

**IN THE SUPREME COURT OF NEVADA**

PANORAMA TOWERS CONDOMINIUM  
UNIT OWNERS' ASSOCIATION, a Nevada  
non-profit corporation,

Appellant,

vs.

LAURENT HALLIER, an individual;  
PANORAMA TOWERS I, LLC, a Nevada  
limited liability company; PANORAMA  
TOWERS I MEZZ, LLC, a Nevada limited  
liability company; and M.J. DEAN  
CONSTRUCTION, INC., a Nevada  
corporation,

Respondents.

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Sep 21 2020 06:25 p.m.  
Elizabeth A. Brown  
Clerk of Supreme Court

**APPEAL**

from the Eighth Judicial District Court, Clark County, Nevada  
The Honorable Susan H. Johnson, District Judge  
District Court Case No. A-16-744146-D

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**APPELLANT'S APPENDIX VOL 13 OF 27**

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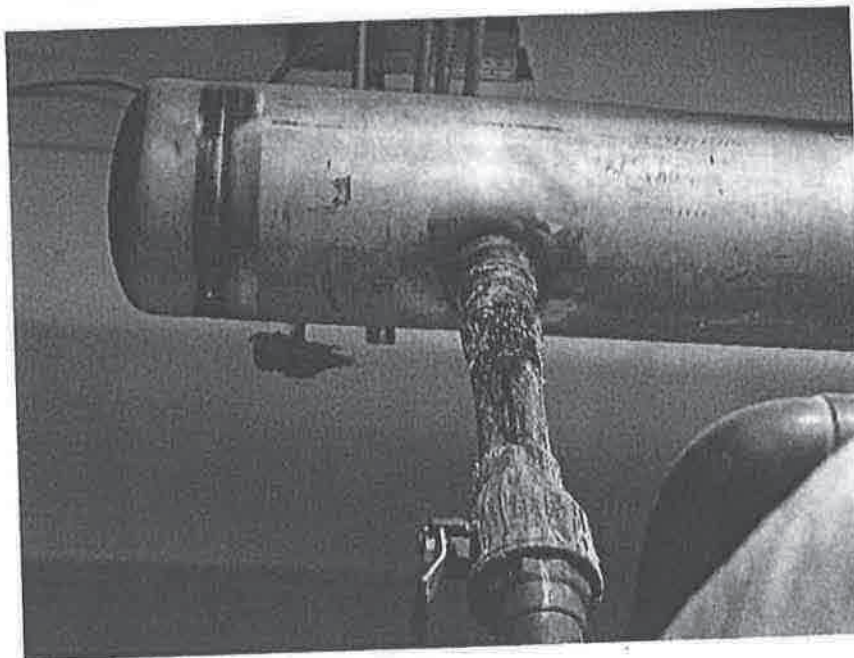
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PANORAMA 1 Lower Mechanical Room



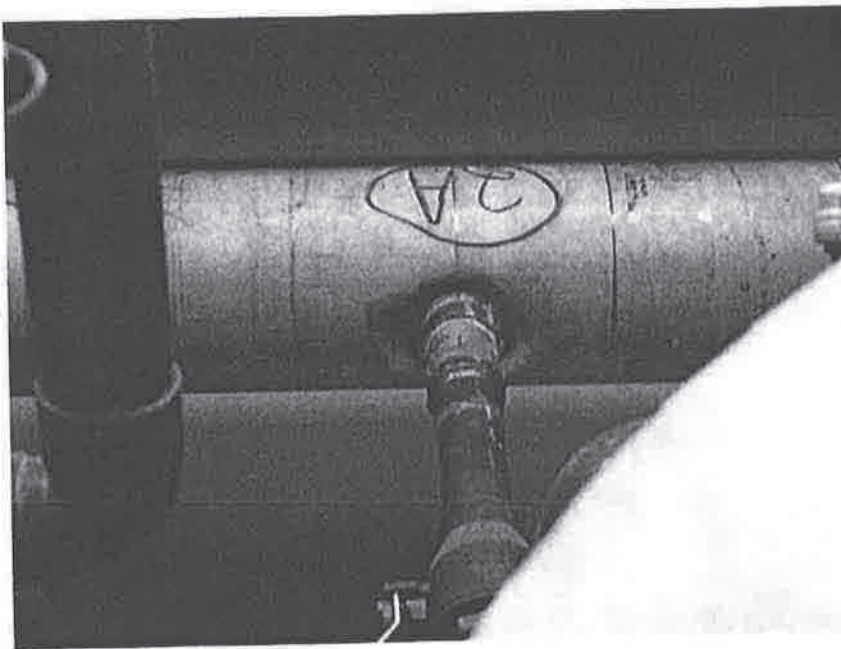
19. Filter

bank (jpg88).

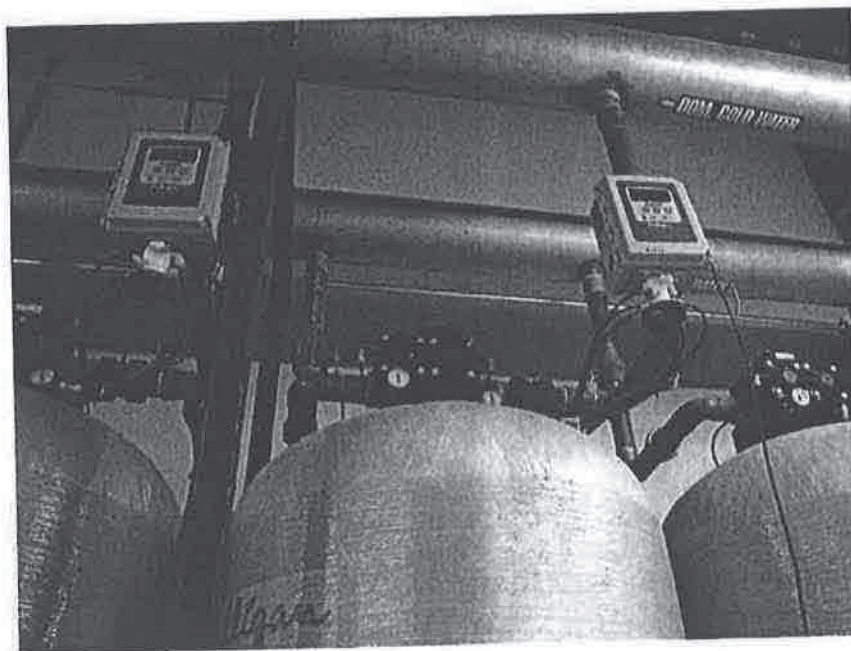


20. (jpg89)

PANORAMA 1 Lower Mechanical Room



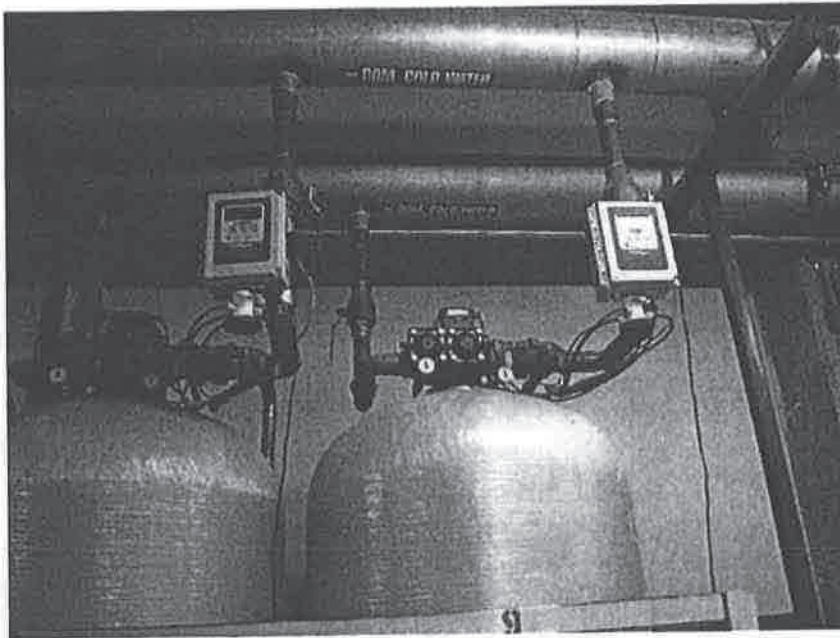
21. (jpg91)



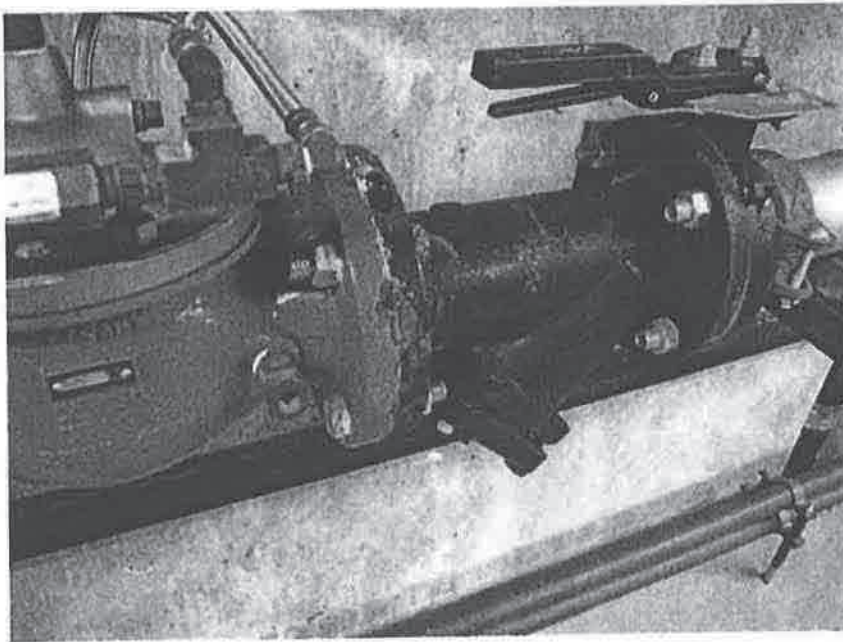
22. (jpg93)



PANORAMA 1 Lower Mechanical Room

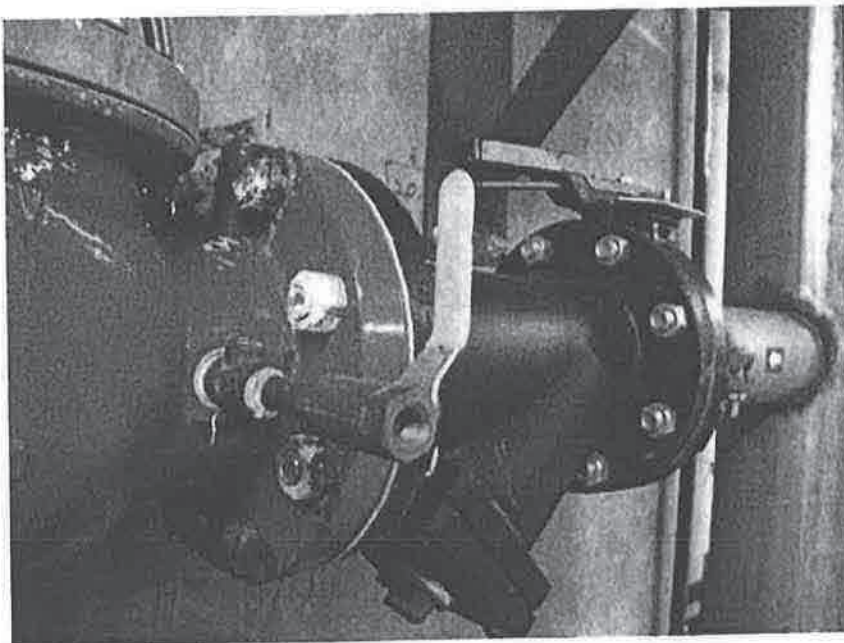


23. (jpg94)

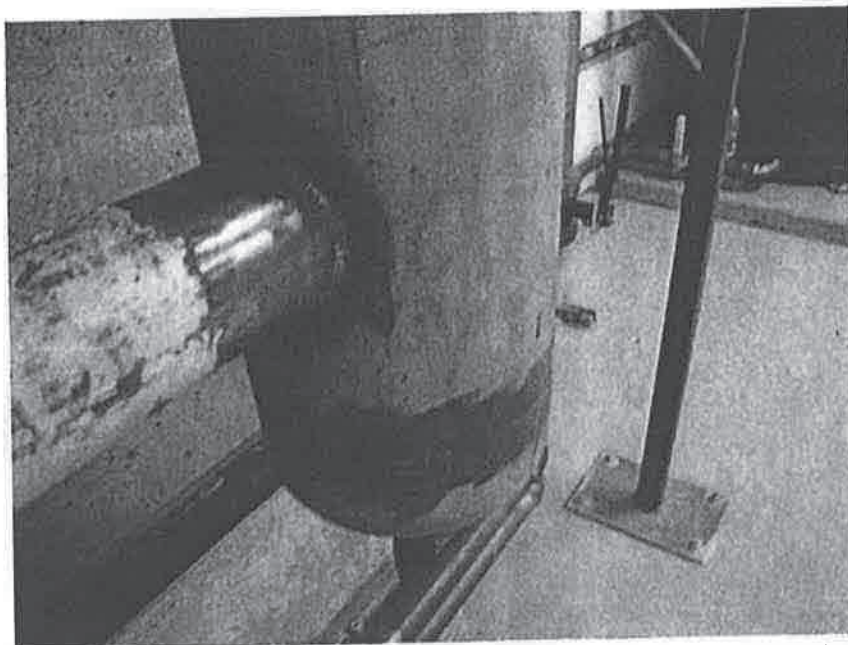


24. (jpg95)

PANORAMA 1 Lower Mechanical Room

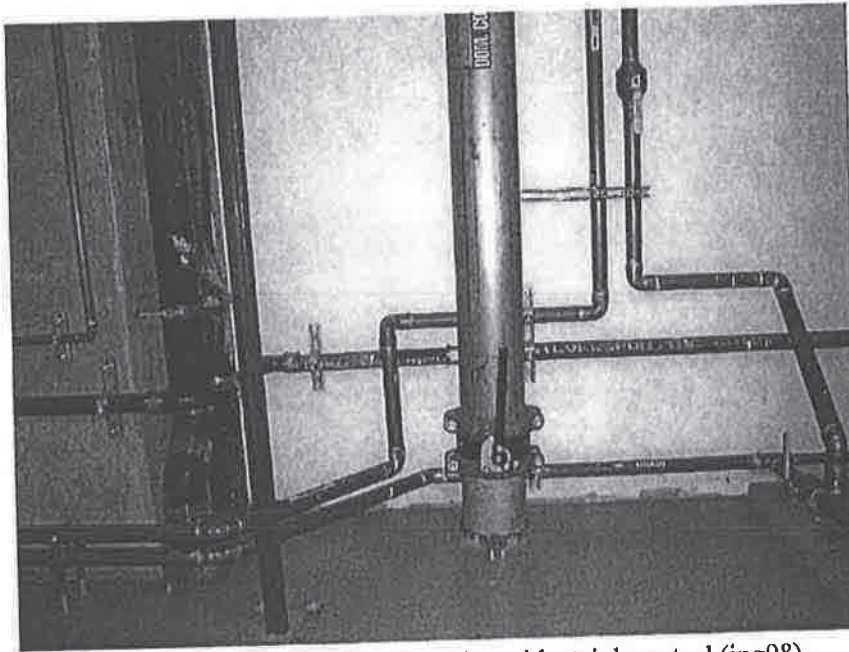


25. (jpg96)



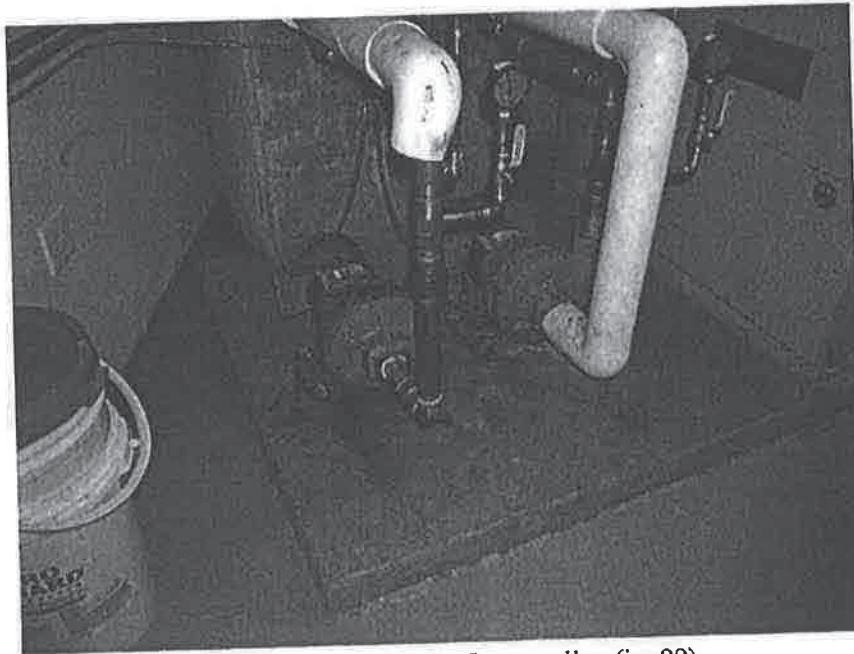
26. Evidence of removing welding tarnish with an acid e.g. hydrochloric; recommend cleaning with a stainless steel cleaner containing nitric acid.

PANORAMA 1 Lower Mechanical Room



27. City

water inlet; replace ferrous butterfly valve with stainless steel (jpg98).

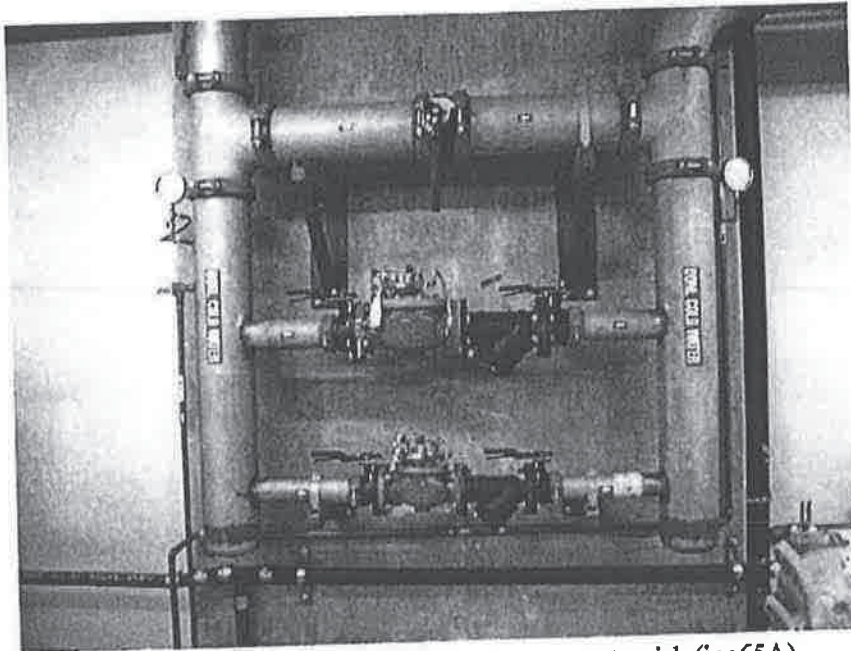


28. Hot water

recirculation pumps – replace with nonferrous alloy (jpg99).

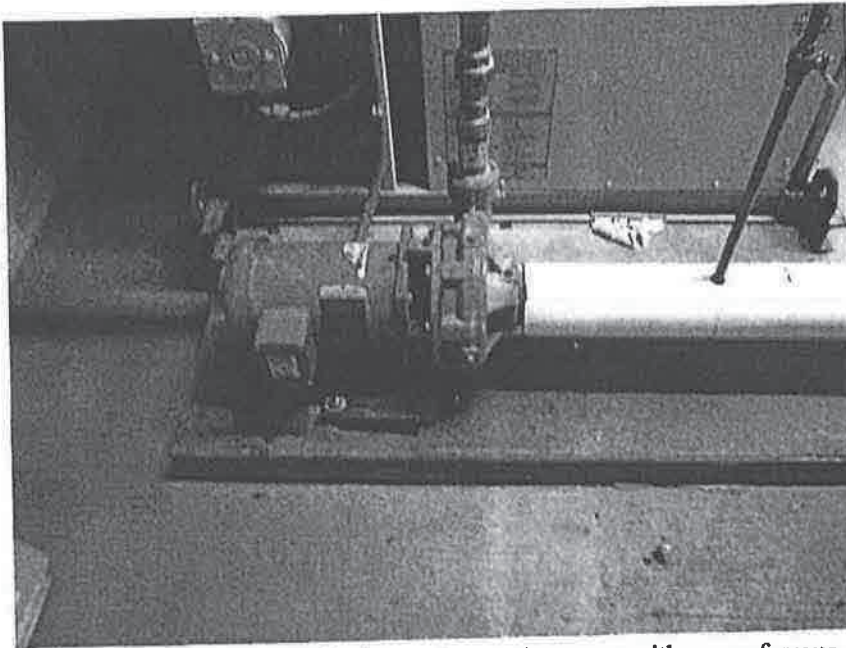


PANORAMA 1 Lower Mechanical Room

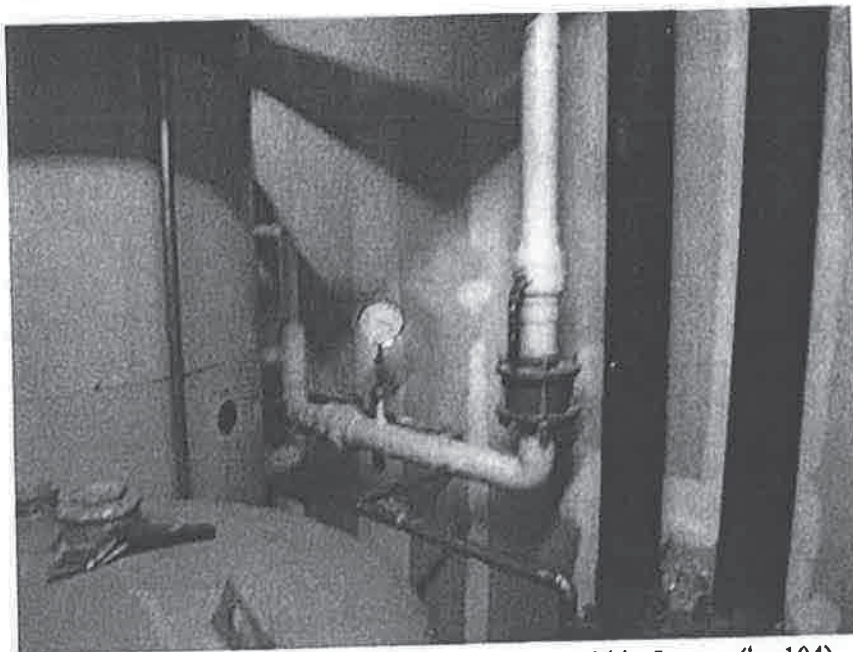


29 City water inlet manifold; rust is from acid cleaning to remove tarnish (jpg65A).

PANORAMA TOWER 1 Upper Mechanical Room

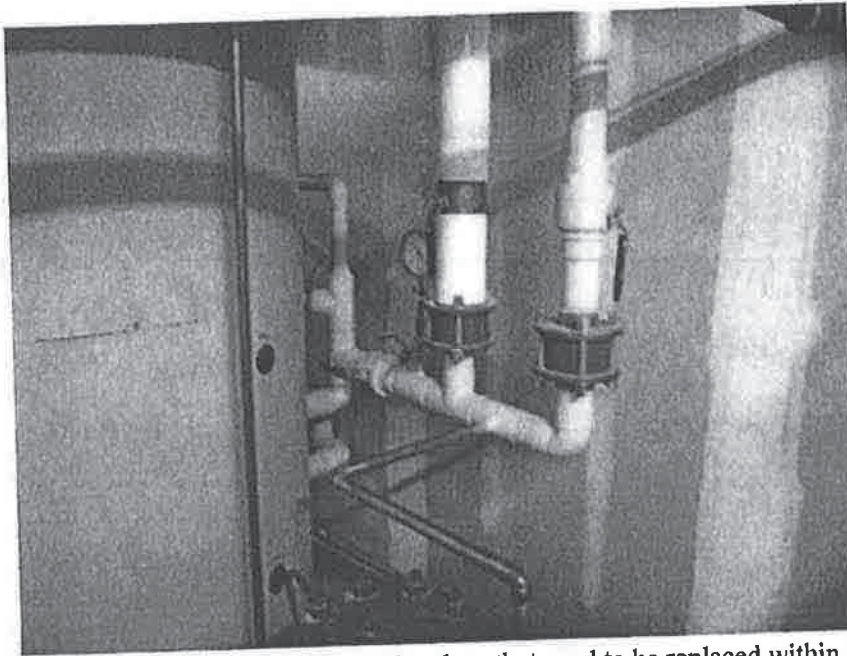


1. Hot water ferrous recirculation pump body requires replacement with a non-ferrous alloy now; replace carbon steel nipples now (jpg103).

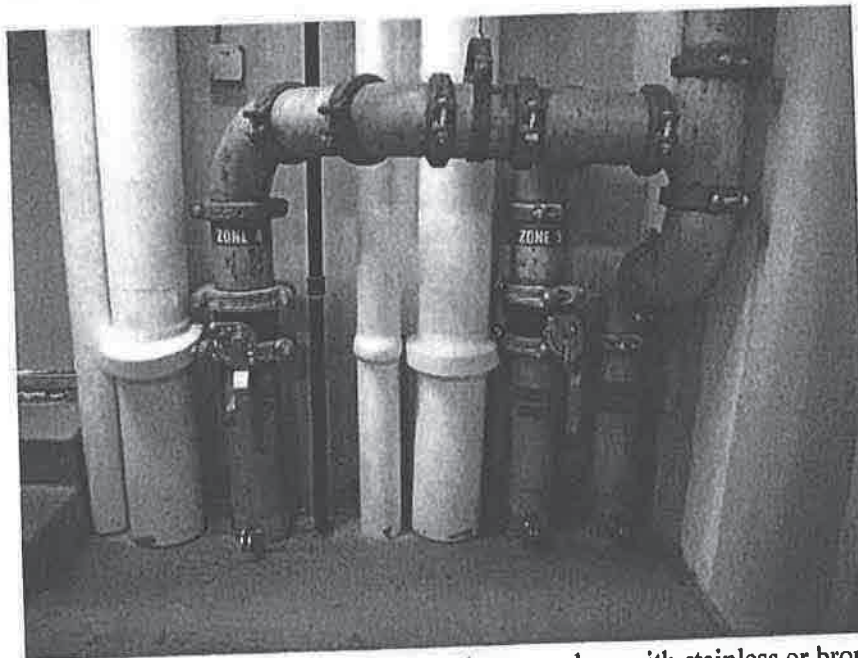


2. Zone 4 hot water system with ferrous check valve – replace within 5 years (jpg104).

PANORAMA TOWER 1 Upper Mechanical Room



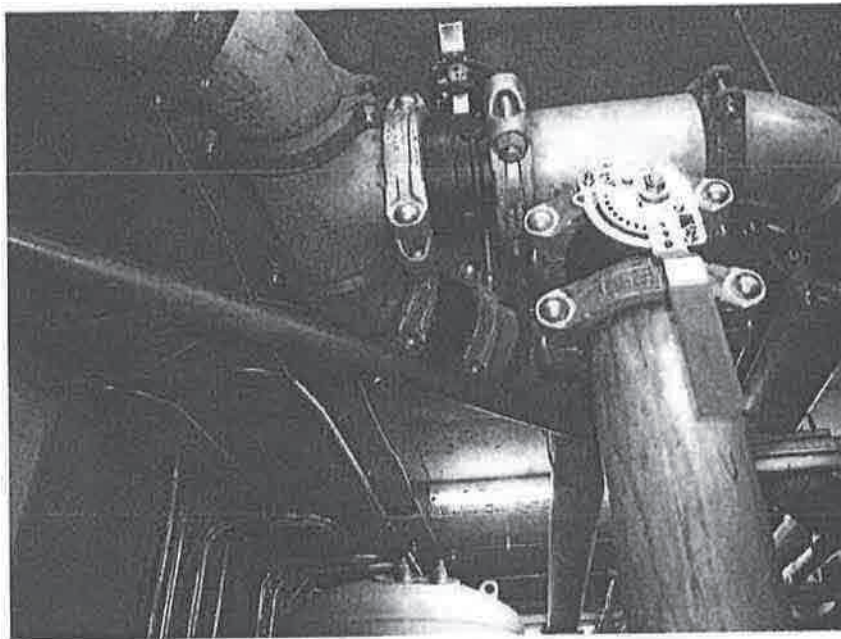
3. Zone 3 hot water system with 2 ferrous check valves that need to be replaced within 5 years.



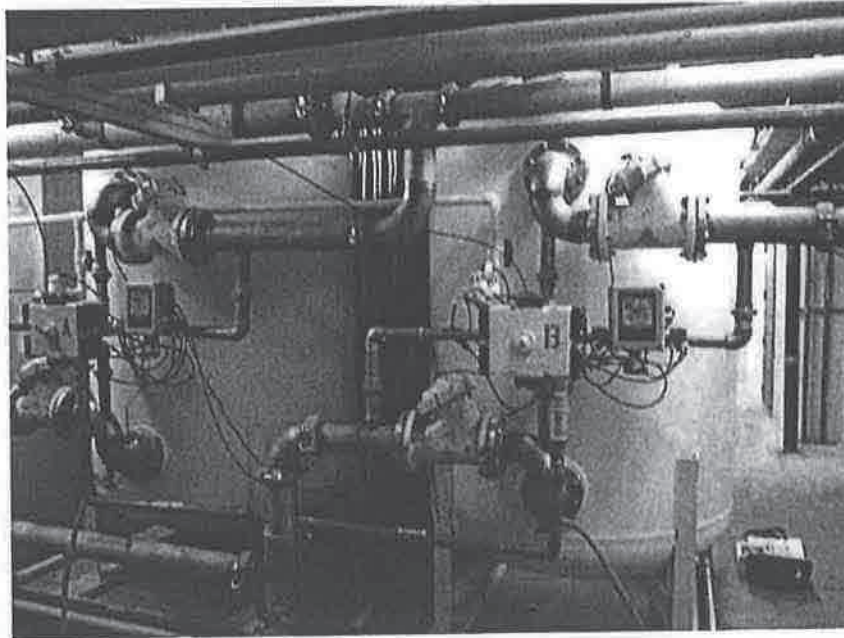
4. City water inlet, Zone 3 and 4 ferrous butterfly valves – replace with stainless or bronze valves (jpg106).



PANORAMA TOWER 1 Upper Mechanical Room

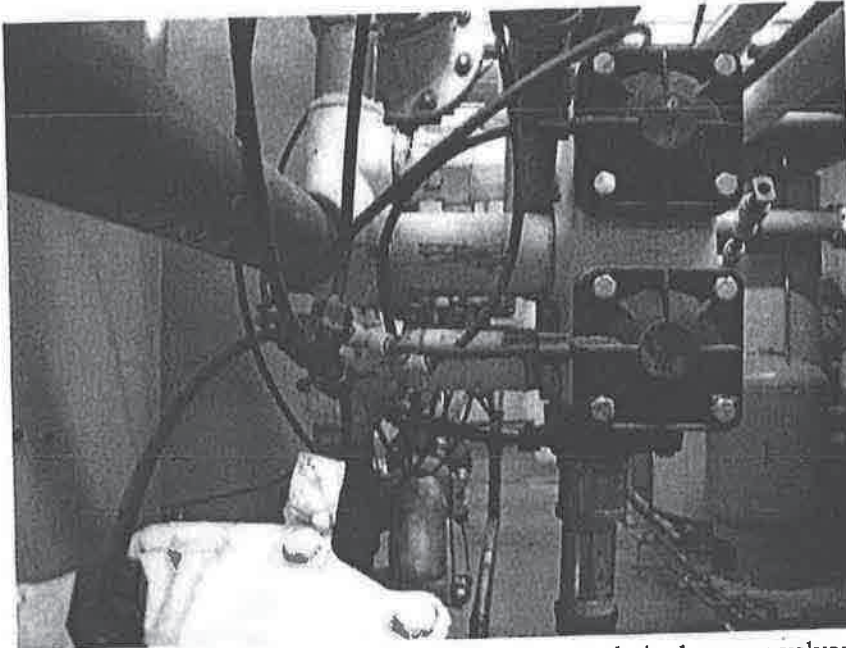


5. Feed water to water conditioners and bypass ferrous butterfly valves – replace now (jpg107).

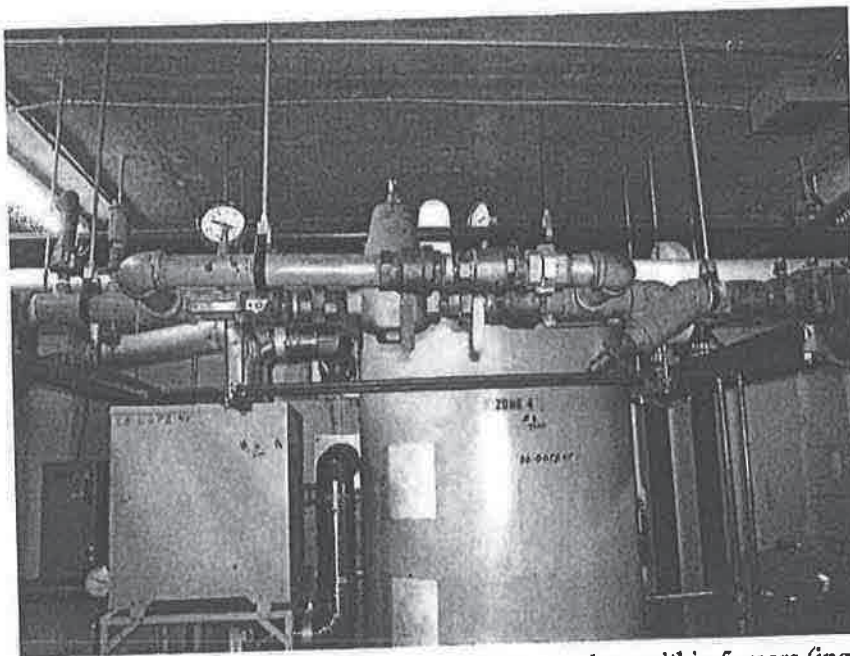


6. Media tanks with 4 ferrous check valves – replace valves within 5 years (jpg109).

PANORAMA TOWER 1 Upper Mechanical Room



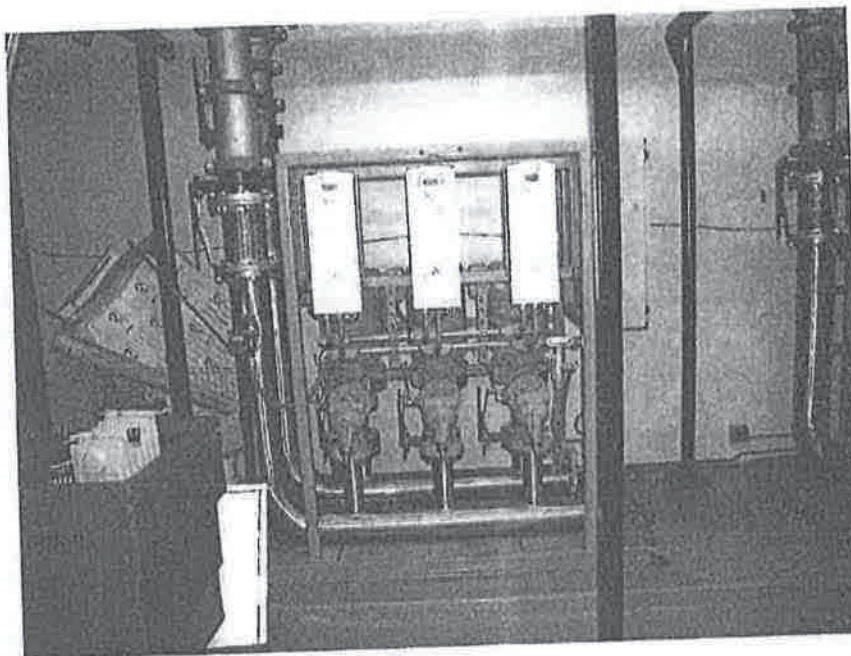
7. Media tanks with Culligan systems – replace all carbon steel nipples now; valves within 5 years (jpg108).



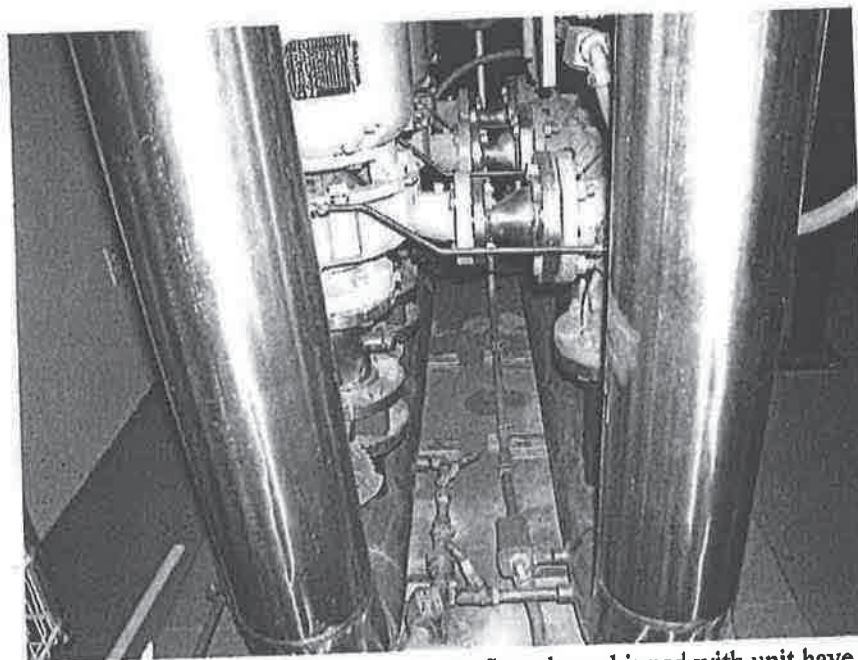
8. Unidentified pipe run with carbon steel lines – replace within 5 years (jpg110).



PANORAMA 2 Lower Mechanical Room

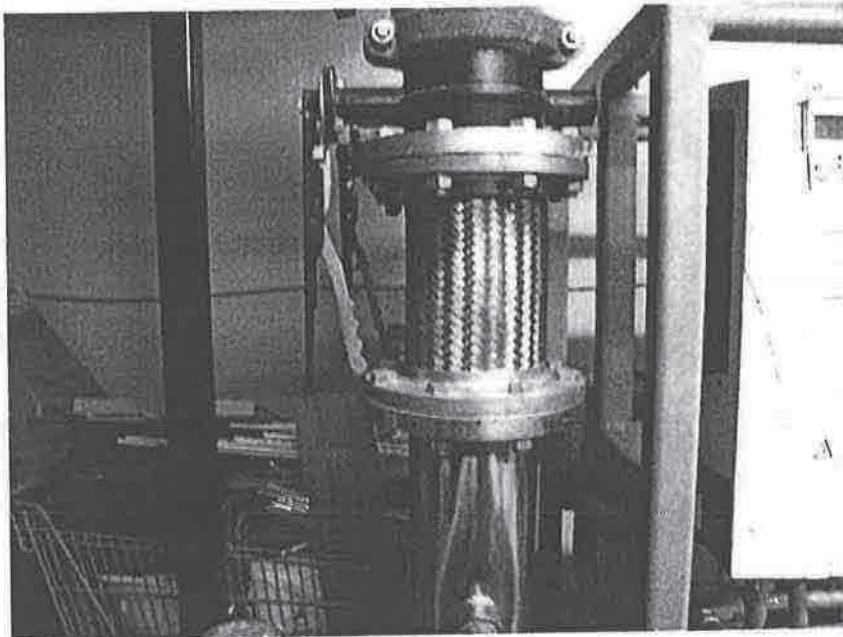


1. BP-1 skid mounted unit (jpg39).



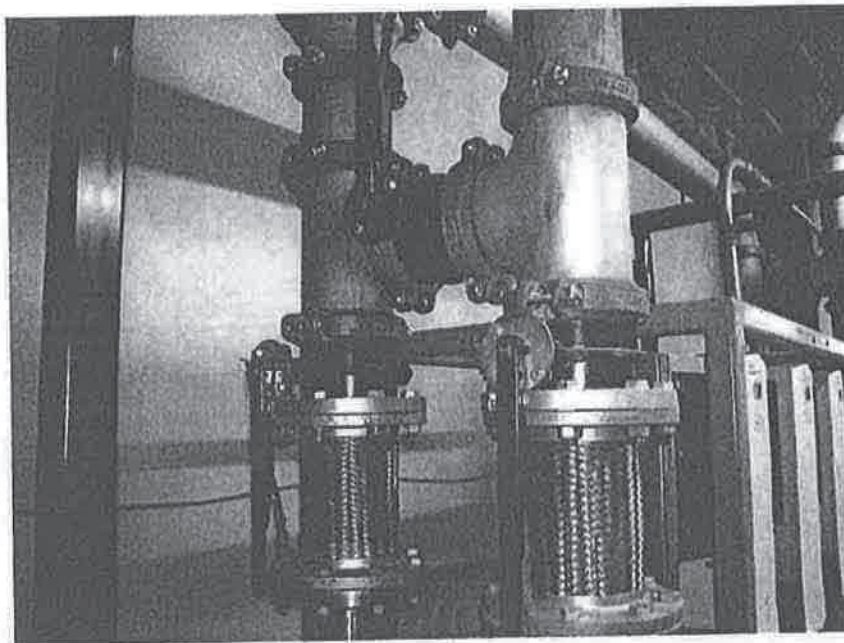
2. End view  
BP-1 skid mounted unit; stainless butterfly valves shipped with unit have been replaced  
with carbon steel valves that should be replaced now with stainless (jpg25).

PANORAMA 2 Lower Mechanical Room



3. BP-1 Flex

joint below carbon steel butterfly valve – replace valve now – see below (jpg28).

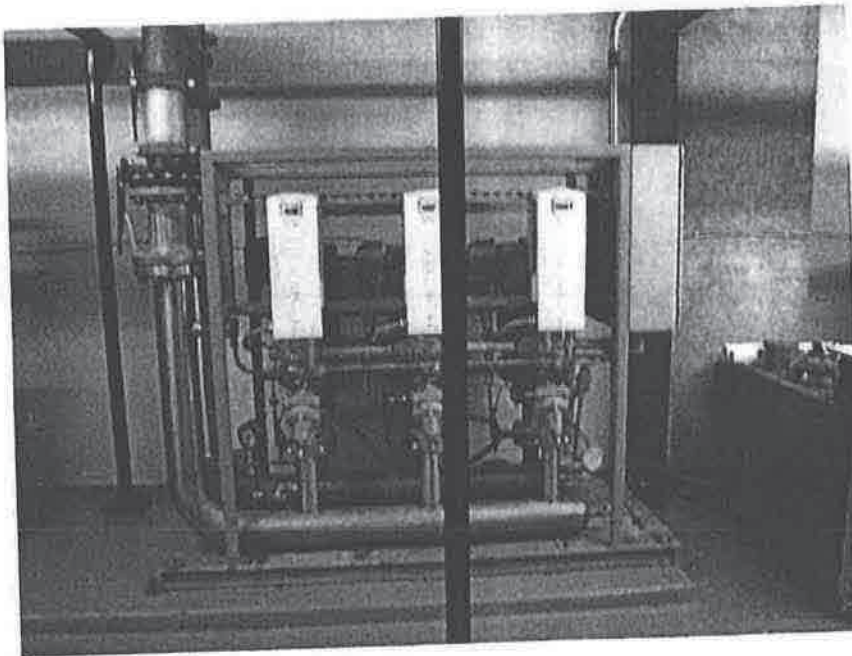


4. BP-1

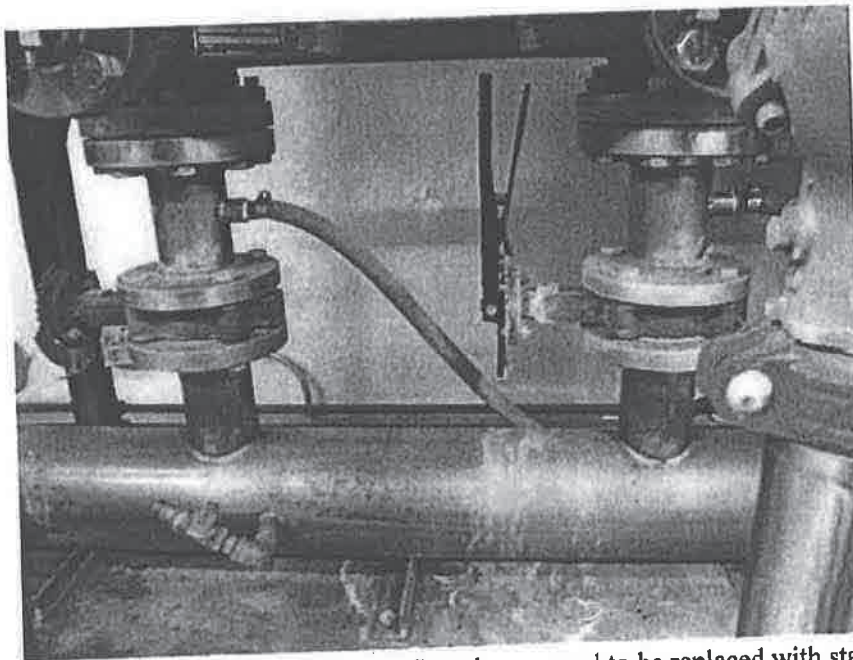
showing inline and bypass carbon steel butterfly vales – all need to be replaced now (jpg29).



PANORAMA 2 Lower Mechanical Room



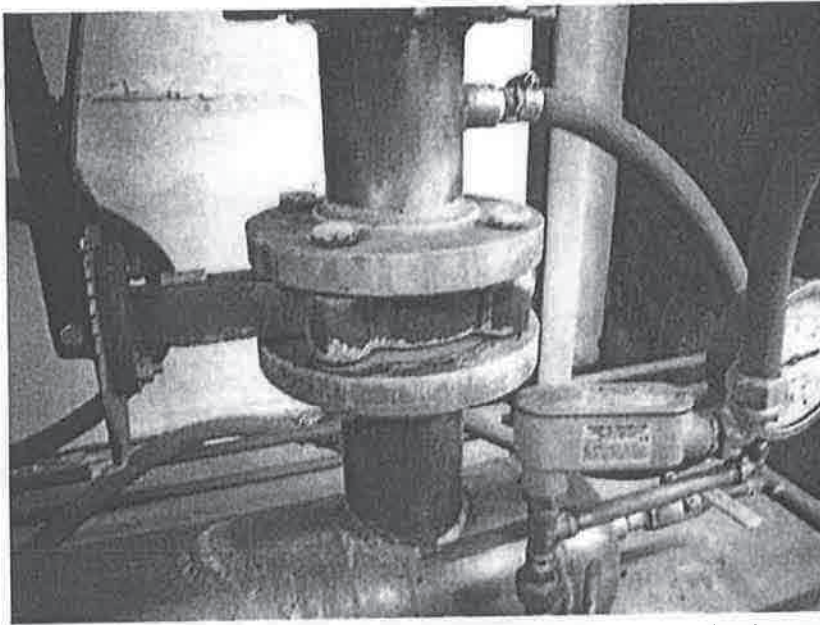
5. BP-2 high pressure skid mounted unit (jpg40).



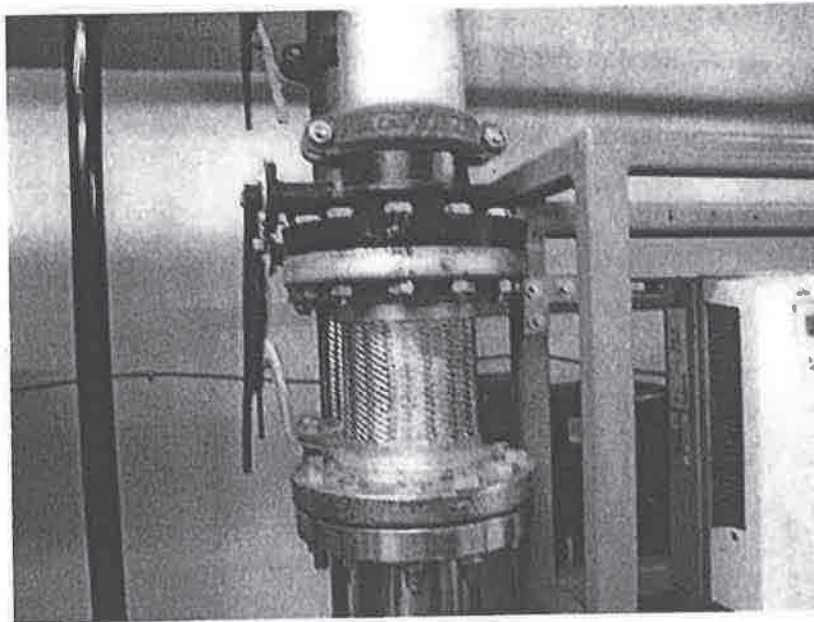
6. BP-2 center and east carbon steel butterfly valves – need to be replaced with stainless now (jpg27).



PANORAMA 2 Lower Mechanical Room

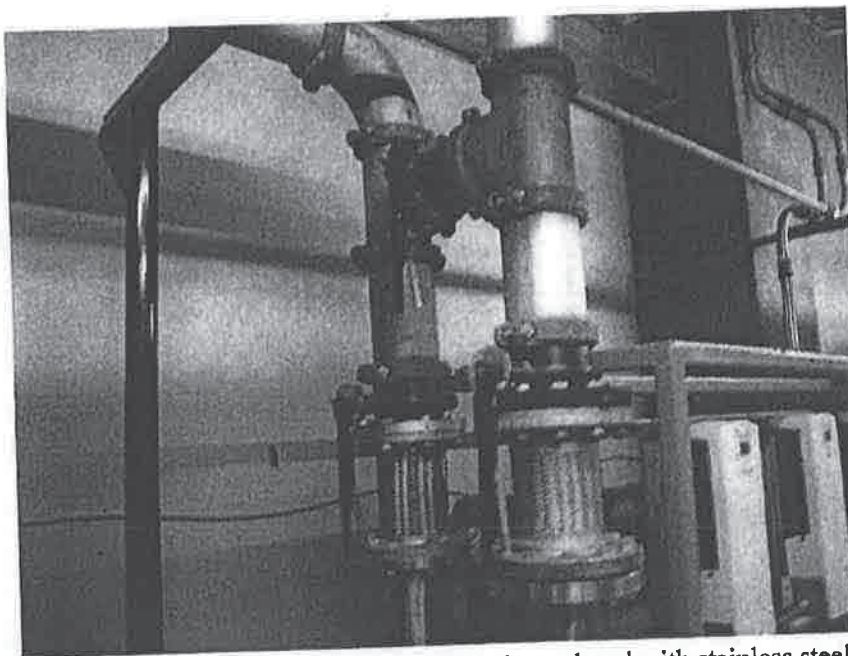


7. BP-2 west carbon steel butterfly valve; valve and corroded fasteners need to be replaced now (jpg26).

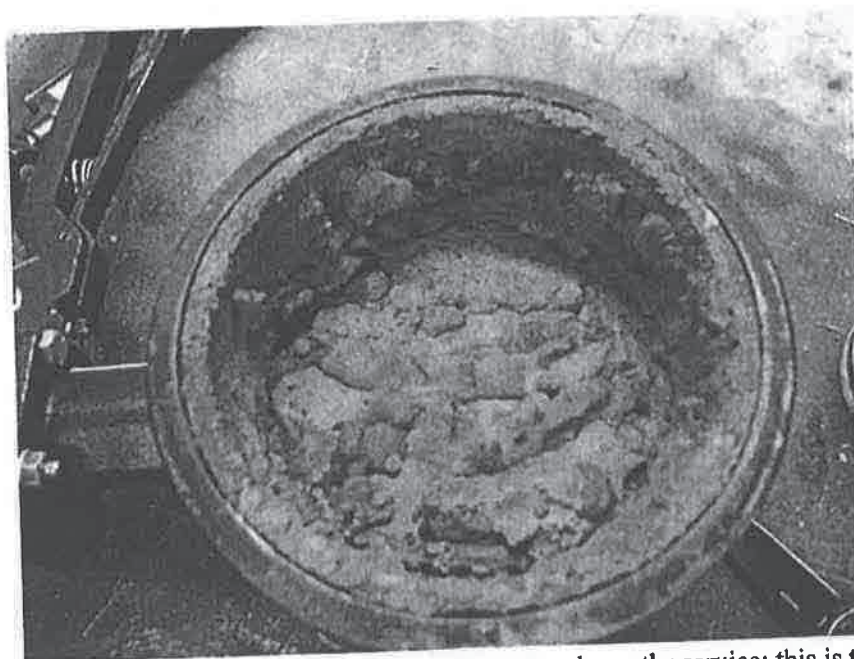


8. BP-2 high pressure flex connection with carbon steel flanges (jpg30).

PANORAMA 2 Lower Mechanical Room



9. BP-2 inlet, outlet, and bypass butterfly valves need to be replaced with stainless steel valves now (jpg31).

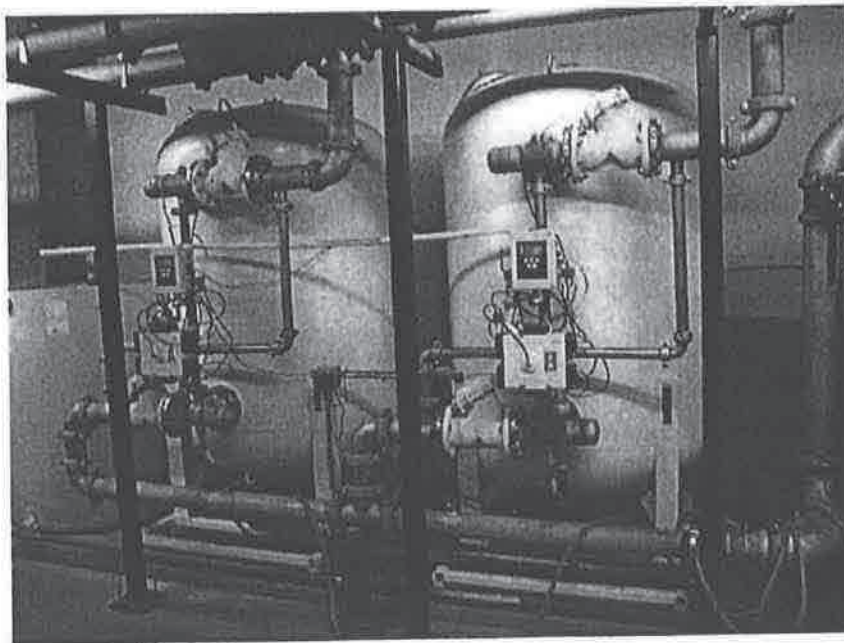


10. Typical inside of carbon steel butterfly valve after several months service; this is the reason they must be replaced as soon as practical with stainless steel valves (jpg33).

PANORAMA 2 Lower Mechanical Room



11. Name plate on typical carbon steel butterfly valve showing it has an AISI Type 416 stainless steel shaft; the ductile iron disc has a nickel edge (jpg34).

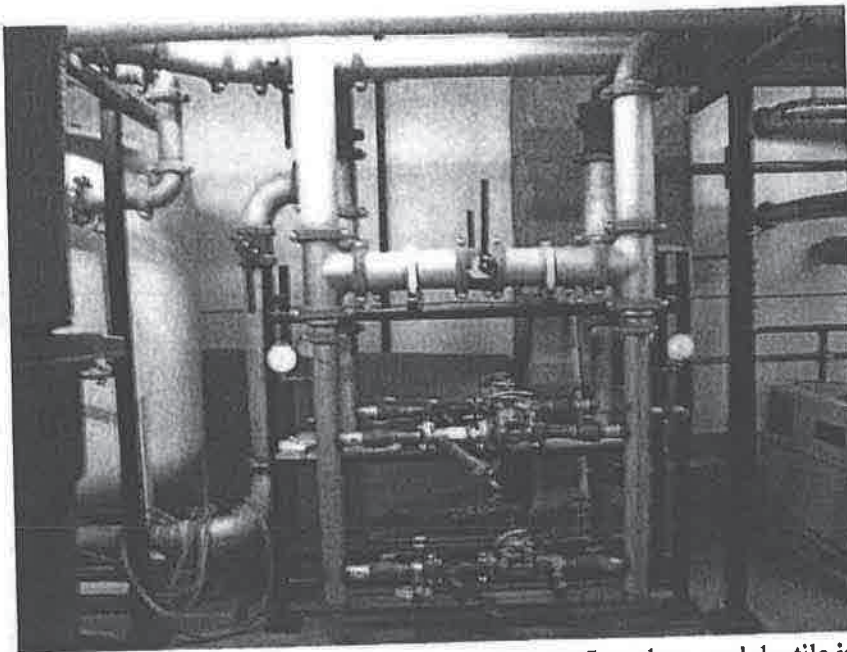


tanks (jpg41).

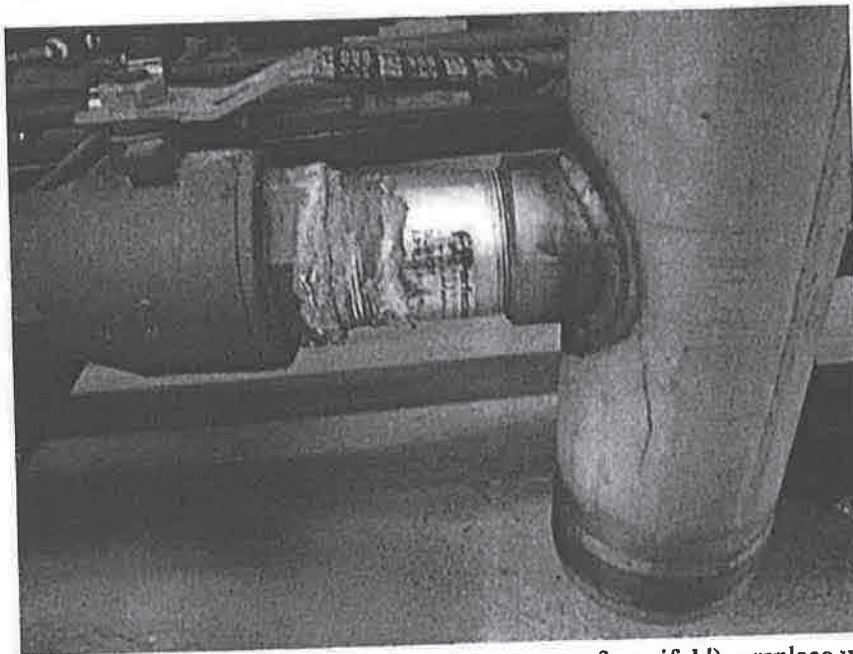
12. Media



PANORAMA 2 Lower Mechanical Room

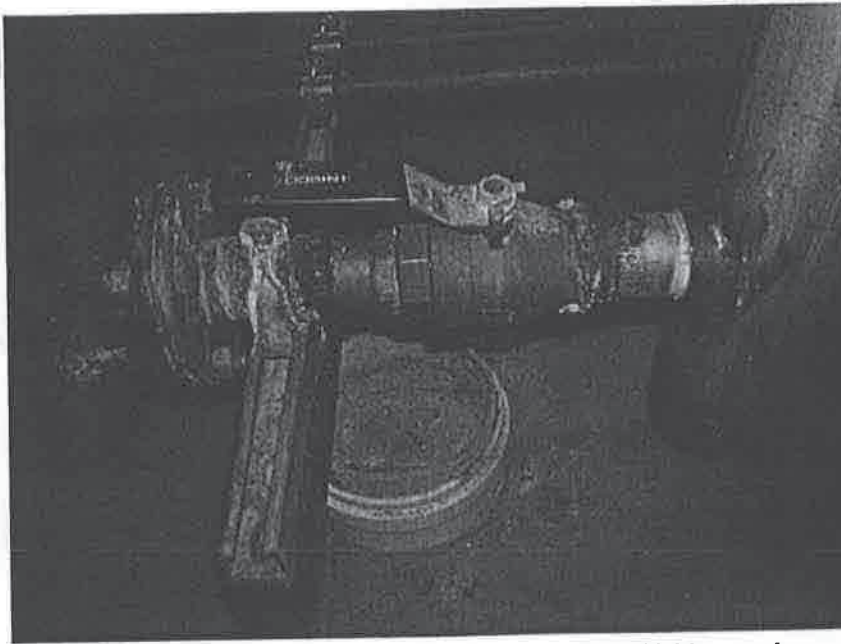


13. PRV manifold with 3 carbon steel strainers, steel butterfly valves, and ductile iron pressure regulators (jpg42).

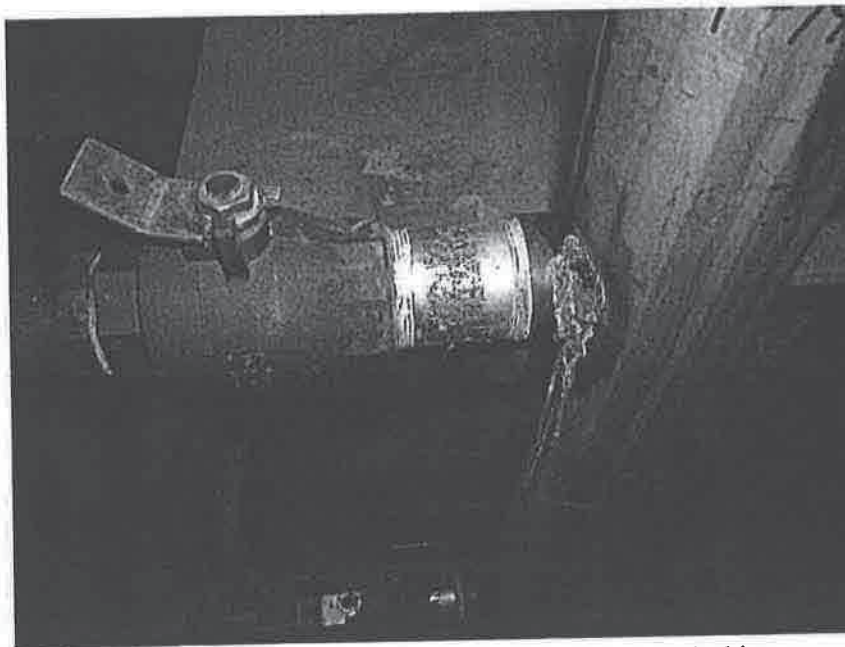


14. Carbon steel plastic lined nipple (lower northwest corner of manifold) - replace with stainless steel (jpg51).

PANORAMA 2 Lower Mechanical Room

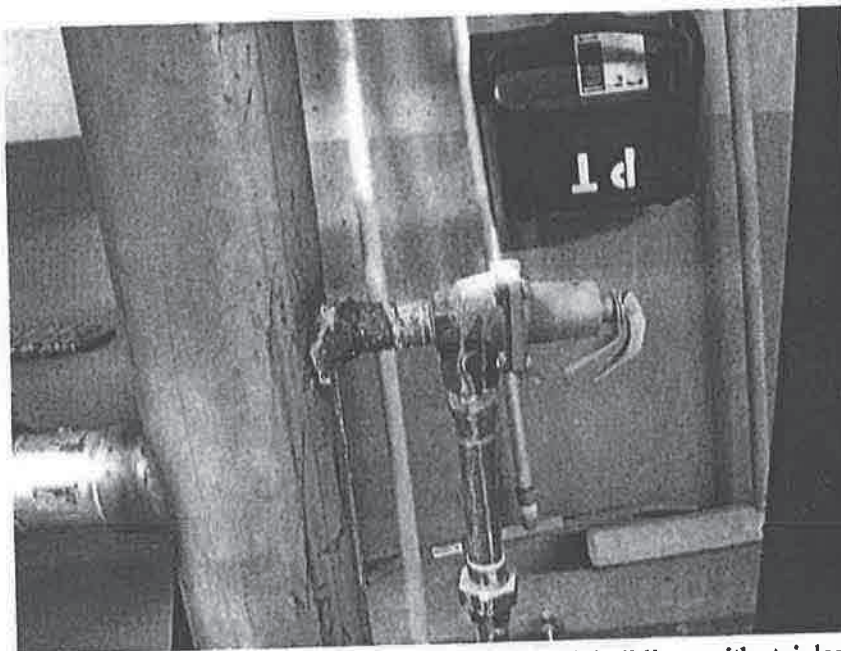


15. Carbon steel plastic lined nipple (lower southeast corner of manifold0 – replace with stainless steel (jpg52). Note: corrosion around Unistrut is a leak at the joint.

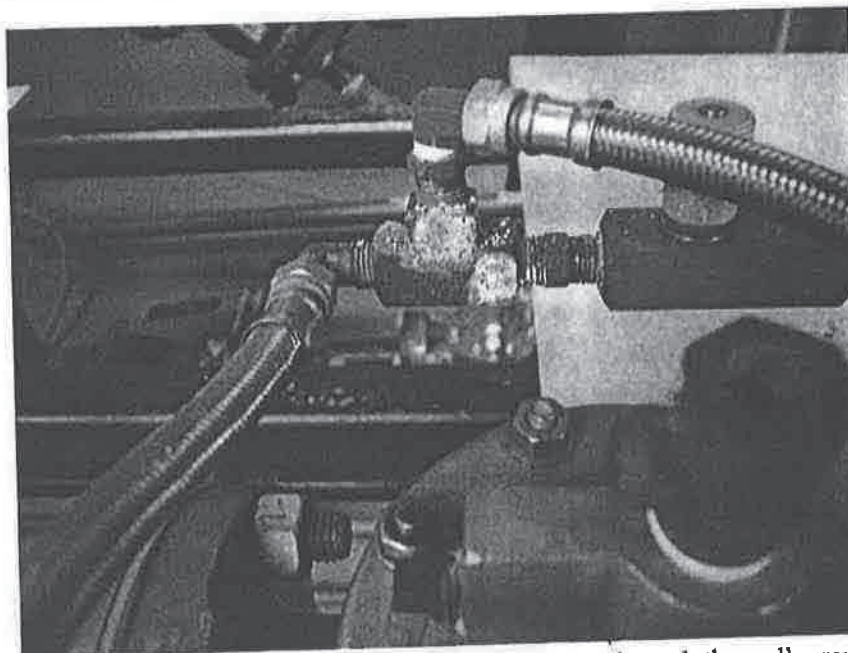


16. Leak in stainless weld leak; carbon steel plastic lined nipple not yet leaking, upper southeast corner of manifold (jpg53).

PANORAMA 2 Lower Mechanical Room



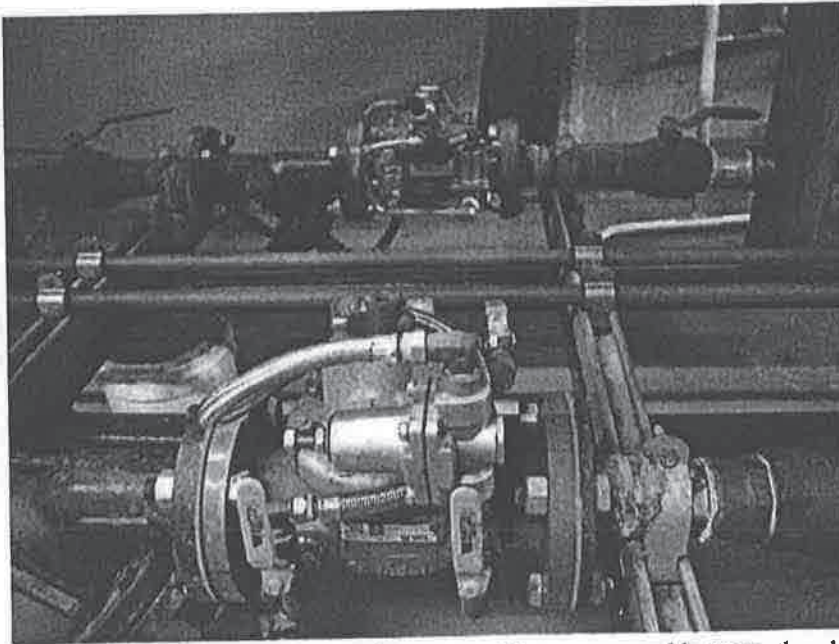
17. Carbon steel drain nipple on manifold – replace all in both buildings with stainless steel (jpg54).



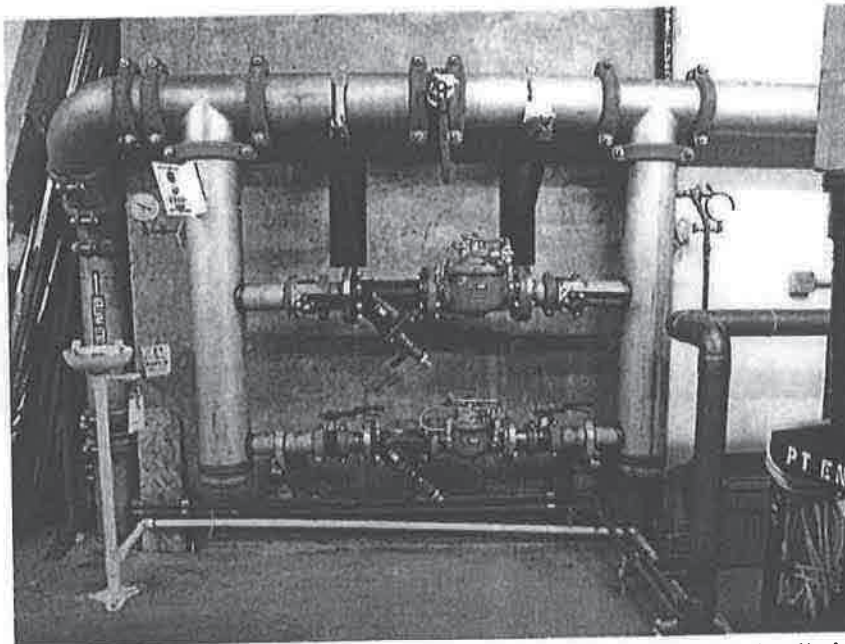
18. Yellow brass T-fitting exhibiting de-zincification corrosion through the wall – replace yellow brass fittings as they leak as part of normal maintenance (jpg55).



PANORAMA 2 Lower Mechanical Room

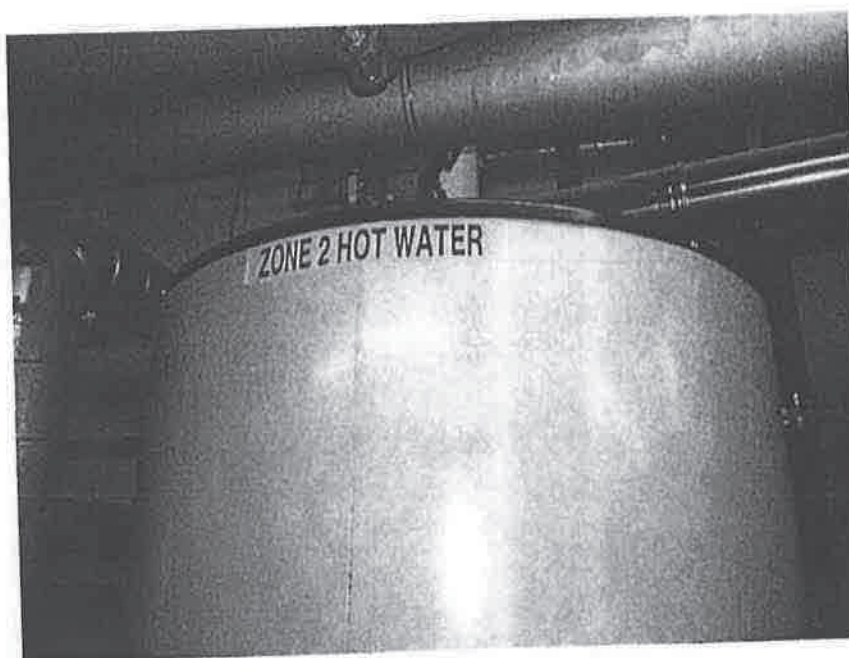


19. Lower pressure regulators; the far regulator is ductile iron top and bottom; the closer has a stainless steel top; visible residues at Unistrut are from connection leaks, not corrosion (jpg56).



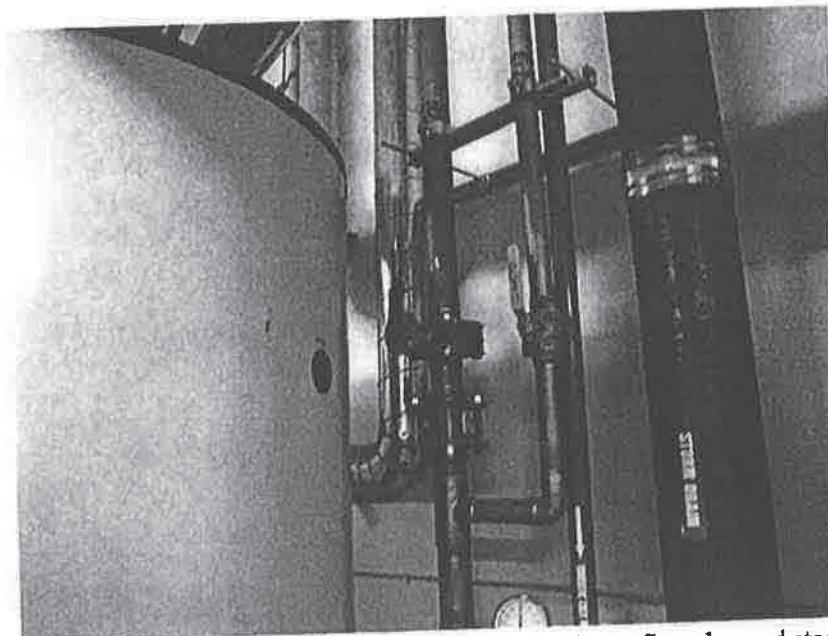
20. City water inlet manifold showing steel strainers, steel butterfly valves, and ductile iron pressure regulators with stainless steel tops (jpg43).

PANORAMA 2 Lower Mechanical Room



21. Zone 2

hot water tank (jpg44).

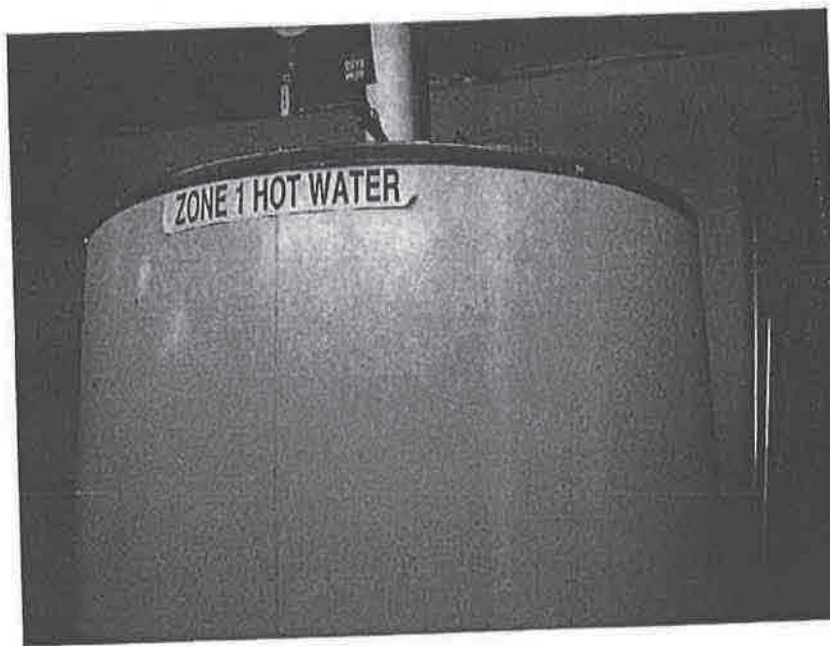


22. Piping

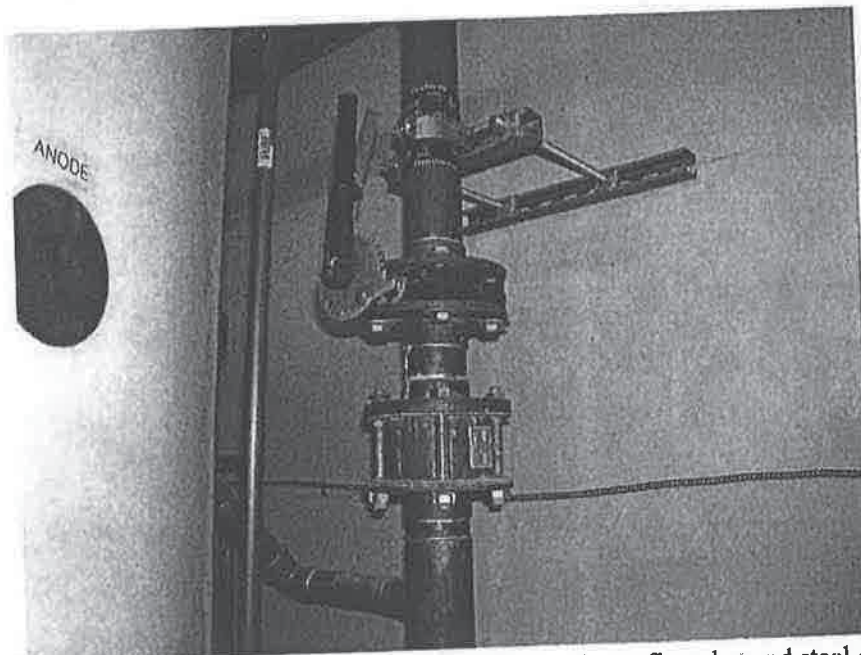
associated with Zone 2 hot water tank with steel butterfly valve and steel check valve (jpg45).



PANORAMA 2 Lower Mechanical Room

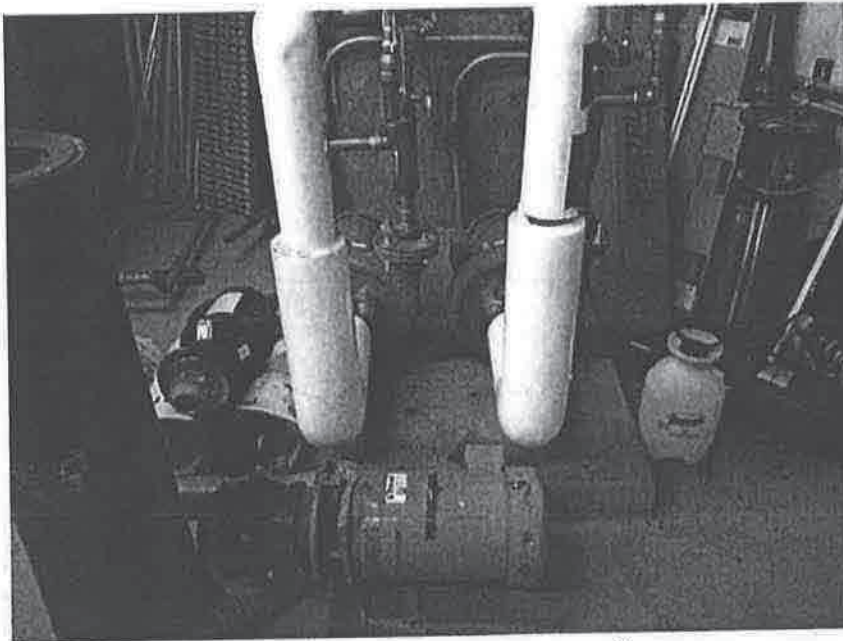


23. Zone 1 hot water tank (jpg46).



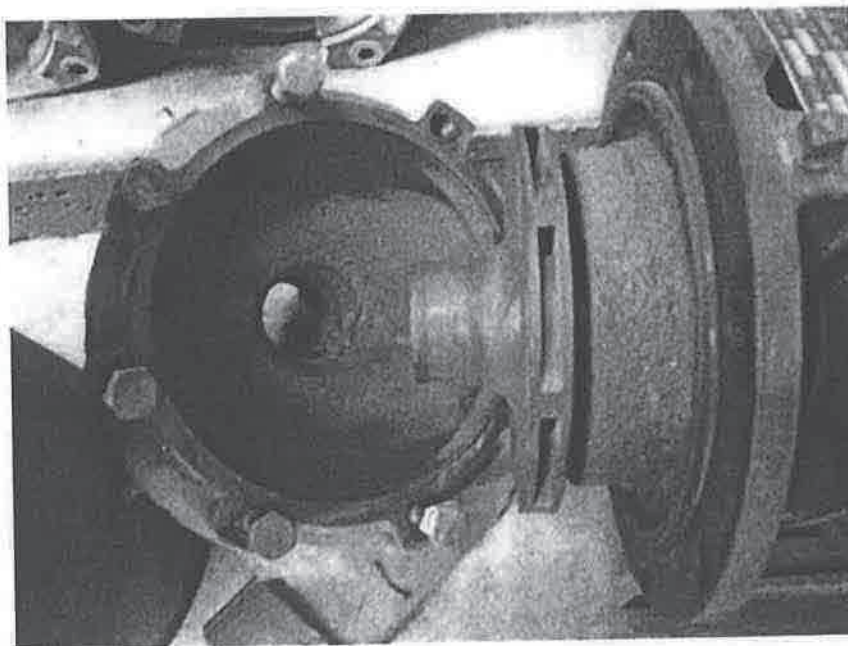
24. Piping associated with Zone 1 hot water tank with steel butterfly valve and steel check valve (jpg47).

PANORAMA 2 Lower Mechanical Room



25. Hot water

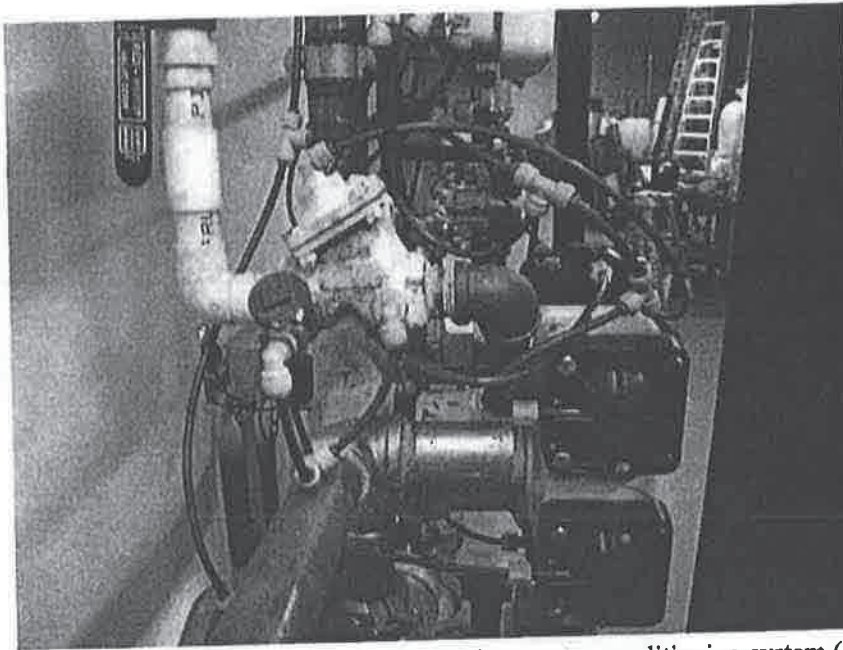
recirculation pumps with carbon steel housings (jpg48).



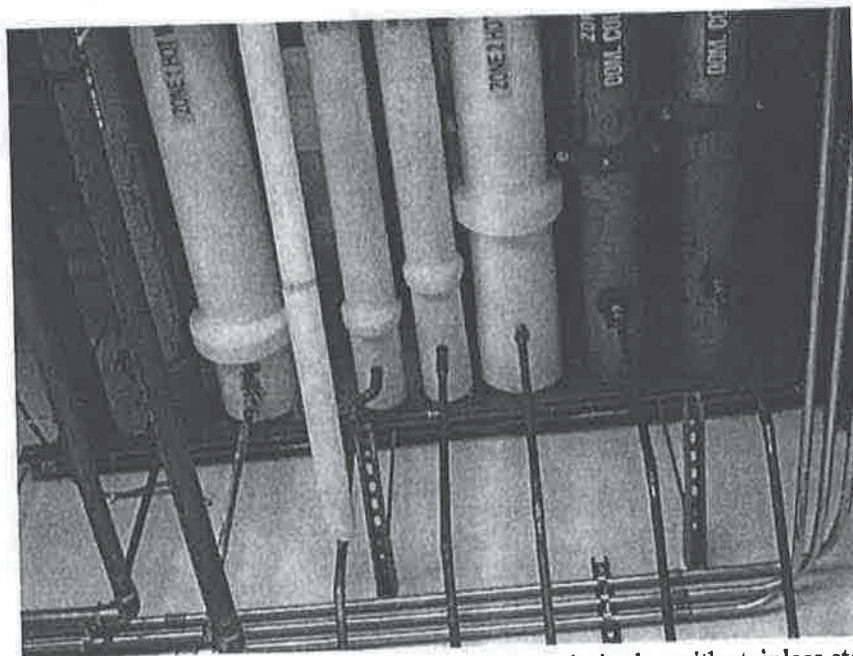
26. Close up

view of steel pump housing exhibiting significant corrosion (jpg49).

PANORAMA 2 Lower Mechanical Room



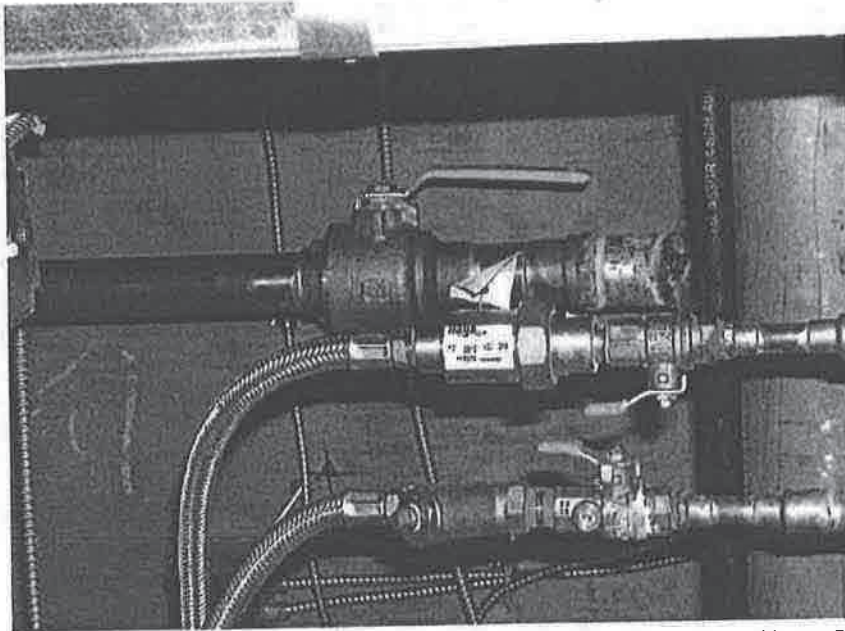
27. Ferrous (steel or iron) valve associated with Culligan water conditioning system (jpg 50).



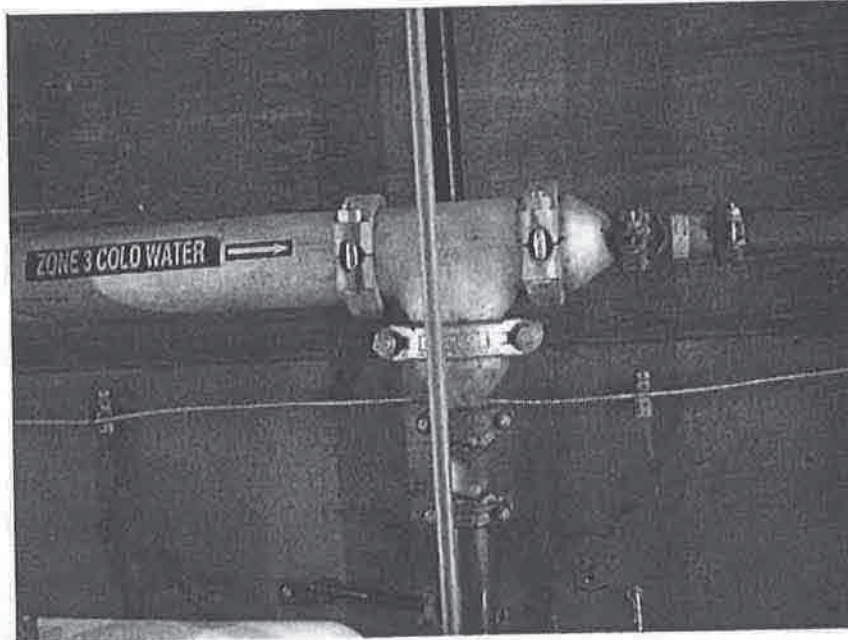
28. connections to outlet piping; replace carbon steel nipples with stainless steel (jpg57).



PANORAMA TOWER 2 Upper Mechanical Room



1. Carbon steel nipple to cold water line – replace now (jpg62). Corrosion of brass HVAC condensate valves experiencing de-zincification - replace as necessary as part of regular maintenance.



2. Carbon steel nipples needing replacement now. (jpg64).



2764 n. Green Valley Pkwy #116, Henderson, NV 89014

17 November 2011

Mike Murphy  
Panorama Towers Condominium Unit Owners Assoc.  
4525 Dean Martin Drive  
Las Vegas, NV 89103

**Re: Report for Evaluation of Corrosion Damage to Mechanical Room Piping**

Dear Mr. Murphy:

ATMG is pleased to present this report for the corrosion damage evaluation for the piping in the two lower and two upper Mechanical Rooms in the Panorama Towers. This task was performed in accordance with our proposal dated 5 October 2011.

**PROJECT INFORMATION**

On 9-20-11, a walk down was conducted of the lower and upper mechanical rooms of the two towers. The lower mechanical rooms exhibited more corrosion damage than the two upper mechanical rooms. Several replaced parts were on the floor in one of the upper mechanical rooms. Some connections were observed to be leaking. Our evaluation and reporting is in substantial accordance with the *Guideline for Structural Condition Assessment of Existing Buildings*, SEI/ASCE 11-99 published jointly by the Structural Engineering Institute and the American Society of Civil Engineers.

There are several dissimilar metal connections that are accelerating the corrosion attack on the less noble alloy in the connection. Our observations found stainless steel and copper based alloys (more noble) in contact with ductile iron and carbon steel (less noble). When dissimilar metals are in contact in a wet environment, the difference in

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electric potential of these alloys creates a battery effect that powers the dissolution of the less noble alloy into the environment as a corrosion product.

When measured on a copper/copper sulfate electrode scale, stainless steel and copper based alloys (copper, brass, bronze) exhibit an electric potential to their wet environment of approximately -0.2 volts; carbon steel, cast iron, and ductile iron exhibit an electric potential of approximately -0.5 volts to their wet environment. This difference of 0.3 volts creates an electric current to flow out of the less noble metal which is the one with the more negative voltage. As the current leaves, it takes metal ions with it that become a corrosion product - usually some form of rust. This condition is called a galvanic corrosion cell. One amp of current can remove 20 pounds (lbs) of iron in one year. Therefore, these dissimilar metal galvanic corrosion cells can cause serious damage over time.

ATMG was directed to identify which sections of piping, fittings, pumps, valves, and regulators need to be replaced. In addition, those items were to be identified for replacement on a time schedule of: Replace now, Replace within 5 years, or Replace long term.

## **OBSERVATIONS**

### Primary Piping Parts

The identification of parts that need replacement has been noted on spreadsheets for each of the mechanical rooms. The recommended replacement schedule is also shown. An accompanying photographic log has been cross referenced to parts listed on the spreadsheets. In theory, the plastic lined steel nipples should not create a galvanic cell. However, if the liner is damaged during installation or not installed correctly, wet metal to metal contact can result leading to leaks as has been noted.

### Yellow Brass Fittings and Valves

There are numerous small fittings and valves within the 4 rooms made of yellow brass that are experiencing a corrosion mechanism known as dezincification. A white powdery substance (zinc oxide) can be seen on the surface of these parts that confirms the water has corroded the zinc in the copper matrix to the point that it has reached the exterior surface.

This process will continue, and eventually water will begin to drip through these corroded zones. Since these parts are small and easily replaced, our recommendation is to leave them in service until the leaks begin to drip, and then replace them as is the current practