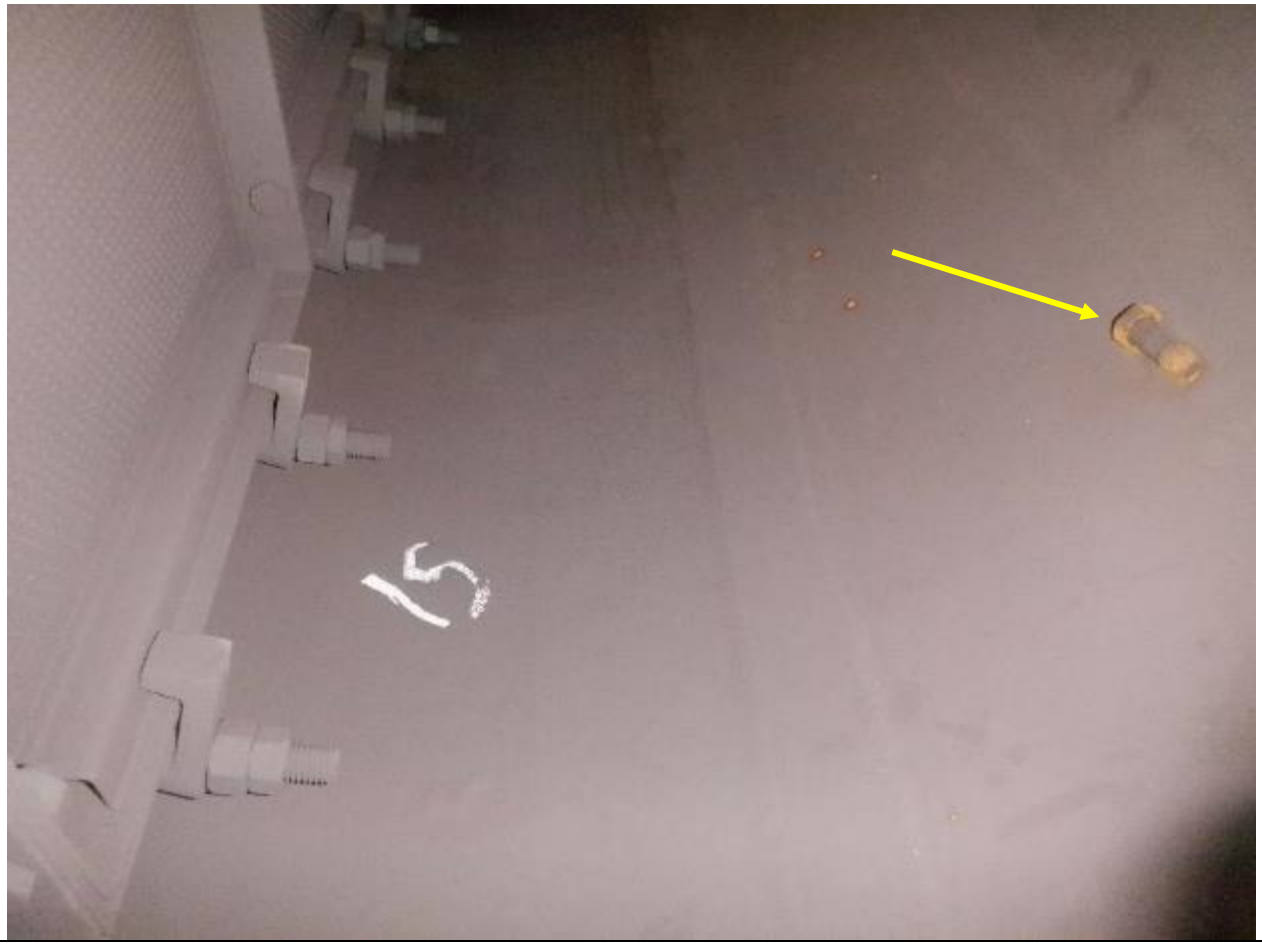
Photos:

Date: 5/25/2023	Inspected by: B&W	Unit: 2	Item: FWWINHDR 5
Component Inspected: Front Waterwall Inlet Header (Mud Drum)			
Condition Assessment: The center and LHS drains are plugged.			
Recommendations: Clear the drains.			
Criticality: P3			
Risk if NOT Performed: Boiler can't drain as fast as designed or at all.			
EKP Comments:			

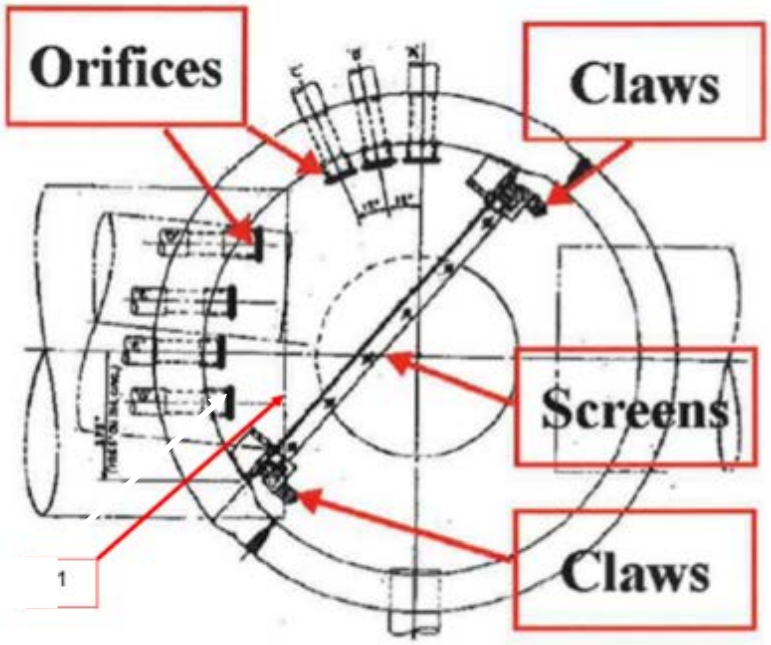
Photos:

Date: 5/25/2023	Inspected by: B&W	Unit: 2	Item: FWWINHDR 3
Component Inspected: Front Waterwall Inlet Header (Mud Drum)			
Condition Assessment: There was a loose cap screw in the drum. No missing hardware was identified in either waterwall inlet headers.			
Recommendations: Information only, the cap screw was removed.			
Criticality: INFO			
Risk if NOT Performed: None at this time.			
EKP Comments:			

Photos:

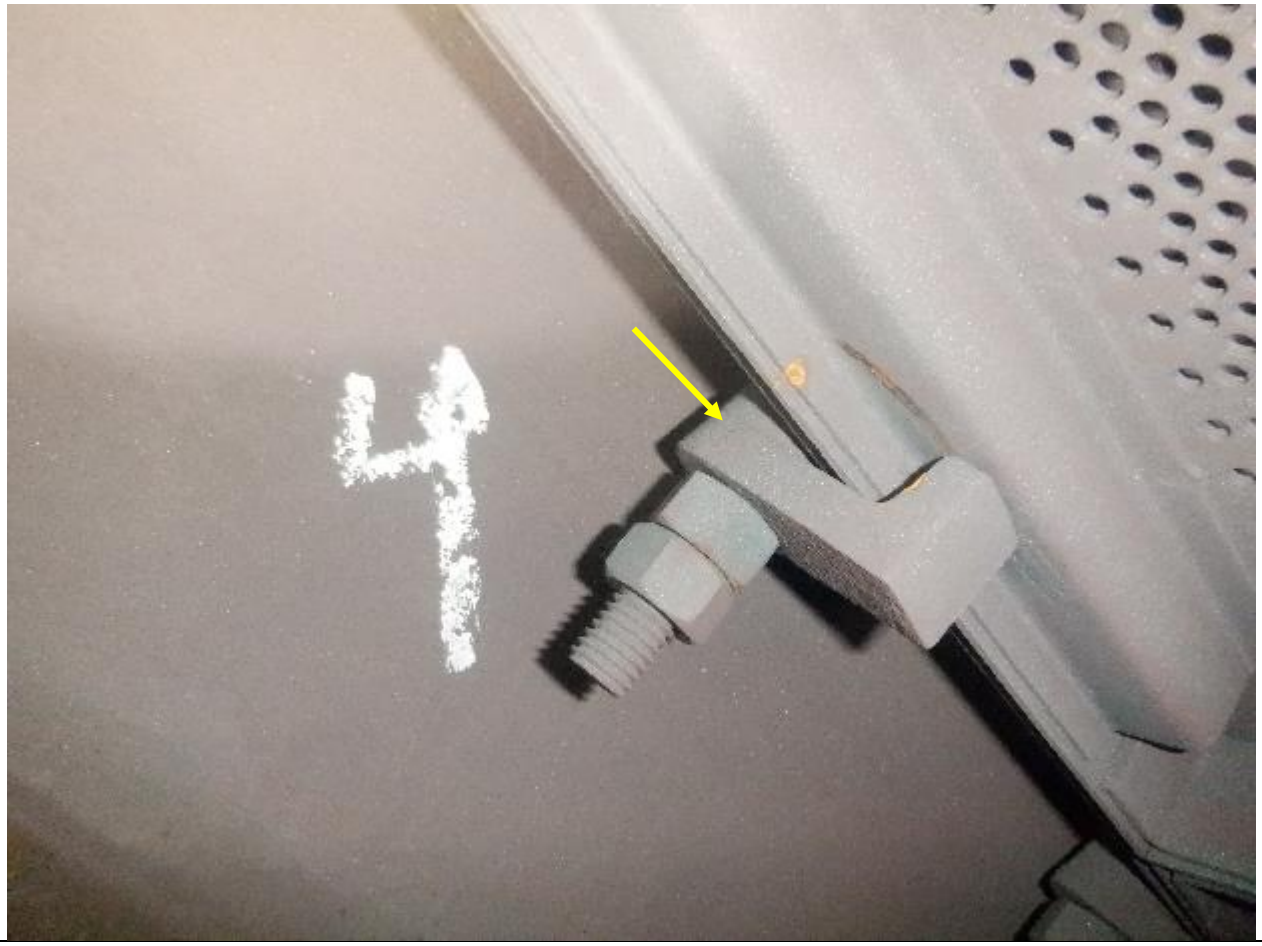


#17 Rear Waterwall Inlet Header



Date: 5/25/2023	**Inspected by: B&W**	**Unit: 2**	**Item: RWWINHDR 1**
Component Inspected: Rear Water-wall Inlet Header (Mud Drum)			
Condition Assessment: There were loose screen claws at the following locations. 2T, 2B, 4B, 5B, 5T, 8T, 16B, 45B *Screen number counted from LHSW to RHSW(**T**op or **B**ottom)*			
Recommendations: Loosen the lock nut, tighten the claw nut, then tighten the lock nut.			
Criticality: P3			
Risk if NOT Performed: Claws could work loose which could allow screens to work loose.			
EKP Comments:			

Photos:

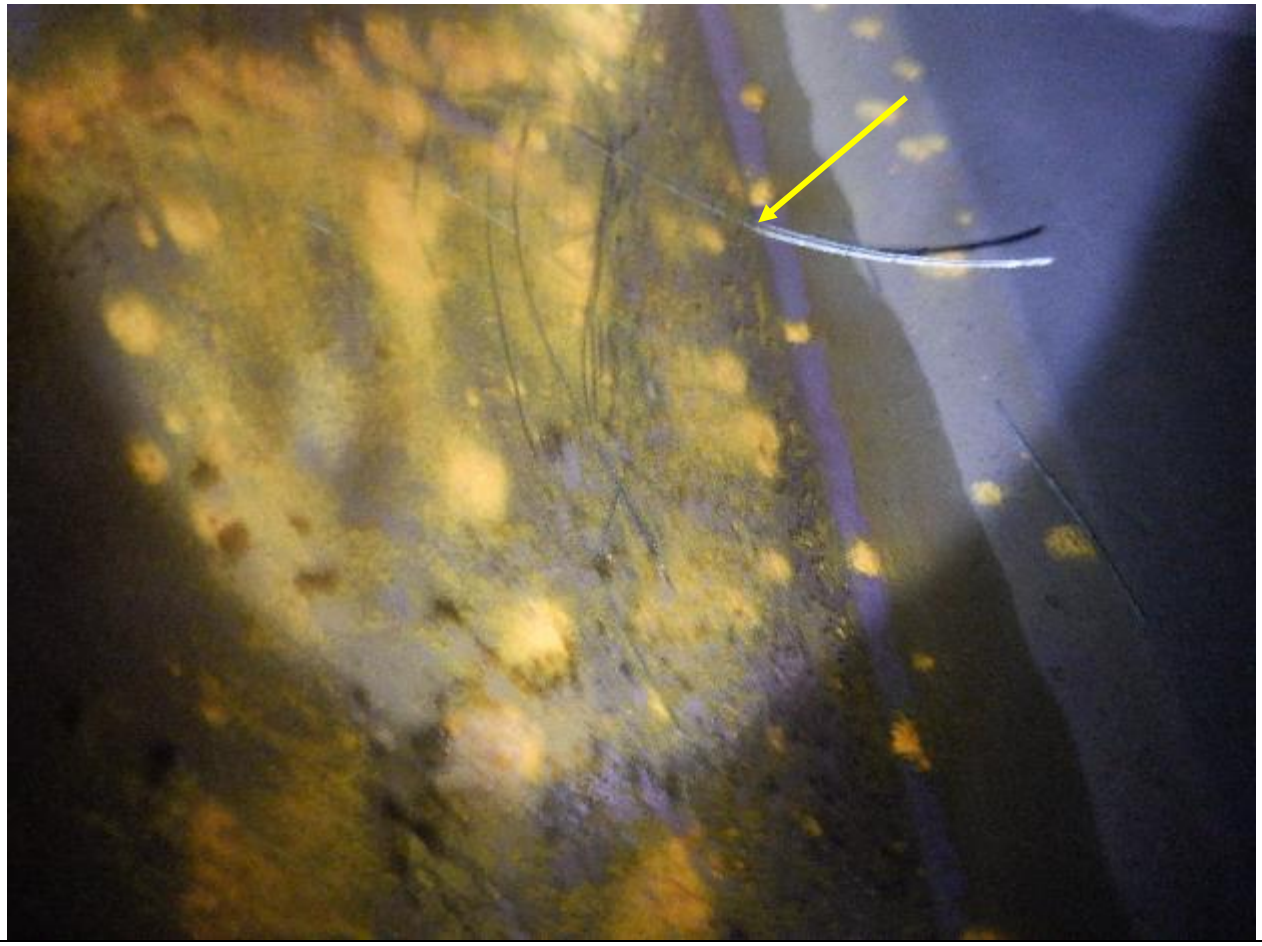


Date: 5/25/2023	Inspected by: B&W	Unit: 2	Item: RWWINHDR 2
Component Inspected: Rear Water-wall Inlet Header (Mud Drum)			
Condition Assessment: All three (3) drains appeared to be plugged and had debris in them and there was about 2” of water in the header.			
Recommendations: Verify if drain valves are plugged. If valves are plugged, cut out valves and replace. While valves are cut out, then blow out drain pipe.			
Criticality: P3			
Risk if NOT Performed: Lines will continue to plug and not drain.			
EKP Comments:			

Photos:

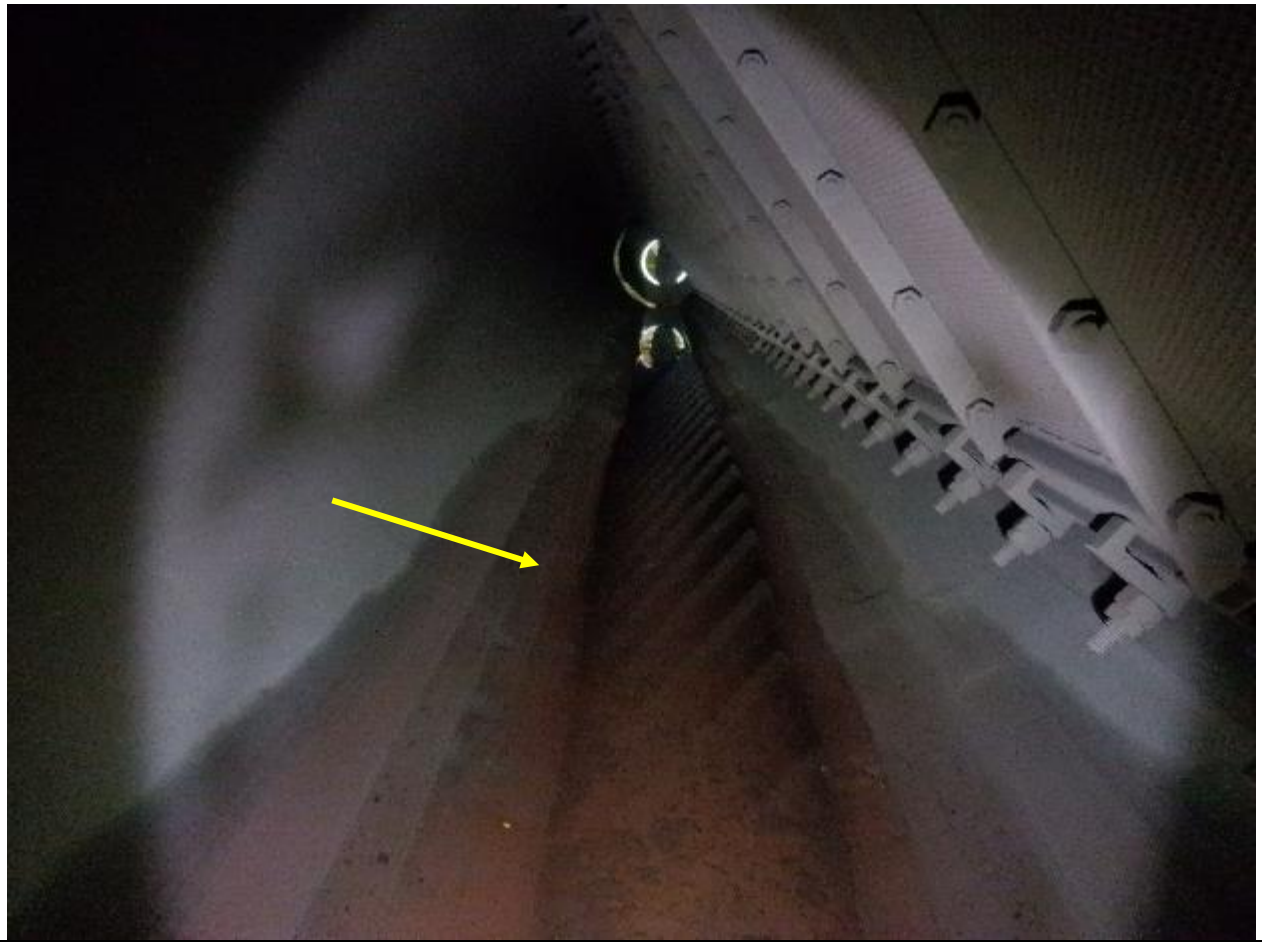
Date: 5/25/2023	Inspected by: B&W	Unit: 2	Item: RWWINHDR 3
Component Inspected: Rear Waterwall Inlet Header (Mud Drum)			
Condition Assessment: There were pieces of door gasket in the header on each end.			
Recommendations: Remove the gasket material.			
Criticality: P2			
Risk if NOT Performed: The gasket material will plate out inside a furnace tube.			
EKP Comments:			

Photos:



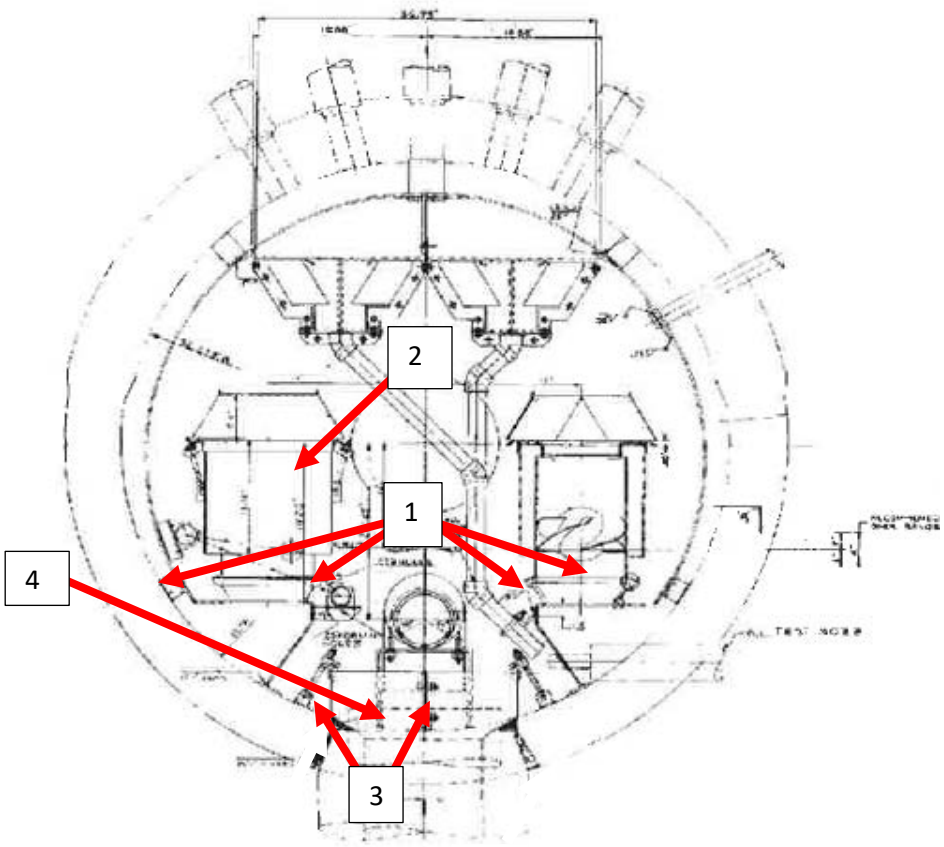
Date: 10/8/2021	Inspected by: B&W	Unit: 2	Item: RWWINHDR 4
Component Inspected: Rear Waterwall Inlet Header (Mud Drum)			
Condition Assessment: There was about 1.5” of water in the drum, prior to siphoning.			
Recommendations: Remove the water from the drum.			
Criticality: P3			
Risk if NOT Performed: Safety risk if work is to be performed in the drum.			
EKP Comments:			

Photos:



Date: 5/25/2023	Inspected by: B&W	Unit: 2	Item: RWWINHDR 5
Component Inspected: Rear Water-wall Inlet Header (Mud Drum)			
Condition Assessment: There was a missing claw at the top of screen 2.			
Recommendations: Replace the claw, the claw nut, and the lock nut. The stud may also need to be replaced.			
Criticality: P3			
Risk if NOT Performed: Screen could work loose.			
EKP Comments:			
Photos: 			

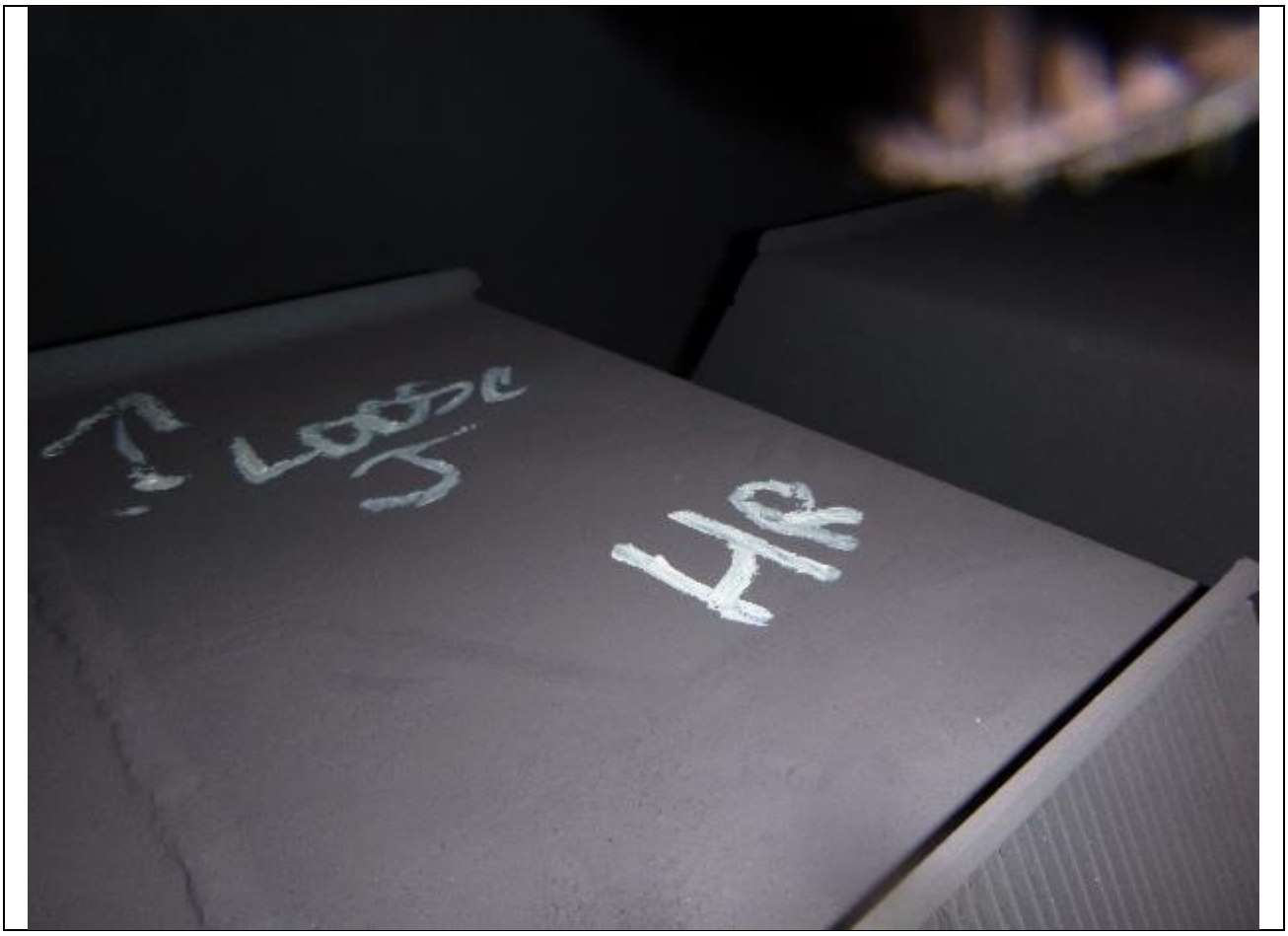
#18 Steam Drum



Date: 5/16/2023	Inspected by: B&W RJP	Unit: 2	Item: STMDRUM 1
Component Inspected: Steam Drum			
Condition Assessment: The bottom clamps are loose on the following front turbo separators: 1, 3, 4, 5, 9, 10, 12, 14, 19, 20, 23, 27, 28, 29, 30, 31, 33, 36, 37, 38, 40, 42, 45, 47, 48, 49, 50, 54, 56 The bottom clamps are loose on the following rear turbo separators: 3, 13, 18, 28, 29, 31, 32, 34, 35, 47, 49, 51, 54			
Recommendations: **D**ouble nut or tack weld the separator bolts and the clamp hinge bolts.			
Criticality: P3			
Risk if NOT Performed: If the turbo separators become loose then the clamps will need to replaced.			
EKP Comments:			

Photos:

Date: 5/16/2023	Inspected by: B&W	Unit: 2	Item: STMDRUM 2
Component Inspected: Steam Drum			
Condition Assessment: The J-hook holding the secondary scrubbers to the separator was loose on the front side or back side on the following: Backside of rear turbo separator: 4, 9 Backside of front turbo separator: 8, Front side of rear turbo separator: 10, 11, 12 Front side of front separator: 10			
Recommendations: Tighten nut on J-hook.			
Criticality: P3			
Risk if NOT Performed: Eventually the secondary scrubber may come loose and not have a proper seal.			
EKP Comments:			
Photos: 			



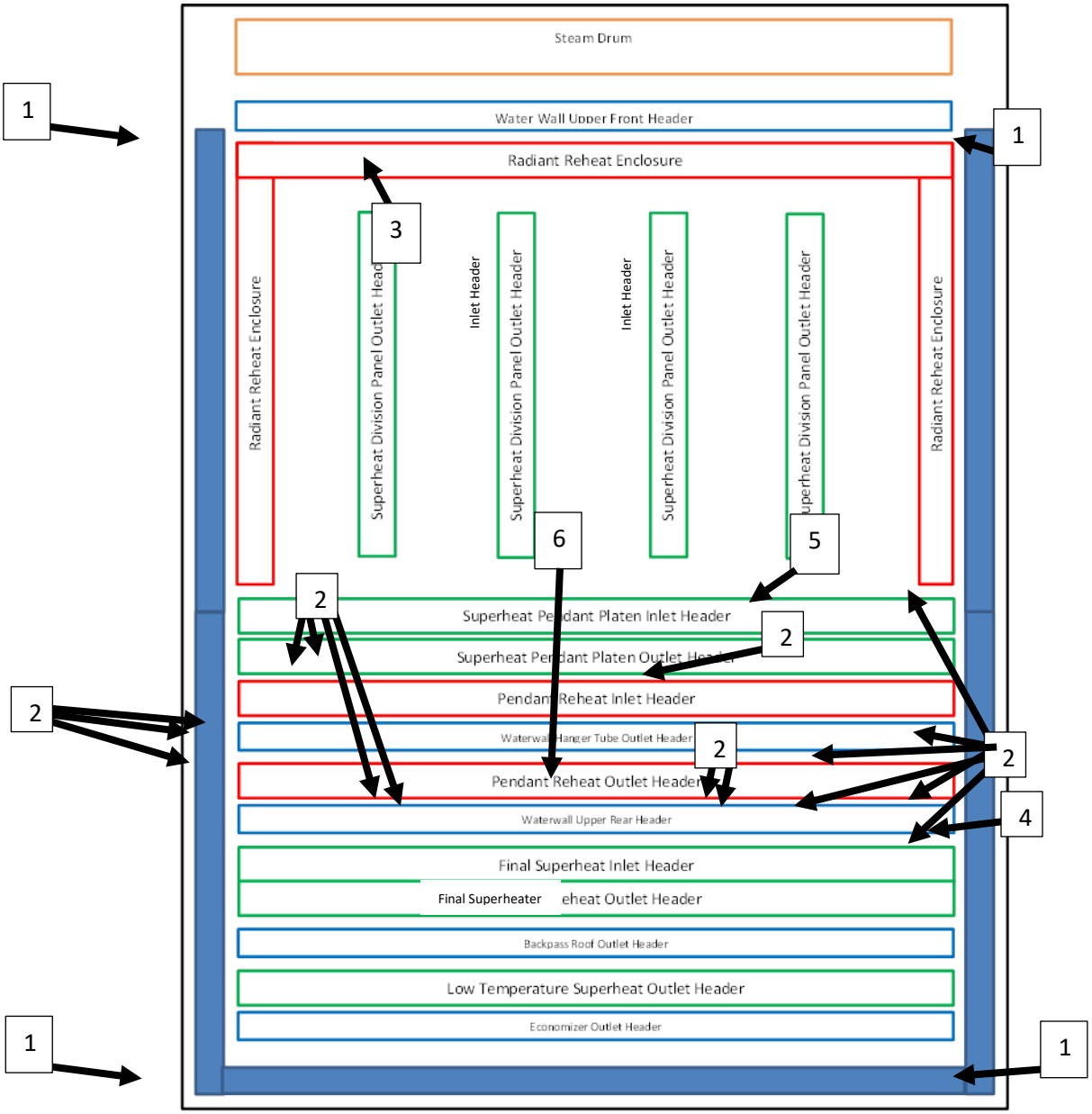
Date: 5/16/2023	Inspected by: B&W RJP	Unit: 2	Item: STMDRUM 3
Component Inspected: Steam Drum			
Condition Assessment: The downcomer screen hold-down clamps are loose on every downcomers screen.			
Recommendations: Tighten the nuts.			
Criticality: P3			
Risk if NOT Performed: Eventually the screens may become loose.			
EKP Comments:			

Photos:

Date: 5/16/2023	Inspected by: B&W RJP	Unit: 2	Item: STMDRUM 4
Component Inspected: Steam Drum			
Condition Assessment: There was gasket material in the drum at the both ends.			
Recommendations: Hand pick gasket material from drum. Replace gaskets on both heads.			
Criticality: P1			
Risk if NOT Performed: Gasket material may cause a disruption in the water circuit should it enter the downcomers.			
EKP Comments:			

Photos:

#19 Penthouse



Date: 5/17/2023	Inspected by: B&W - CSH	Unit: 2	Item: PENT 1
Component Inspected: Penthouse			
Condition Assessment: The refractory around the perimeter of the unit was cracked and damaged. The most damage can be found at the corners of the unit.			
Recommendations: Continue to monitor and patch when necessary during future outages.			
Criticality: INFO			
Risk if NOT Performed: NA			
EKP Comments:			

Photos:

Date: 5/17/2023	Inspected by: B&W - CSH	Unit: 2	Item: PENT 2

Component Inspected: Penthouse

Condition Assessment: There are numerous casing cracks (some large, some small) scattered throughout the Penthouse. The locations are as follows:

- LHSW near rear waterwall hanger tubes – one (1) large hole and one small crack
- RHSW near rear waterwall hanger tubes – three (3) small cracks
- Near LHSW, RHSW and at quarter points across the boiler in front of the waterwall upper rear header enclosure – ripped and cracks in casing
- LHS of Pendant Platen assembly 21 – small hole
- RHS of Pendant Platen assembly 20 – small hole
- Front of Pendant Reheat Inlet Header near LHSW – crack
- Front of RH Inlet Header at assemblies 31/32 – Medium crack
- Floor casing in front of waterwall upper rear header about 12' from LHSW – large rip
- LHSW on the front side of the SH pendant platen inlet tubes – small hole

Recommendations: Grind off old weld, cut out small section of casing, lap with 3/16" thick CS plate and seal weld the patch to the existing casing.

Criticality: P3

Risk if NOT Performed: Ash continues to lay out in Penthouse and tramp air is sucked into boiler.

EKP Comments:

Photos:

Date: 5/17/2023	Inspected by: B&W - CSH	Unit: 2	Item: PENT 3
Component Inspected: Penthouse			
Condition Assessment: The radiant RH enclosure was open, and cleaning was in progress. There were mounds of ash at the FW and each sidewall, indicating roof penetration leaks.			
Recommendations: Clean the space, and pack refractory around the tube penetrations.			
Criticality: P3			
Risk if NOT Performed: Ash will continue to accumulate.			
EKP Comments:			

Photos:

Date: 05/17/23	Inspected by: B&W ECC	Unit: 2	Item: PENT 4
Component Inspected: Penthouse			
Condition Assessment: Rear water wall screen tube header left side of unit Large split in the weld on the casing around the header support.			
Recommendations: Pull caking together and weld the seam.			
Criticality: P3			
Risk if NOT Performed: The crack will continue to propagate.			
EKP Comments:			
Photos: 			

Date: 5/17/2023	Inspected by: B&W RJP	Unit: 2	Item: PENT 5
Component Inspected: Penthouse			
Condition Assessment: The front left-hand side of assembly 7 on the SH Pendant Platen had a hole in the casing.			
Recommendations: Grind out casing hole and repair with seal weld.			
Criticality: P3			
Risk if NOT Performed: Air in leakage to the furnace and flue gas leak to the penthouse.			
EKP Comments:			

Photos:

Date: 5/17/2023	**Inspected by:B&W BC**	**Unit: 2**	**Item: SHDIVPAN 6**
Component Inspected: Penthouse Intermediate SH outlet piping			
Condition Assessment: Missing section of insulation			
Recommendations: Replace missing insulation and support materials			
Criticality: P3			
Risk if NOT Performed: No significant ramification.			
EKP Comments:			
Photos: 			

#20 Upper Dead Air Spaces

Date: 5/11/2023	**Inspected by: B&W**	**Unit: 2**	**Item: UPPERDAIR 1**
Component Inspected: Upper Dead Air Space			
Condition Assessment: 13th Floor Upper Dead Air Space – There are areas on the arch casing where the casing has overheated and failed. Most notably at the bottom of the slope between the I-beam supports running front to back #9-10, 13-14 and 16-17 and at the end of 20 (from LHSW). The top of the slope at the expansion bend near beam #17 also has damaged casing.			
Recommendations: Patch casing tears with 3/16" CS plate. Vacuum out fly ash.			
Criticality: P3			
Risk if NOT Performed: Casing continues to fail and heat damages structural members. This is a source of air in leakage and ash and flue gas entering the dead air space when the boiler goes positive.			
EKP Comments:			

Photos:

Date: 5/11/2023	Inspected by: B&W	Unit: 2	Item: UPPERDAIR 2
Component Inspected: Upper Dead Air Space			
Condition Assessment: 12th Floor Upper Dead Air Space – Holes and casing tears were found in the upper portion of the dead air space (towards the tip of the nose) in the casing sections: 9, 11, 14, and 16.			
Recommendations: Weld repair or patch casing tears with 3/16" CS plate.			
Criticality: P3			
Risk if NOT Performed: Cracks and holes in the dead air space casing allow for ash and hot gases to enter the dead air space when the boiler goes positive and for air in leakage during normal operation.			
EKP Comments:			

Photos:

#21 Lower Dead Air Spaces

Date: 5/11/23	**Inspected by: B&W CSH**	**Unit: 2**	**Item: LOWERDAIR 1**
Component Inspected: Lower Dead Air Spaces			
Condition Assessment: Rear Lower Dead Air Space: The 13th lower waterwall inlet header hanger was missing a support pin.			
Recommendations: Replace pin and secure.			
Criticality: P2			
Risk if NOT Performed: Extra stress on header, tubes, and surrounding hangers.			
EKP Comments:			

Photos:

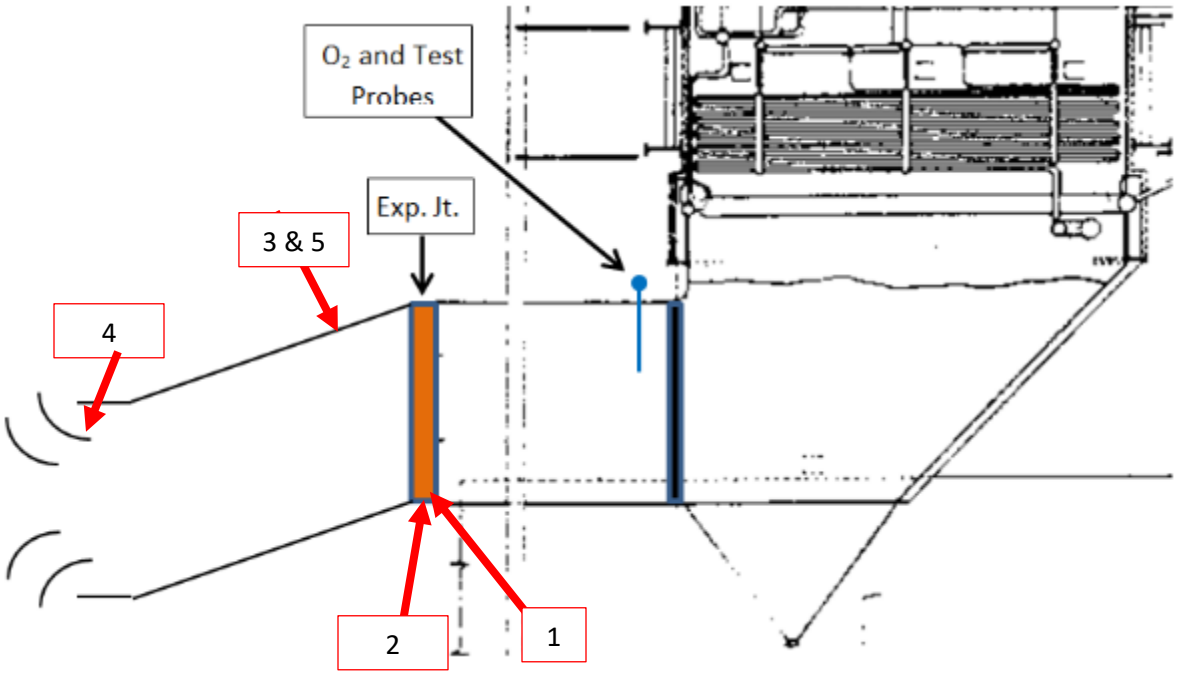
Date: 05/11/23	Inspected by: B&W ECC CSH	Unit: 2	Item: LOWERDAIR 2
Component Inspected: Lower Dead Air Spaces			
Condition Assessment: Front & Rear Lower Dead Air Space – There was one (2) missing clip in the Front DAS and two (2) missing at the lower beam slope of the coutant slopes. The second beam up was missing seven (7) clips between the first and second trusses in the rear DAS.			
Recommendations: Weld a new clip to the tube.			
Criticality: P3			
Risk if NOT Performed: The clips hold the beams to the tubes, allowing the truss assembly to provide structural support to the lower slope. Without the beams tied to the slope the truss system may not be able to properly support the slope in the event of a large slag fall.			
EKP Comments:			

Photos:

Date: 5/11/23	Inspected by: B&W CSH BC	Unit: 2	Item: LOWERDAIR 3
Component Inspected: Lower Dead Air Spaces			
Condition Assessment: Front and Rear Lower Dead Air Spaces: The refractory along the floor in each lower dead air space is beginning to break up.			
Recommendations: Patch the refractory and continue to monitor.			
Criticality: P3			
Risk if NOT Performed: Refractory seals the vestibule floor.			
EKP Comments:			

Photos:

#22 Economizer Outlet Flue and Hoppers



Date: 05/12/23	Inspected by: B&W	Unit: 2	Item: ECONHOP 1
Component Inspected: Economizer Outlet Flue and Hoppers			
Condition Assessment: A & B Side: The inner layer of the expansion joint has torn away where it crimps into the joint near the lower corner. A Side: Right side B Side: Left and right side			
Recommendations: Remove the expansion joint shield to better inspect the condition of the joint.			
Criticality: P3			
Risk if NOT Performed: Over time more of the inner could tear eventually separating from the frame.			
EKP Comments:			

Photos:

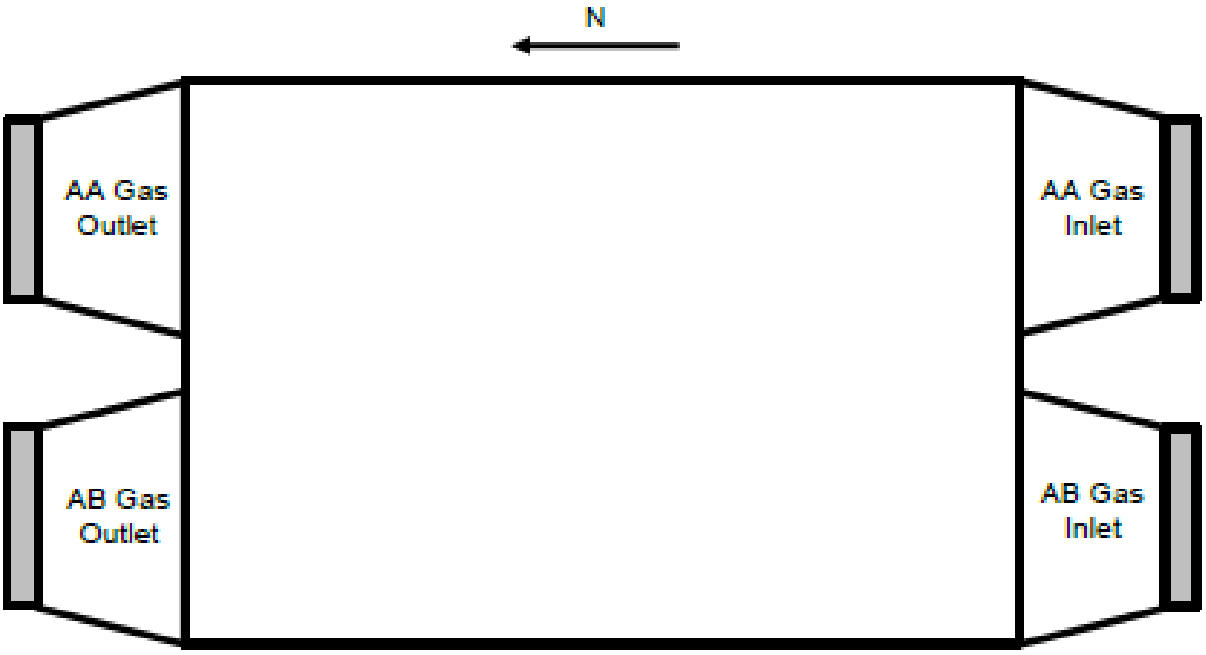
Date: 05/12/23	**Inspected by:** B&W ECC	**Unit:** 2	**Item: ECONHOP 2**
Component Inspected: Economizer Outlet and Hoppers			
Condition Assessment: A & B side: The expansion joint is packed with ash. The buckling on the flue side walls on side B could be a result of the expansion joint locking up.			
Recommendations: Remove the deflector shield and thoroughly clean the ash form the expansion joint. When re-installing the deflector shield add a vertical section extending to 1" of the flue floor to limit the amount of ash entering the expansion joint.			
Criticality: P2			
Risk if NOT Performed: The expansion will not allow the proper expansion and the fluework will deform.			
EKPC Comments:			
Photos: 			

Date: 05/12/2023	**Inspected by:** B&W BC	**Unit:** 2	**Item: ECONHOP 3**
Component Inspected: Economizer Outlet Flue			
Condition Assessment: The casing is cracked at the top of the duct between the turning vanes.			
Recommendations: Strip the insulation and lagging to access the flue and make needed repairs.			
Criticality: P2			
Risk if NOT Performed: Air in leakage			
EKPC Comments:			
Photos: 			

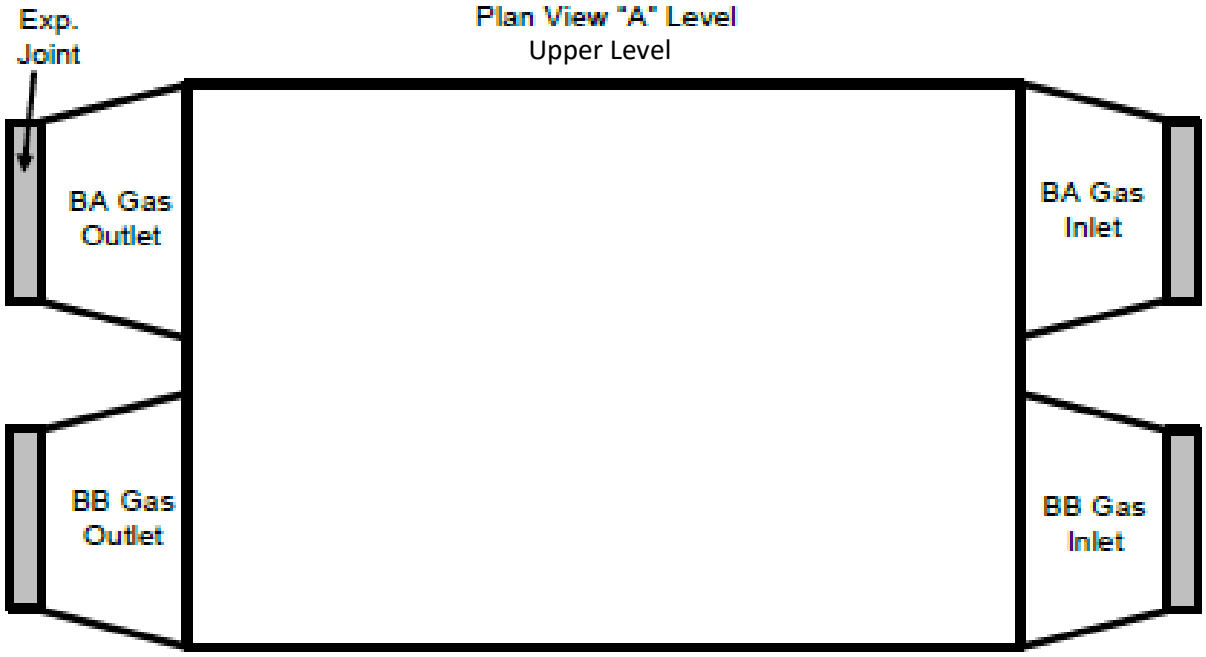
Date: 5/12/23	**Inspected by:** B&W ECC	**Unit:** 2	**Item: ECONHOP 4**
Component Inspected: Economizer Outlet Flue			
Condition Assessment: A Side – The fourth horizontal turning vane is bowed.			
Recommendations: Pull the vane straight and weld angle across the leading edge to stiffen the vane..			
Criticality: P3			
Risk if NOT Performed: The vane could continue to sage.			
EKPC Comments:			
Photos: 			

Date: 05/12/2023	**Inspected by:** B&W BC	**Unit:** 2	**Item: ECONHOP 5**
Component Inspected: Economizer Outlet Flue			
Condition Assessment: Vertical turning vanes on the right flue are buckled.			
Recommendations: Stiffen the vanes with angle on the leading edge.			
Criticality: P3			
Risk if NOT Performed: Vanes could continue to buckle eventually failing.			
EKPC Comments:			
Photos: 			

#23 ESP Inlet and Outlet Flues



Plan View "A" Level
Upper Level



Plan View "B" Level
Lower Level

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 1
Component Inspected: 2AB ESP Inlet Duct			
Condition Assessment: The underside of the pipe stiffener of the lowest horizontal turning vane at the LHSW and RHSW was eroded.			
Recommendations: Seal weld an angle patch over the pipe stiffener.			
Criticality: P3			
Risk if NOT Performed: Erosion will continue and could cause a hole in the casing.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 2
Component Inspected: 2AB ESP Inlet Duct			
Condition Assessment: The lowest turning vane had a failed weld at the LHSW.			
Recommendations: Reweld the failed weld.			
Criticality: P3			
Risk if NOT Performed: Turning vane could pull from the weld and wall.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 3
Component Inspected: 2AB ESP Inlet Duct			
Condition Assessment: There were suspected casing leaks in the roof casing near the frame of the expansion joint near the LHS and the center of the flue. Another leak is suspected in the sloped transition, about 15’ from the LHSW.			
Recommendations: Remove the lagging and insulation from the exterior and repair the casing with seal welded 3/16” carbon steel patches. Rework the lagging and insulation at the top of the ESP to flue transition to prevent water from going underneath the lagging.			
Criticality: P3			
Risk if NOT Performed: Corrosion will continue, and the leaks will worsen.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 4
Component Inspected: 2AB ESP Inlet Duct			
Condition Assessment: The LHS vertical turning vane had a hole eroded in the leading-edge pipe stiffener.			
Recommendations: Repair/strengthen the stiffener by welding strong backs or angle over the pipe stiffener hole.			
Criticality: P3			
Risk if NOT Performed: The stiffener and turning vane will continue to erode.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 5
Component Inspected: 2AB ESP Inlet Duct			
Condition Assessment: The hand grab, inside the flue, above the access door, had a failed weld.			
Recommendations: Re-weld the hand grab to the casing.			
Criticality: P3			
Risk if NOT Performed: The hand grab could break off while in use and hurt someone.;			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 6
Component Inspected: 2AA ESP Inlet Duct			
Condition Assessment: The underside of the pipe stiffener of the lowest horizontal turning vane at the LHSW and RHSW was eroded.			
Recommendations: Seal weld an angle patch over the pipe stiffener.			
Criticality: P3			
Risk if NOT Performed: Erosion will continue and could cause a hole in the casing.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 7
Component Inspected: 2AA ESP Inlet Duct			
Condition Assessment: There were suspected casing leaks in the roof casing near the frame of the expansion joint near the LHSW and at the rear of the RHS, vertical turning vane. Another leak is suspected in the sloped transition, on the RHS of the LHS vertical turning vane.			
Recommendations: Remove the lagging and insulation from the exterior and repair the casing with seal welded 3/16” carbon steel patches. Rework the lagging and insulation at the top of the ESP to flue transition to prevent water from going underneath the lagging.			
Criticality: P3			
Risk if NOT Performed: Corrosion will continue, and the leaks will worsen.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 8
Component Inspected: 2AA ESP Inlet Duct			
Condition Assessment: The acid sleeve of the expansion joint was damaged, and the pillow has begun to show.			
Recommendations: Continue to monitor.			
Criticality: P3			
Risk if NOT Performed: Expansion joint will be prone to damage due to portions of acid sleeve missing.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 9
Component Inspected: 2AA ESP Outlet Duct			
Condition Assessment: There appeared to be multiple casing leaks in the expansion joint frame at the following locations – multiple holes in the RHSW near the roof, (1) in the roof near the LHSW, (1) in the roof at the ¾ point, and (1) in the roof at the ¼ point in the expansion joint frame.			
Recommendations: Seal weld patches over the frame and plan to replace the frame when the expansion joint requires replacement.			
Criticality: P3			
Risk if NOT Performed: Air in-leakage and the leaks will worsen.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 10
Component Inspected: 2AA ESP Outlet Duct			
Condition Assessment: There appeared to be a leak in the roof, sloped transition casing near the LHSW, just upstream of the expansion joint.			
Recommendations: Remove the lagging and insulation from the exterior and repair the casing with seal welded 3/16" carbon steel patches. Rework the lagging and insulation at the top of the ESP to flue transition to prevent water from going underneath the lagging.			
Criticality: P3			
Risk if NOT Performed: Gas distribution problems.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 11
Component Inspected: 2AB ESP Outlet Duct			
Condition Assessment: There appeared to be multiple casing leaks in the expansion joint frame at the following locations – (2) in the roof near the LHSW, (1) in the roof at the RHSW, and (1) in the roof at the center of the expansion joint frame.			
Recommendations: Seal weld patches over the frame and plan to replace the frame when the expansion joint requires replacement.			
Criticality: P3			
Risk if NOT Performed: Air in-leakage and the leaks will worsen.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 12
Component Inspected: 2AB ESP Outlet Duct			
Condition Assessment: The acid sleeve of the expansion joint was damaged, and the pillow has begun to show.			
Recommendations: Continue to monitor.			
Criticality: P3			
Risk if NOT Performed: Expansion joint will be prone to damage due to portions of acid sleeve missing.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 13
Component Inspected: 2AB ESP Outlet Duct			
Condition Assessment: There was a casing leak in the roof at the LHSW of the outlet flue.			
Recommendations: Remove the lagging and insulation from the exterior and repair the casing with seal welded 3/16" carbon steel patches. Rework the lagging and insulation at the top of the ESP to flue transition to prevent water from going underneath the lagging.			
Criticality: P3			
Risk if NOT Performed: Allows in-leakage and the hole will worsen.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 14
Component Inspected: 2BB ESP Inlet Duct			
Condition Assessment: The acid sleeve of the expansion joint was damaged, and the pillow has begun to show.			
Recommendations: Continue to monitor.			
Criticality: P3			
Risk if NOT Performed: Expansion joint will be prone to damage due to portions of acid sleeve missing.			
EKP Comments:			

Photos:

Date: 5/23/2023	**Inspected by: B&W**	**Unit: 2**	**Item: ESPDUCTS 15**
Component Inspected: 2BB ESP Inlet Duct			
Condition Assessment: There were three (3) failed welds on the2nd perforated screen to rebar stiffeners.			
Recommendations: Re-weld the (3) failed welds.			
Criticality: P3			
Risk if NOT Performed: The perforated plates could sag and allow ash to bypass the plates. This would be detriment to the ESP efficiency.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 16
Component Inspected: 2BA ESP Inlet Duct			
Condition Assessment: The acid sleeve was torn on the expansion joint found just downstream of the ESP outlet transition slope.			
Recommendations: Patch the expansion acid sleeve.			
Criticality: P3			
Risk if NOT Performed: The joint will continue to deteriorate; the leaks will occur, and air-in leakage will rise.			
EKP Comments:			
Photos: 			

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 17
Component Inspected: 2BA ESP Inlet Duct			
Condition Assessment: There was a hole in the leading edge of the trailing pipe stiffeners of the two (2) vertical turning vanes.			
Recommendations: Weld 2”x2”x24” angles over the holes.			
Criticality: P3			
Risk if NOT Performed: Tramp air will be sucked in and the leak will worsen.			
EKP Comments:			
Photos: 			

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 18
Component Inspected: 2BA ESP Inlet Duct			
Condition Assessment: There were two (2) areas on the FW, coming from the Economizer outlet flue, with large amounts of water running down the flue.			
Recommendations: Investigate where the water came from.			
Criticality: P3			
Risk if NOT Performed: If this is from a leak, air in-leakage and the leak will worsen.			
EKP Comments:			
Photos: 			

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 19
Component Inspected: 2BA ESP Inlet Duct			
Condition Assessment: The leading edge perforated screen didn't have any anchors at the bottom.			
Recommendations: Push the screen towards the slope and Install the bent hold down plates.			
Criticality: P3			
Risk if NOT Performed: The screen can move excessively and could swing free which could allow ash to bypass the screen.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 20
Component Inspected: 2BA ESP Outlet Duct			
Condition Assessment: There was a casing leak in the roof, RHSW, above the SCR bypass dampers.			
Recommendations: Remove the lagging and insulation from the exterior and repair the casing with seal welded 3/16" carbon steel patches. Rework the lagging and insulation at the top of the ESP to flue transition to prevent water from going underneath the lagging.			
Criticality: P3			
Risk if NOT Performed: Allows in-leakage and the hole will worsen.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 21
Component Inspected: 2BA ESP Outlet Duct			
Condition Assessment: There was a casing leak in the roof, at the RHSW, upstream of the outlet dampers.			
Recommendations: Remove the lagging and insulation from the exterior and repair the casing with seal welded 3/16" carbon steel patches. Rework the lagging and insulation at the top of the ESP to flue transition to prevent water from going underneath the lagging.			
Criticality: P3			
Risk if NOT Performed: Allows in-leakage and the hole will worsen.			
EKP Comments:			

Photos:

Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 22
Component Inspected: 2BA ESP Outlet Duct			
Condition Assessment: The acid sleeve was torn on the expansion joint found just downstream of the ESP outlet transition slope.			
Recommendations: Patch the expansion acid sleeve.			
Criticality: P3			
Risk if NOT Performed: The joint will continue to deteriorate; the leaks will occur, and air-in leakage will rise.			
EKP Comments:			
Photos: 			

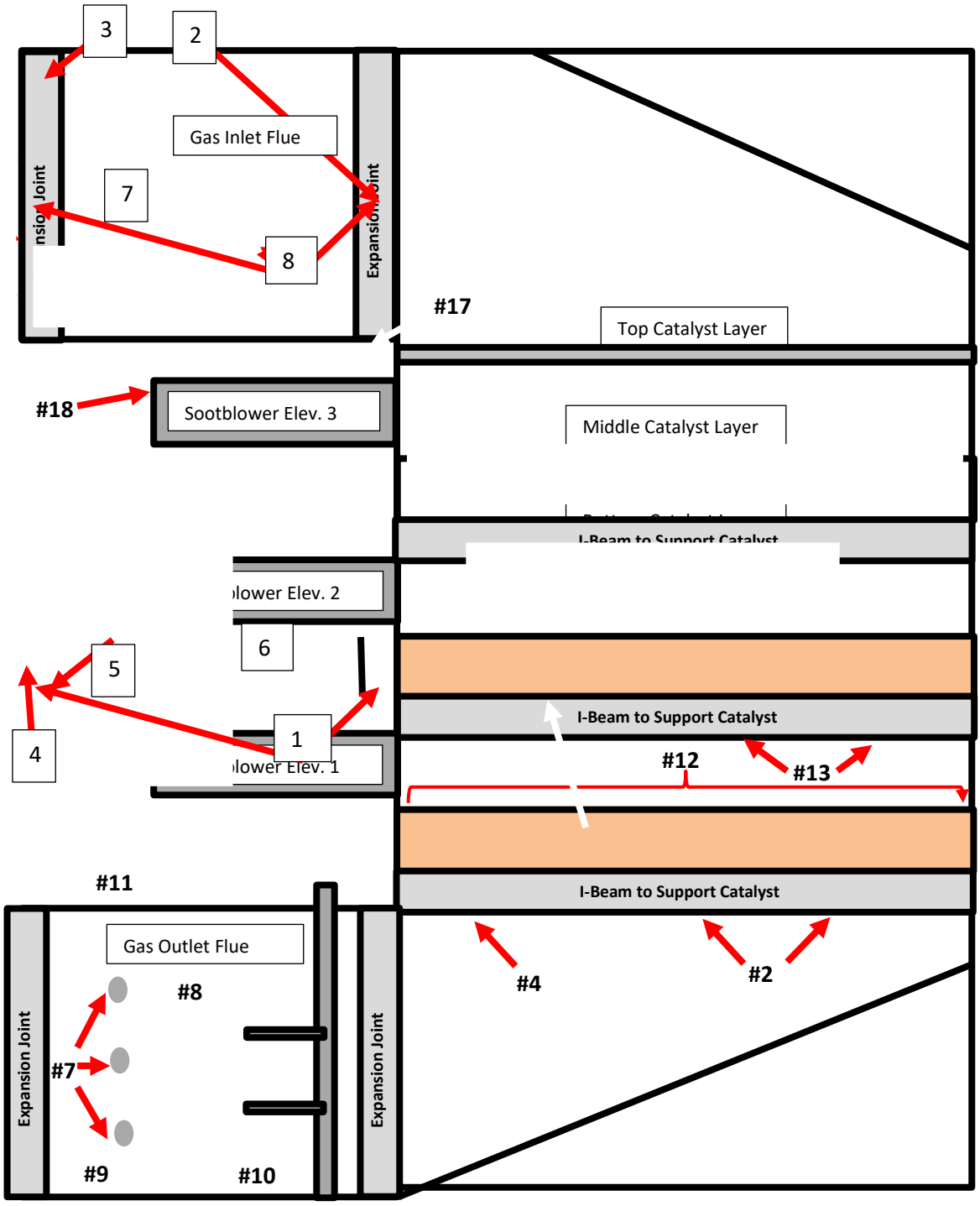
Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 23
Component Inspected: 2BB ESP Outlet Duct			
Condition Assessment: There appeared to be a casing above the SCR bypass dampers, along the RW.			
Recommendations: Inspect the vertical flue from the ESP outlet to the SCR Inlet for leaks.			
Criticality: P3			
Risk if NOT Performed: Allows in-leakage and the hole will worsen.			
EKP Comments:			

Photos:

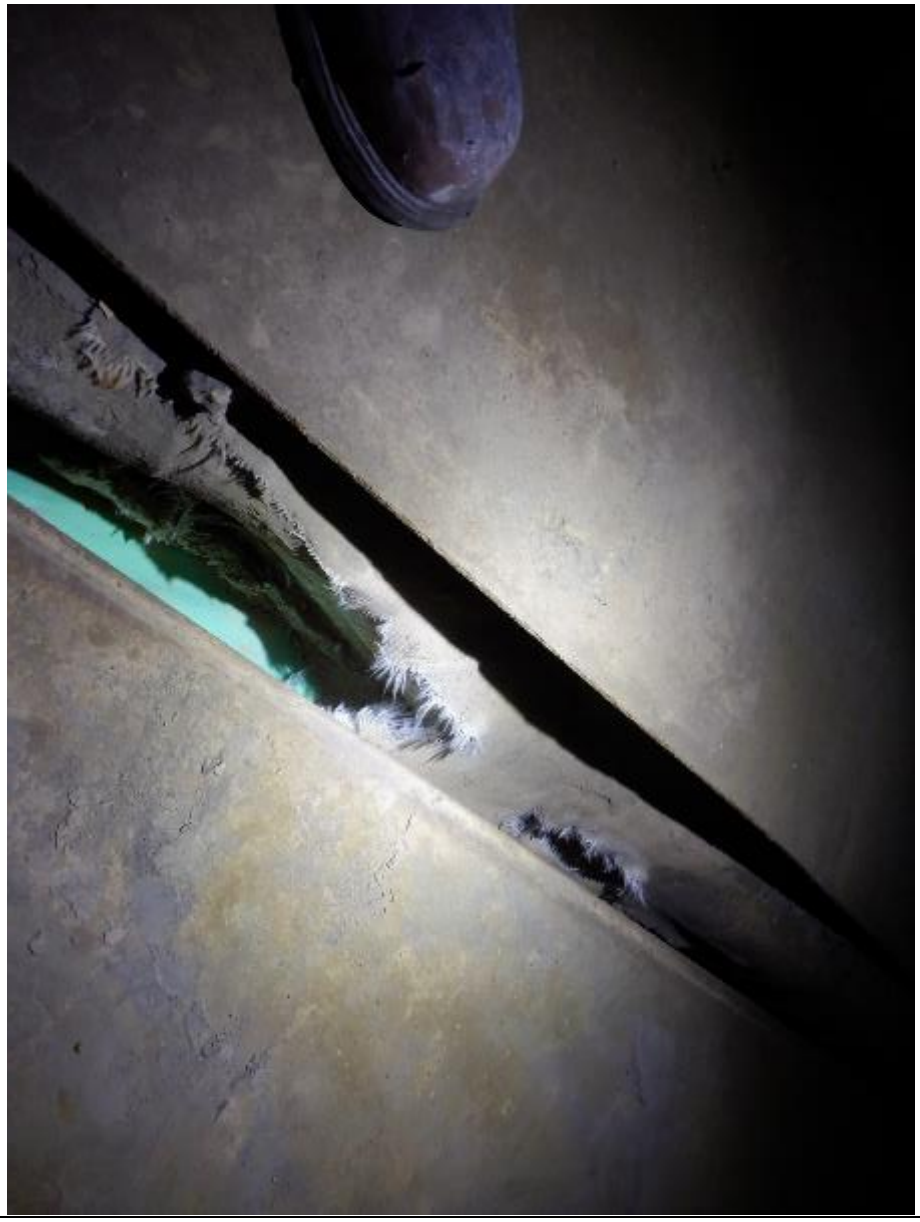
Date: 5/23/2023	Inspected by: B&W	Unit: 2	Item: ESPDUCTS 24
Component Inspected: 2BB ESP Outlet Duct			
Condition Assessment: There appeared to be a casing leak in the expansion joint frame at the roof and LHSW.			
Recommendations: Seal weld patches over the frame and plan to replace the frame when the expansion joint requires replacement.			
Criticality: P3			
Risk if NOT Performed: Air in-leakage and the leaks will worsen.			
EKP Comments:			

Photos:

#24 SCR Inlet and Outlet Flues



Date: 5/13/2023	Inspected by: B&W - CSH	Unit: 2	Item: SCR 1
Component Inspected: 2A & 2B SCR Outlet			
Condition Assessment: Both expansion joints in the SCR Outlet had minor ash and DSI buildup.			
Recommendations: Clear ash and DSI from the joints.			
Criticality: P3			
Risk if NOT Performed: Fabric corrosion and joint binding.			
EKP Comments:			
Photos: 			

Date: 5/18/23	Inspected by: B&W ECC	Unit: 2	Item: SCR 2
Component Inspected: 2A & 2B SCR Inlet			
Condition Assessment: The expansion joint pillow was discovered with tears and holes, exposing inner fabric. The outer layer is exposed on the left side.			
Recommendations: Patch or replace the expansion joint.			
Criticality: RHS P3 LHS P2			
Risk if NOT Performed: Holes/Tears can occur through the inner fabric, exposing the inside of the outer layer, and eventually causing the expansion joint to fail.			
EKP Comments:			
Photos: 			

Date: 5/18/23	Inspected by: B&W ECC	Unit: 2	Item: SCR 3
Component Inspected: 2A SCR Inlet			
Condition Assessment: The upper expansion joint defector shield has a crack in the left side and the center. The center crack looks like it could have propagated to/from the flue. Discoloration in the area may point to water leaking into the flue.			
Recommendations: Remove insulation and lagging to search for leak from the outside.			
Criticality: P3			
Risk if NOT Performed: Ambient air in leakage leading to increased corrosion.			
EKP Comments:			

Photos:

Date: 5/13/2023	Inspected by: B&W - CSH	Unit: 2	Item: SCR 4
Component Inspected: 2A & 2B SCR Outlet			
Condition Assessment: The expansion joint pillow of the joints upstream of the APH inlets, were discovered with tears and holes, exposing inner fabric at the top of the RHS on 2A and near the floor and the entire RHS on 2B.			
Recommendations: Continue to monitor.			
Criticality: P3			
Risk if NOT Performed: Holes/Tears can occur through the inner fabric, exposing the inside of the outer layer, and eventually causing the expansion joint to fail.			
EKP Comments:			

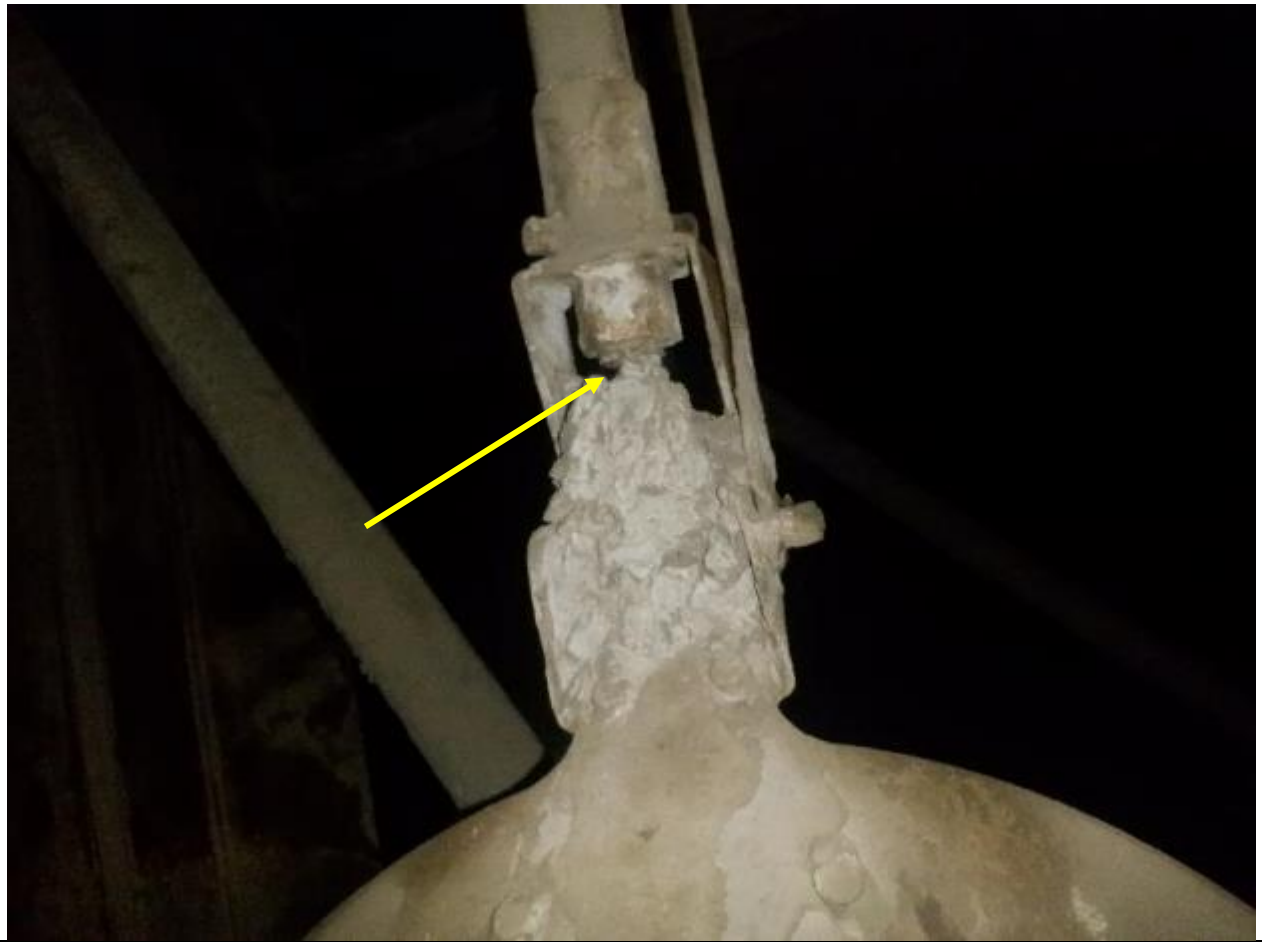
Photos:

Date: 5/13/2023	Inspected by: B&W - CSH	Unit: 2	Item: SCR 5
Component Inspected: 2A SCR Outlet			
Condition Assessment: The expansion joint dust cover was loose on the floor of the casing on the joint upstream of the APH inlets.			
Recommendations: Clean the debris from the expansion joint and tack weld the dust cover to the flue, over the expansion joint.			
Criticality: P3			
Risk if NOT Performed: Excessive debris build up on the joint/at the loose covers.			
EKP Comments:			

Photos:

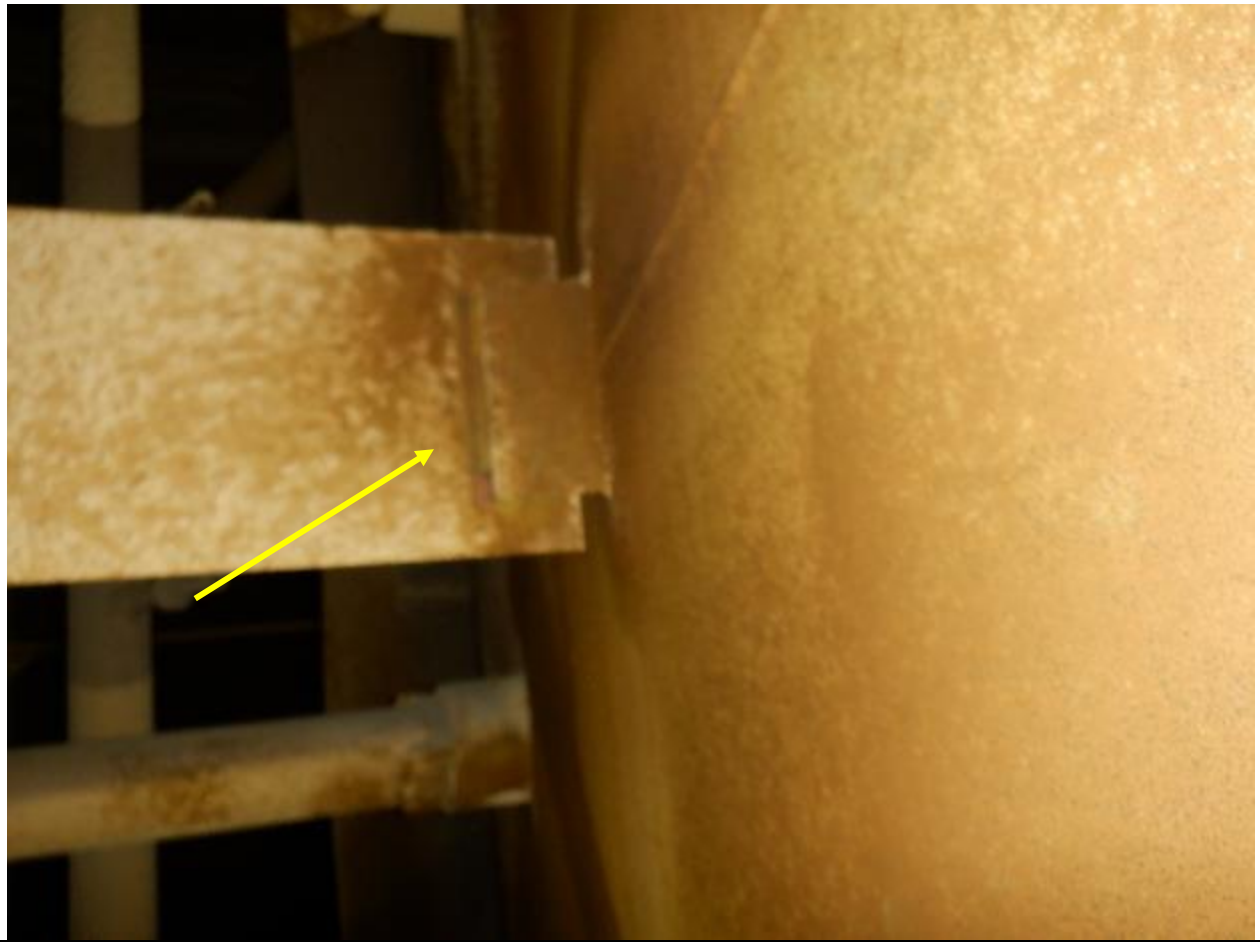
Date: 5/13/2023	Inspected by: B&W – CSH	Unit: 2	Item: SCR 6
Component Inspected: 2A & 2B SCR Outlet			
Condition Assessment: Column 1 - upper and lower and column 5 - lower DSI nozzles were plugged in 2A flue. Column 1 – upper and column 4 – upper and lower nozzles were plugged.			
Recommendations: Clean the nozzles and splash plates.			
Criticality: P3			
Risk if NOT Performed: Portions of the flue gas will go untreated due to the plugged nozzles.			
EKP Comments:			

Photos:



Date: 5/18/23	Inspected by: B&W ECC	Unit: 2	Item: SCR 7
Component Inspected: 2B SCR Inlet			
Condition Assessment: The lower two deflector panels are on the wrong side of the left-side stops.			
Recommendations:			
Criticality: P3			
Risk if NOT Performed: Portions of the flue gas will go untreated due to the plugged nozzles.			
EKP Comments:			

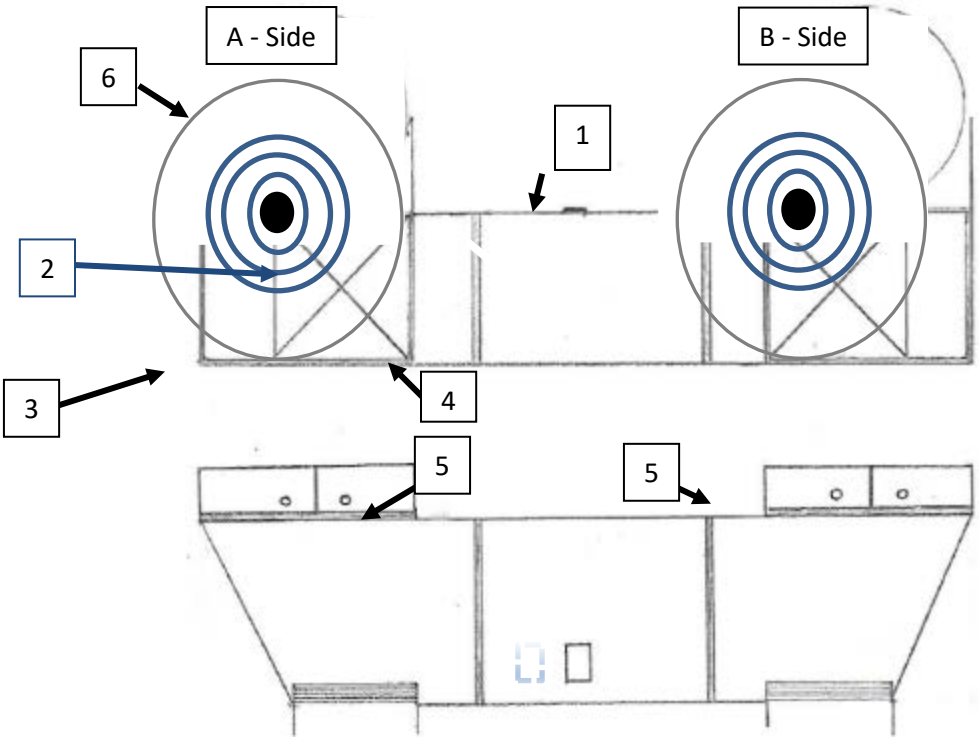
Photos:



Date: 5/18/23	Inspected by: B&W	Unit: 2	Item: SCR 8
Component Inspected: 2A & 2B SCR Inlet			
Condition Assessment: Both expansion joints in the SCR inlet had minor ash buildup.			
Recommendations: Clear ash from the joints.			
Criticality: P3			
Risk if NOT Performed: Fabric corrosion and joint binding.			
EKP Comments:			

Photos:

#25 Air Preheater Gas Inlet and Gas Outlet



Date: 05/13/23	Inspected by: B&W ECC	Unit: 2	Item: APHGASIO 1
Component Inspected: Air Preheater Gas Outlet			
Condition Assessment: Gas crossover – Several holes have eroded into the gas outlet crossover damper frame.			
Recommendations: Weld repair the holes.			
Criticality: P3			
Risk if NOT Performed: Erosion will continue and the holes enlarge.			
EKP Comments:			

Photos:

Date: 05/13/23	Inspected by: B&W ECC	Unit: 2	Item: APHGASIO 2
Component Inspected: Air Preheater Gas Outlet			
Condition Assessment: AH A Gas Outlet: Missing and one bent radial seal section.			
Recommendations: Replace the sections of seal.			
Criticality: P3			
Risk if NOT Performed: Minor increase in air heater leakage.			
EKP Comments:			

Photos:

Date: 05/13/23	Inspected by: B&W ECC	Unit: 2	Item: APHGASIO 3
Component Inspected: Air Preheater Gas Outlet			
Condition Assessment: Air heater A Gas outlet: The front of the expansion joint as many small holes.			
Recommendations: Patch the holes.			
Criticality: P3			
Risk if NOT Performed: Holes can enlarge over time and increase air in leakage.			
EKP Comments:			

Photos:

Date: 05/13/23	Inspected by: B&W ECC	Unit: 2	Item: APHGASIO 4
Component Inspected: Air Preheater Gas Outlet			
Condition Assessment: 2A Outlet Inlet – The rear wall of the flue has an indication near the left rear corner.			
Recommendations: PT the indication to determine its extent. Grind out and weld repair as needed.			
Criticality: P3			
Risk if NOT Performed: Slight air in leakage.			
EKP Comments:			
Photos: 			

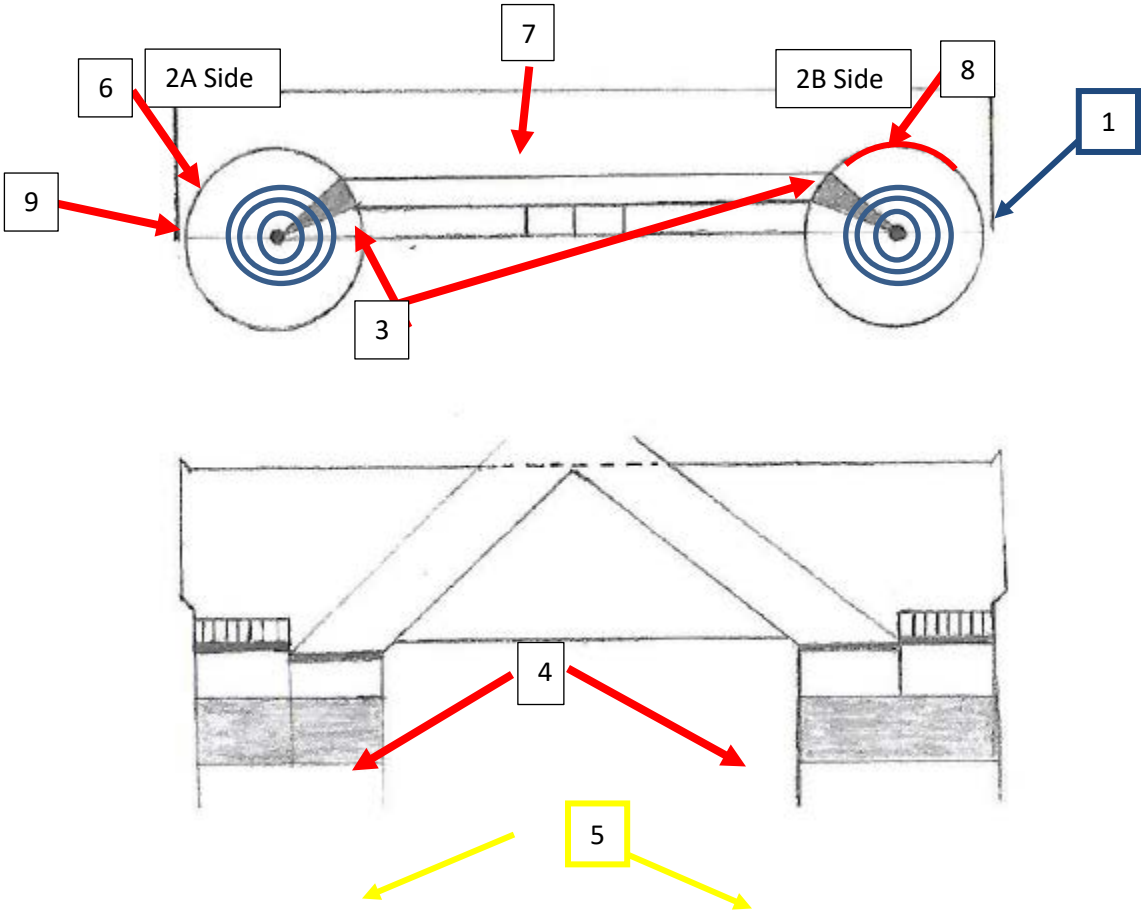
Date: 05/13/23	Inspected by: B&W ECC	Unit: 2	Item: APHGASIO 5
Component Inspected: 2A & 2B Air Preheater Gas Inlet			
Condition Assessment: The inner fabric of the expansion going is torn.			
Recommendations: Repair the expansion joint			
Criticality: P3			
Risk if NOT Performed: Damage will continue and damage could start to occur in the outer layer of the expansion joint.			
EKP Comments:			

Photos:

Date: 5/13/2023	Inspected by: B&W - CSH	Unit: 2	Item: APHGASIO 6
Component Inspected: Air Preheater Gas Inlet/Outlet			
Condition Assessment: 2A Gas Inlet – There were six (6) excessive gaps marked along the rear of the APH where the circumferential seals were missing/damaged.			
Recommendations: Replace the damaged seals.			
Criticality: P3			
Risk if NOT Performed: A poor seal will allow gas to bypass the air heater baskets and cause the APH to be less efficient.			
EKP Comments:			

Photos:

#26 Air Preheater Air Inlet and Air Outlet



Date: 05/13/23	**Inspected by: B&W ECC**	**Unit: 2**	**Item: APHAIRIO 1**
Component Inspected: Air Preheater Sec Air Outlet			
Condition Assessment: 2B – The front left lower corner of the casing has an indication.			
Recommendations: PT in the indication and grind out and reweld as needed.			
Criticality: P3			
Risk if NOT Performed: The indication could propagate.			
EKP Comments:			

Photos:

Date: 05/13/23	Inspected by: B&W ECC	Unit: 2	Item: APHAIRIO 2
Component Inspected: Air Preheater Sec Air Outlet			
Condition Assessment: 2B Secondary Air Out – The expansion joint inner fabric is ripped around the perimeter.			
Recommendations: Repair the expansion joint.			
Criticality: P3			
Risk if NOT Performed: The damage could continue and form a hole in the outer layer of the joint.			
EKP Comments:			

Photos:

Date: 05/13/23	Inspected by: B&W ECC	Unit: 2	Item: APHAIRIO 3
Component Inspected: Air Preheater Air Outlet			
Condition Assessment: AH B Secondary Air Outlet: Many of the deluge header nozzles are plugged.			
Recommendations: Clean nozzles			
Criticality: P3			
Risk if NOT Performed: Uneven distribution of water when the deluge system is used.			
EKP Comments:			

Photos:

Date: 5/13/2023	Inspected by: B&W - CSH	Unit: 2	Item: APHAIRIO 4
Component Inspected: Air Preheater Air Inlet/Outlet			
Condition Assessment: 2A & 2B Secondary Air Inlet – There were debris in the expansion joints beneath the APH baskets.			
Recommendations: Remove the debris and install a cover over the existing shield to prevent debris falling into the existing cover.			
Criticality: P3			
Risk if NOT Performed: Debris can prevent the joint from being able to move properly and the metal from the baskets could penetrate the joint.			
EKP Comments:			

Photos:

Date: 5/13/2023	Inspected by: B&W - CSH	Unit: 2	Item: APHAIRIO 5
Component Inspected: Air Preheater Air Inlet/Outlet			
Condition Assessment: 2B Secondary Air Inlet – There were debris in the hoppers beneath the APHs, downstream of the SCAHs.			
Recommendations: Remove the debris.			
Criticality: P3			
Risk if NOT Performed: Hoppers/drains could get plugged.			
EKP Comments:			

Photos:

Date: 5/13/2023	**Inspected by: B&W - CSH**	**Unit: 2**	**Item: APHAIRIO 6**
Component Inspected: Air Preheater Air Inlet/Outlet			
Condition Assessment: 2A Secondary Air Outlet – There was a small section of damaged circumferential seals.			
Recommendations: Replace the section of seals and set the circumferential seals to ¼" away from the heater basket frame.			
Criticality: P3			
Risk if NOT Performed: Air can short circuit the heater.			
EKP Comments:			
Photos:			

Date: 5/13/2023	Inspected by: B&W - CSH	Unit: 2	Item: APHAIRIO 7
Component Inspected: 2A & 2B Air Preheater Air Outlet			
Condition Assessment: 2A & 2B Secondary Air Outlet - There was debris in the crossover duct and the metallic expansion joint.			
Recommendations: Remove the debris.			
Criticality: P2			
Risk if NOT Performed: Debris prevent the joint from being able to move as designed and could cause the joint to fail.			
EKP Comments:			

Photos:

Date: 5/13/2023	Inspected by: B&W - CSH	Unit: 2	Item: APHAIRIO 8
Component Inspected: Air Preheater Air Inlet/Outlet			
Condition Assessment: 2B Secondary Air Inlet – There was minor corrosion on the outboard radial seals.			
Recommendations: Replace the section of seals.			
Criticality: P3			
Risk if NOT Performed: Air can short circuit the heater.			
EKP Comments:			

Photos:

Date: 5/13/2023	Inspected by: B&W - CSH	Unit: 2	Item: APHAIRIO 9
Component Inspected: Air Preheater Air Inlet/Outlet			
Condition Assessment: 2B Secondary Air Outlet – The access door's gasket was loose.			
Recommendations: Replace the gasket or securely fasten it in place			
Criticality: P3			
Risk if NOT Performed: Air can short circuit the heater.			
EKP Comments:			

Photos:

Date: 10/6/2021	Inspected by: B&W	Unit: 2	Item: APHAIRIO 6
Component Inspected: 2A & 2B Air Preheater Air Outlet			
Condition Assessment: 2A & 2B Secondary Air Outlet - There was debris in the crossover duct metallic expansion joint.			
Recommendations: Remove the debris in the expansion joint.			
Criticality: P2			
Risk if NOT Performed: Debris prevent the joint from being able to move as designed and could cause the joint to fail.			
EKP Comments:			

Photos:

#27 ID Fans

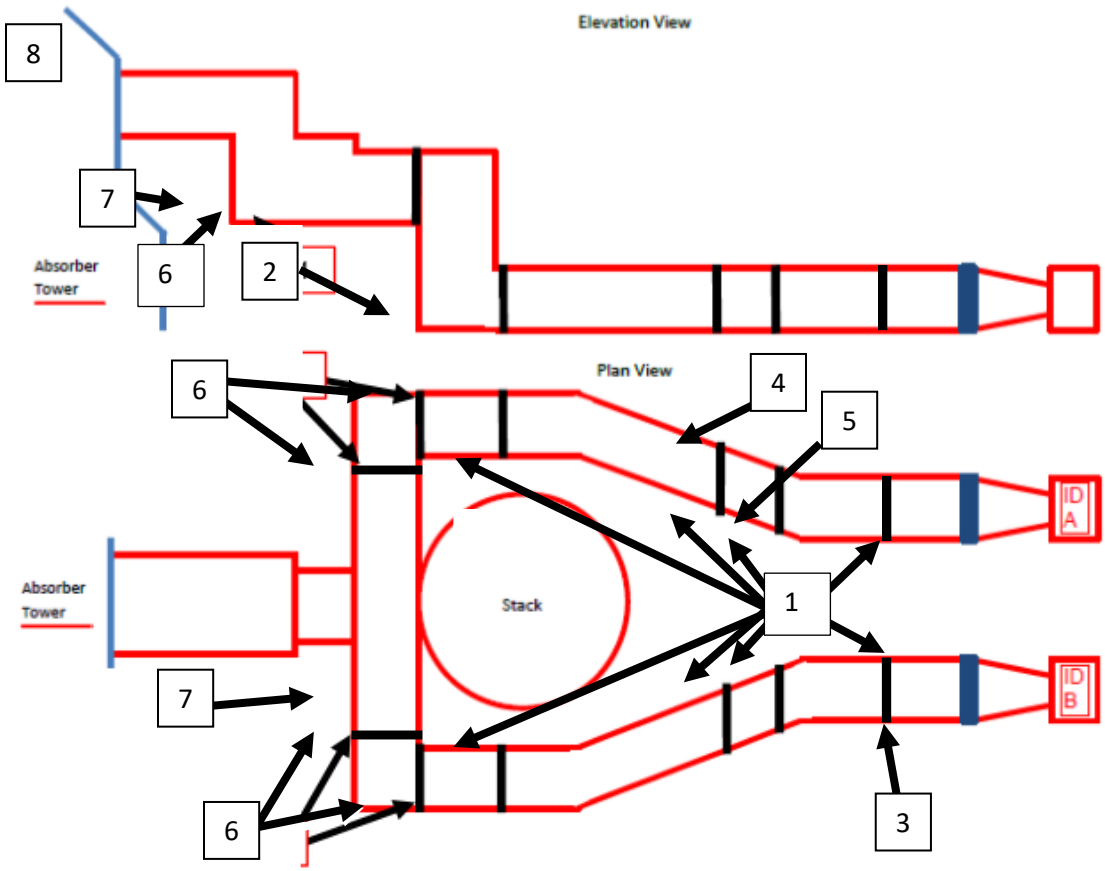
Date: 05/13/23	**Inspected by: B&W ECC**	**Unit: 2**	**Item: IDFANS 1**
Component Inspected: 2B ID Fan			
Condition Assessment: The ID Fan inlet expansion joint is starting to fray. At the 5 o'clock position the fabric has a hole exposing the rubber portion of the joint. A small section of the flue is missing at this location.			
Recommendations: Cover the rubber section of the joint and patch the missing section of flue.			
Criticality: P3			
Risk if NOT Performed: A hole may form in the expansion joint resulting in air inleakage.			
EKP Comments:			

Photos:

Date: 10/7/2021	Inspected by: B&W	Unit: 2	Item: IDFANS 2
Component Inspected: 2B ID Fan Outlet			
Condition Assessment: There was a broken weld on the fan outlet casing section of the 2B ID Fan.			
Recommendations: Reweld.			
Criticality: P3			
Risk if NOT Performed: Separation of the casing sections could lead to expansion joint failure and flue gas leaks.			
EKP Comments:			

Photos:

#28 ID Fan Outlet Flues to Stack



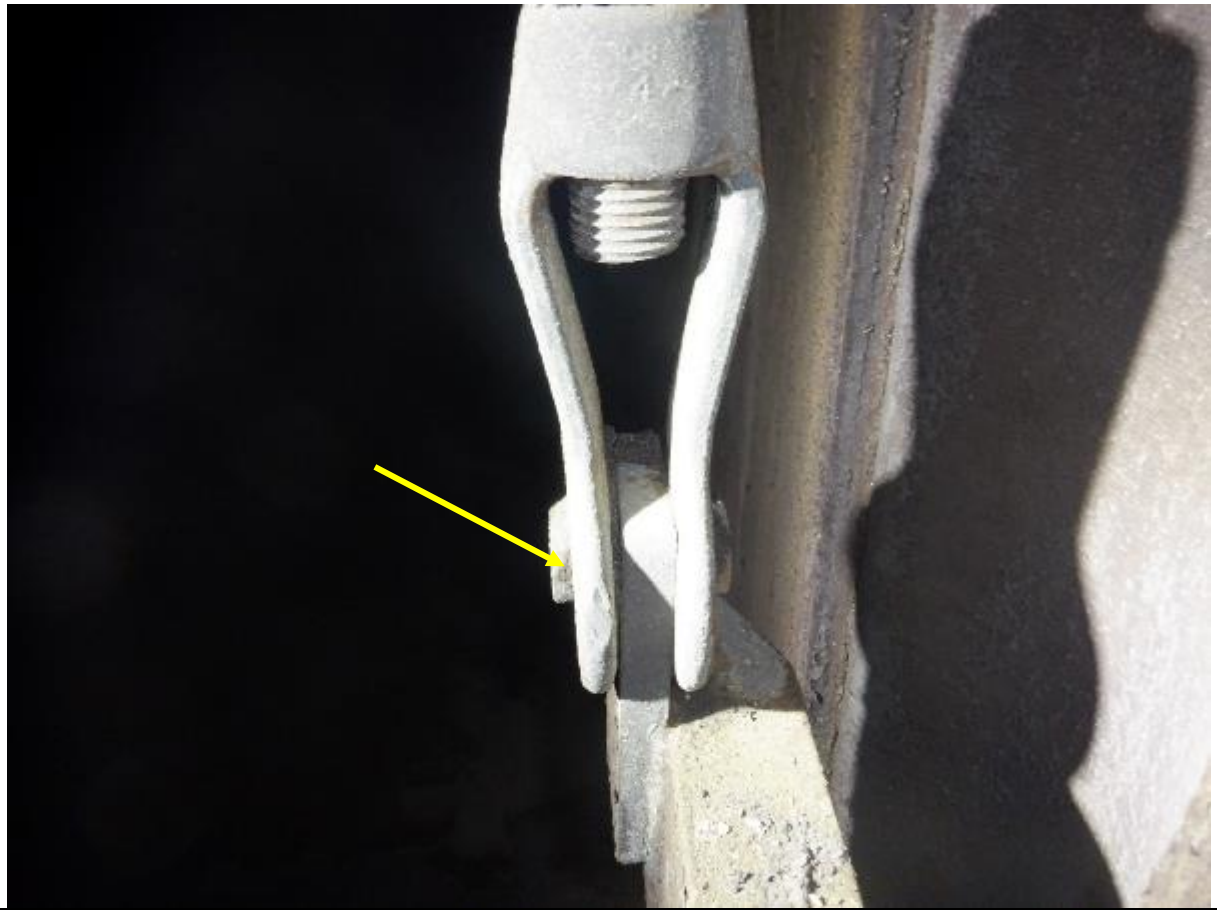
Date: 5/18/23	Inspected by: B&W ECC	Unit: 2	Item: ID Outlets 1
Component Inspected: 2A & 2B ID Discharge Flue			
Condition Assessment: All four (4) expansion joints in each side had minor debris in them and the first joint in B side contained water.			
Recommendations: Clean out all eight (8) of the expansion joints.			
Criticality: P3			
Risk if NOT Performed: Debris puts extra weight in the joint and could cause the joint to fail or not be able to flex.			
EKP Comments:			
Photos: 			

Date: 5/18/23	Inspected by: B&W ECC	Unit: 2	Item: ID Outlets 2
Component Inspected: 2A & 2B ID Fan Discharge			
Condition Assessment: At the end of the flue, at the takeoff underneath the turning vanes, there was a small accumulation of ash.			
Recommendations: Remove the ash by vacuuming.			
Criticality: P3			
Risk if NOT Performed: If ash continues to build it could overload the flue.			
EKP Comments:			
Photos: 			

Date: 5/18/23	Inspected by: B&W ECC	Unit: 2	Item: ID Outlets 3
Component Inspected: 2B ID Fan Discharge			
Condition Assessment: Just downstream of the first expansion joint from the ID fan the flue has a small hole in the upper left corner of the flue.			
Recommendations: Strip the insulation and lagging to access from the outside and patch the hole, or scaffold from the inside to access the area and patch the hole.			
Criticality: P2			
Risk if NOT Performed: Flue gas leak to ambient.			
EKP Comments:			
Photos: 			

Date: 5/18/23	Inspected by: B&W ECC	Unit: 2	Item: ID Outlets 4
Component Inspected: 2A ID Fan Discharge			
Condition Assessment: The lower hanger attachment pin on the third expansion joint hanger is missing a cotter pin.			
Recommendations: Install a cotter pin.			
Criticality: P3			
Risk if NOT Performed: As long as the pin remains loaded nothing will happen. If the pin unloads the pin could shift and fall out of the clevis.			
EKP Comments:			

Photos:



Date: 5/18/23	Inspected by: B&W ECC	Unit: 2	Item: ID Outlets 5
Component Inspected: 2ID A Outlet			
Condition Assessment: The left side of the first expansion joint has many small cuts and the fabric is frayed.			
Recommendations: Installing a deflector on the left side wall of the flue will help preserve the expansion joint.			
Criticality: P3			
Risk if NOT Performed: The small cuts could grow. Given the trajectory of the flue gas the left side will wear more over time without protection.			
EKP Comments:			
Photos: 			

Date: 5/18/23	Inspected by: B&W ECC	Unit: 2	Item: ID Outlets 6
Component Inspected: U2 Upper ID Fan Discharge to Absorber Inlet Flue			
Condition Assessment: A & B Sides - There was minor ash/debris accumulation in the two (2) expansion joints on each side.			
Recommendations: Remove the ash and debris from the joint.			
Criticality: P3			
Risk if NOT Performed: If more debris accumulates, it could hinder the joints movement and cause it to fail.			
EKP Comments:			

Photos:

Date: 5/18/23	Inspected by: B&W	Unit: 2	Item: ID Outlets 7
Component Inspected: U2 Upper ID Fan Discharge to Absorber Inlet Flue B side (left)			
Condition Assessment: The access door is severely corroded and has a hole in the skin.			
Recommendations: Patch skin or replace the door.			
Criticality: P3			
Risk if NOT Performed: Loss of structural integrity may make it difficult to maintain a seal on the door..			
EKP Comments:			

Photos:

Date: 5/18/23	Inspected by: B&W	Unit: 2	Item: ID Outlets 8
Component Inspected: U2 Absorber Inlet			
Condition Assessment: The absorber quench water nozzles were all plugged with ash.			
Recommendations: Clear the nozzle of ash and verify proper flow.			
Criticality: P2			
Risk if NOT Performed: If nozzles are plugged, could prohibit the quench system from working.			
EKP Comments:			
Photos: 			

Date: 5/18/23	**Inspected by: B&W**	**Unit: 2**	**Item: ID Outlets 9**
Component Inspected: U2 Mid ID Fan Discharge to Absorber Inlet Flue B side (left)			
Condition Assessment: The old flue work above the upper section of flue has loose lagging.			
Recommendations: Remove the lagging.			
Criticality: P1			
Risk if NOT Performed: The lagging could fall.			
EKP Comments:			
Photos: 			

Date: 5/18/23	Inspected by: B&W ECC	Unit: 2	Item: ID Outlets 10
Component Inspected: U2 Absorber Inlet			
Condition Assessment: The corners of the upper deflector hood are missing.			
Recommendations: Replace the corners of the deflector hood.			
Criticality: P3			
Risk if NOT Performed: Ash accumulation in the upper corner and disrupted gas distribution.			
EKP Comments:			

Photos:

Date: 5/18/23	Inspected by: B&W ECC	Unit: 2	Item: ID Outlets 10
Component Inspected: U2 WESP to Stack Flue			
Condition Assessment: The drains upstream from the stack expansion joint contain debris.			
Recommendations: Clear all the drains prior to start-up			
Criticality: P3			
Risk if NOT Performed: Water will not be able to drain from the flue.			
EKP Comments:			
Photos: 			

#29 FD Fans

Date: 5/18/2023	**Inspected by: B&W - CSH**	**Unit: 2**	**Item: FDFANS 1**
Component Inspected: FD Fans			
Condition Assessment: 2A Discharge – The expansion joint at the crossover duct had debris in it.			
Recommendations: Clean out the expansion joint.			
Criticality: P3			
Risk if NOT Performed: Duct will not be able to flex and could cause the joint to fail.			
EKP Comments:			

Photos:

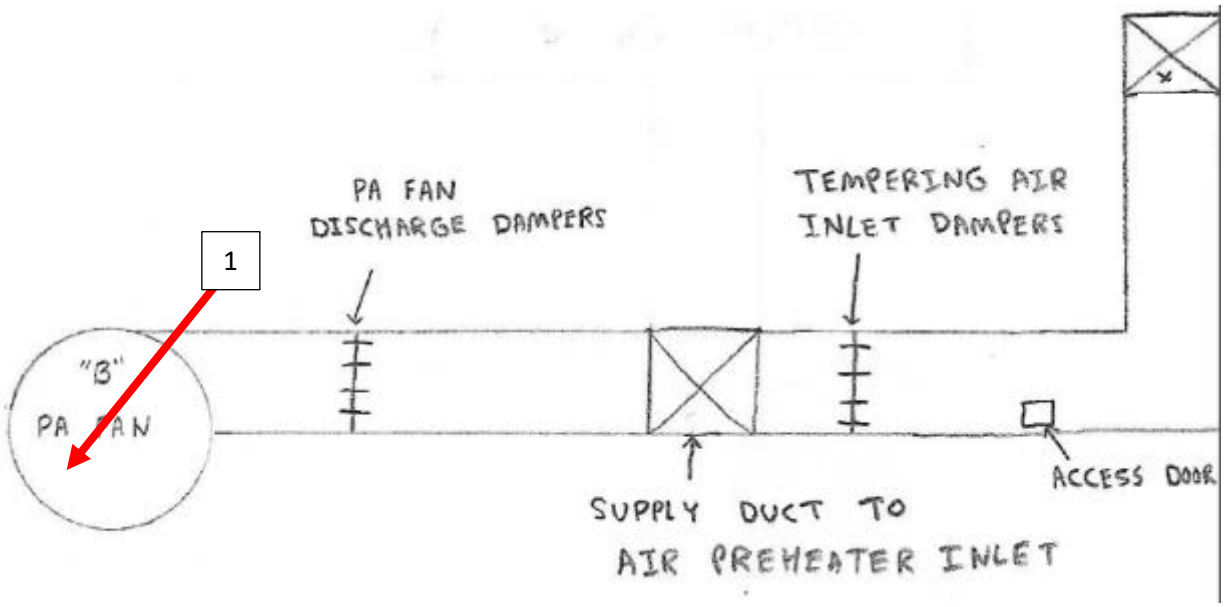
Date: 5/18/2023	Inspected by: B&W - CSH	Unit: 2	Item: FDFANS 2
Component Inspected: FD Fans			
Condition Assessment: 2A FD Fan Discharge – The plant was working to repair an oil leak this outage.			
Recommendations: The plant has repaired the leak, none at this time. Use caution while entering the discharge, the casing floor is slick.			
Criticality: INFO			
Risk if NOT Performed: None at this time.			
EKP Comments:			

Photos:

Date: 5/18/2023	Inspected by: B&W - ECC	Unit: 2	Item: FDFANS 3
Component Inspected: FD B Outlet			
Condition Assessment: The expansion joint fabric is frayed.			
Recommendations: Replace the expansion joint			
Criticality: P3			
Risk if NOT Performed: Damage will eventually wear through to the outer layer.			
EKP Comments:			

Photos:

#30 PA Fans



Date: 05/22/2023	Inspected by: B&W	Unit: 2	Item: PAFANS 1
Component Inspected: PA Fans – 2A & 2B			
Condition Assessment: Both side of the inlet boxes for the PA Fans had debris in the bottom.			
Recommendations: Remove the debris.			
Criticality: P3			
Risk if NOT Performed: Debris could possibly get pulled into the inlet vanes.			
EKP Comments:			

Photos:

#31 Steam Coil Air Heaters

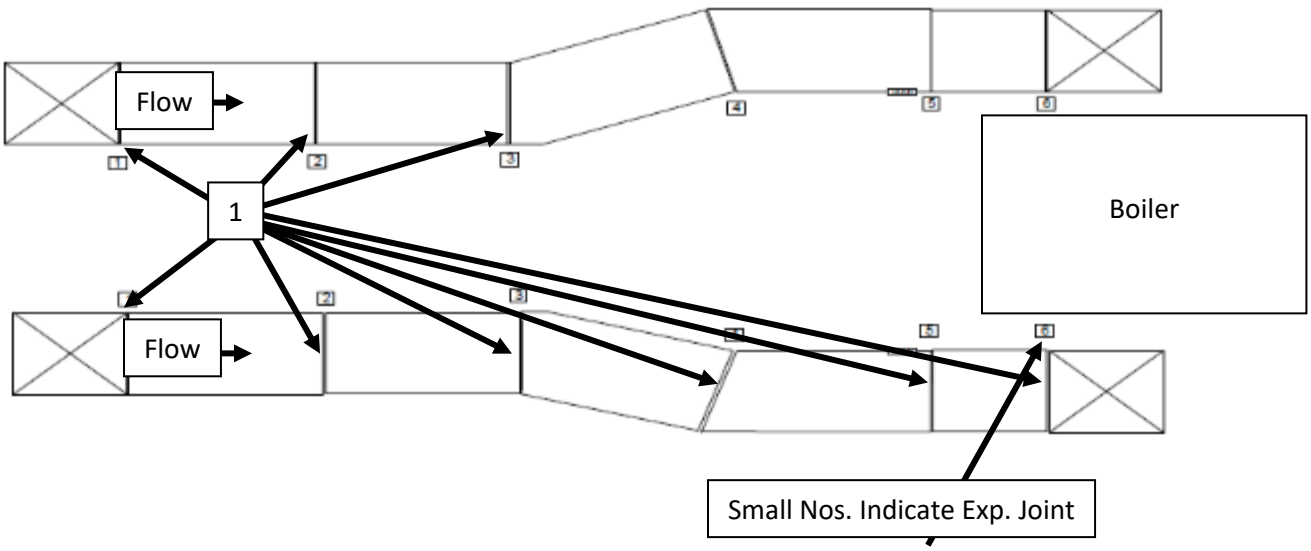
Date: 5/18/2023	**Inspected by: B&W -CSH**	**Unit: 2**	**Item: STMCOIL 1**
Component Inspected: 2A & 2B Steam Coil Air Heater			
Condition Assessment: The leading edge of the steam coils were clean with minor pluggage.			
Recommendations: Continue to monitor.			
Criticality: Information only.			
Risk if NOT Performed: None.			
EKP Comments:			

Photos:

Date: 5/13/2023	Inspected by: B&W - CSH	Unit: 2	Item: STMCOIL 2
Component Inspected: Steam Coil Air Heater – 2B Side			
Condition Assessment: 2A & 2B steam coil trailing edge was in good condition.			
Recommendations: Continue to monitor.			
Criticality: Information only.			
Risk if NOT Performed: None at this time.			
EKP Comments:			

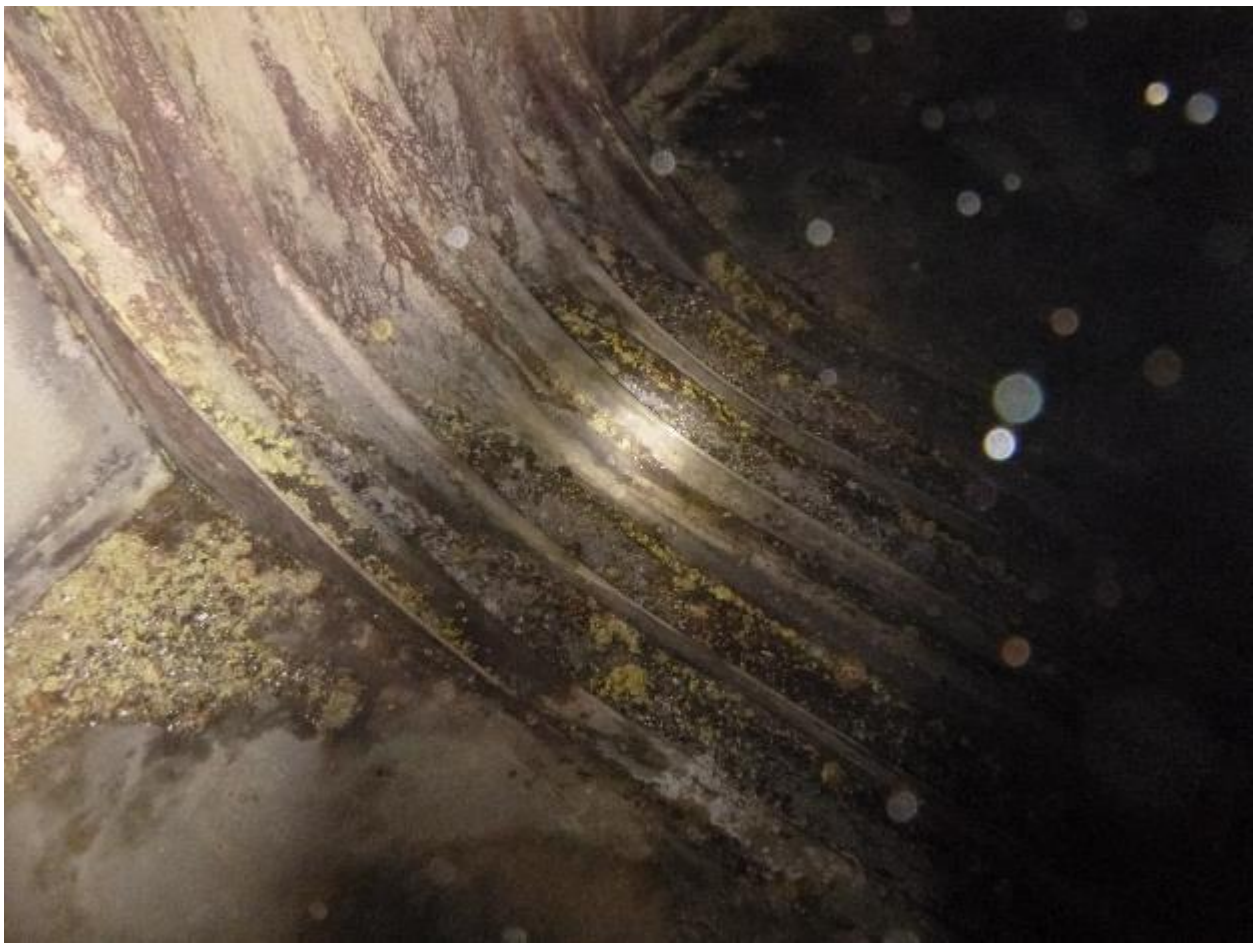
Photos:

#32 Secondary Air Ducts

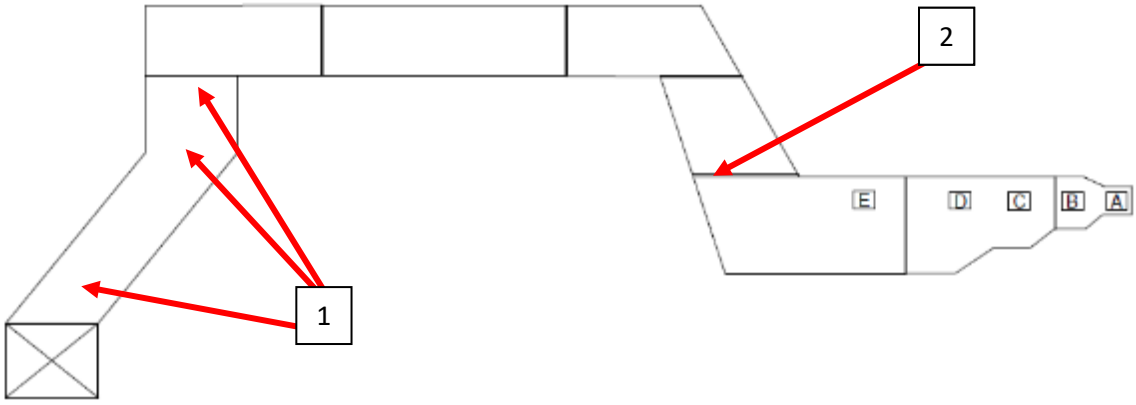


Date: 05/13/23	Inspected by: B&W ECC	Unit: 2	Item: SADUCT 1
Component Inspected: Secondary Air Duct			
Condition Assessment: SA A & B Sides: There were debris found in A side at the last three (3) expansion joints closest to the APH. Debris were in all expansion joints in B side.			
Recommendations: Remove the debris from the expansion joints of the ducts.			
Criticality: P3			
Risk if NOT Performed: The expansion joints won't be able to expand, and contract as designed and could cause damage to the duct or joint.			
EKP Comments:			

Photos:



#33 Primary Air Duct



Date: 5/18/2023	Inspected by: B&W - CSH	Unit: 2	Item: PADUCTS 1
Component Inspected: Primary Air Ducts			
Condition Assessment: There were small piles of debris in the upper portion of the PA and expansion joints 1, 2, and 3 from the APH had debris in them.			
Recommendations: Vacuum out the upper portion of the duct and expansion joints.			
Criticality: P3			
Risk if NOT Performed: Expansion joints will not be able to move as designed and this could lead to expansion joint or duct failure/damage.			
EKP Comments:			
Photos: 			

Date: 5/18/2023	Inspected by: B&W - CSH	Unit: 2	Item: PADUCTS 2
Component Inspected: Primary Air Ducts			
Condition Assessment: There appeared to be a casing leak at the roof beside the seventh expansion joint from the APH.			
Recommendations: Clean the area and inspect the casing/expansion joint for the leak.			
Criticality: P3			
Risk if NOT Performed: Expansion joint or duct will allow air to escape.			
EKP Comments:			
Photos: 			

#34 Tempering and Cold Air Ducts

Date: 5/18/2023	**Inspected by: B&W - CSH**	**Unit: 2**	**Item: TADUCTS 1**
Component Inspected: Tempering/Cold Air Ducts (5th Floor)			
Condition Assessment: About 8' upstream of the E mill take off, there were two holes in the casing roof. This is near the bend of the duct. The leak has allowed water to accumulate in the duct. This is on the exterior side of the boiler house, near the building penetration.			
Recommendations: Seal weld a 6" x 6" x 3/16" thick, carbon steel patch over the holes. It would be better to weld the patch from the exterior of the duct.			
Criticality: P3			
Risk if NOT Performed: Water will continue to enter the duct and the leak will worsen.			
EKP Comments:			
Photos: 			

#35 Windbox and Connecting Ducts

Date: 5/18/2023	**Inspected by: B&W - CSH**	**Unit: 2**	**Item: WINDBOX 1**
Component Inspected: Windbox and Connecting Ducts			
Condition Assessment: A & B side – All windbox expansion joints, at the corners beside the burners, had ash accumulation in the folds.			
Recommendations: Vacuum out ash and install a light insulation or kaowool into the expansion joints folds to prevent ash accumulation.			
Criticality: P3			
Risk if NOT Performed: Ductwork not able to grow/move appropriately which could cause joint failure.			
EKP Comments:			

Photos:

#36 SOFA Inlet Ducts

Date: 05/13/23	**Inspected by: B&W**	**Unit: 2**	**Item: SOFA 1**
Component Inspected: SOFA Inlet Ducts (Upper)			
Condition Assessment: Holes and tears were identified in the inner fabric of the left rear, right front, and right rear SOFA duct expansion joints.			
Recommendations: Patch the fabric and continue to monitor the exterior for holes and/or tears.			
Criticality: P3			
Risk if NOT Performed: Damage to the expansion joint may continue and eventually impact the outer portion allowing hot air to escape or causing the joint to function improperly.			
EKP Comments:			

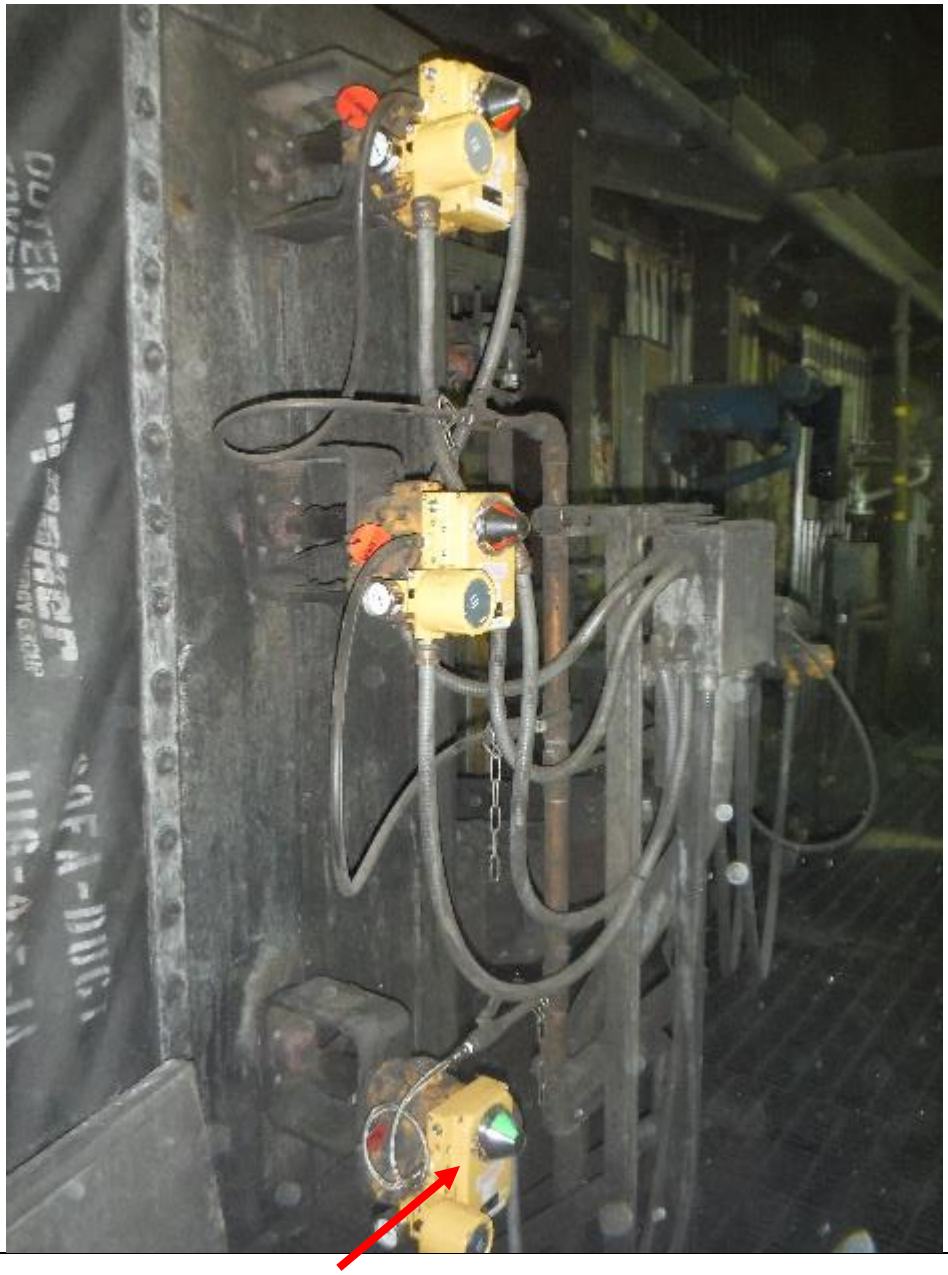
Photos:

Date: 05/13/23	Inspected by: B&W	Unit: 2	Item: SOFA 2
Component Inspected: SOFA Inlet Ducts (Lower)			
Condition Assessment: Holes and tears were identified in the inner fabric of the left rear, left front, and right rear SOFA duct expansion joints.			
Recommendations: Patch the fabric and continue to monitor the exterior for holes and/or tears.			
Criticality: P3			
Risk if NOT Performed: Damage to the expansion joint may continue and eventually impact the outer portion allowing hot air to escape or causing the joint to function improperly.			
EKP Comments:			

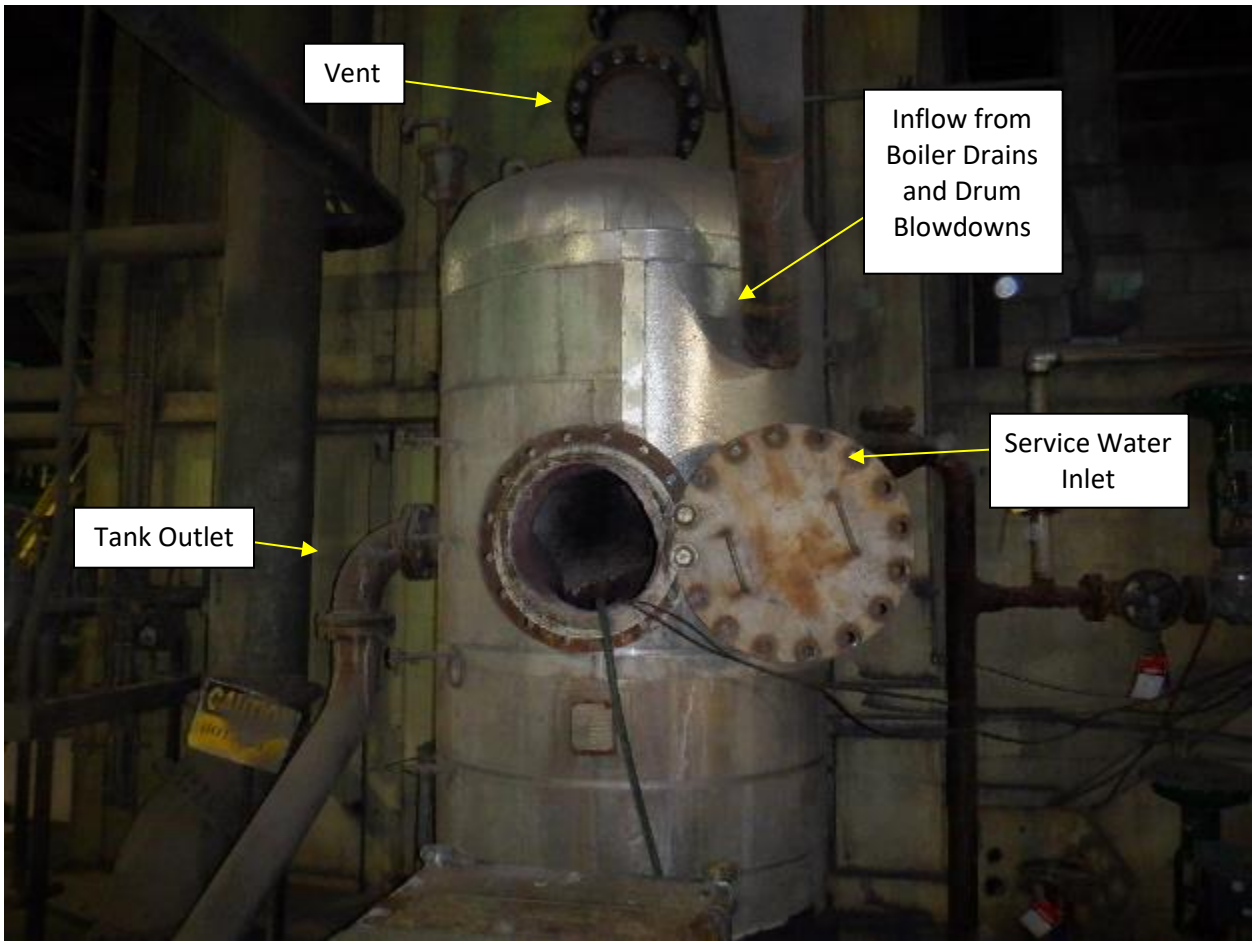
Photos:

Date: 05/13/23	Inspected by: B&W	Unit: 2	Item: SOFA 3
Component Inspected: SOFA Inlet Ducts			
Condition Assessment: Upper SOFA Indicators – Sofa lower dampers 3C, 2C, and 1C were showing open but the actual damper was closed.			
Recommendations: Flip the indicator 90 degrees to show the proper orientation locally.			
Criticality: P3			
Risk if NOT Performed: The local indication in inaccurate of how far the damper is opened.			
EKP Comments:			

Photos:



#37 Blowdown Tank



Date: 5/25/2023	Inspected by: B&W	Unit: 2	Item: BTank 1
Component Inspected: Blowdown Tank			
Condition Assessment: There was minor scale accumulation throughout the tank. All the pipes in the tank were clear. The worst area was inside the vent.			
Recommendations: Remove the scale from the line and tank.			
Criticality: P3			
Risk if NOT Performed: Scale will continue to accumulate.			
EKP Comments:			

Photos:

Date: 5/25/2023	Inspected by: B&W	Unit: 2	Item: BTank 2
Component Inspected: Blowdown Tank			
Condition Assessment: There was minor scale accumulation at the top of the door opening around the gasket.			
Recommendations: Remove the scale from the entrance and replace the door gasket.			
Criticality: P3			
Risk if NOT Performed: Door could leak when returned to service.			
EKP Comments:			

Photos:

Date: 5/25/2023	Inspected by: B&W	Unit: 2	Item: BTank 3
Component Inspected: Blowdown Tank			
Condition Assessment: The service water inlet pipe elbow was corroded at the end of the pipe.			
Recommendations: Continue to monitor.			
Criticality: P3			
Risk if NOT Performed: Elbow will deteriorate.			
EKP Comments:			

Photos:

Date: 5/25/2023	Inspected by: B&W	Unit: 2	Item: BTank 4
Component Inspected: Blowdown Tank			
Condition Assessment: There was a small amount of water and debris at the bottom of the tank.			
Recommendations: Remove the debris from the tank.			
Criticality: P3			
Risk if NOT Performed: Debris will continue to accumulate.			
EKP Comments:			

Photos: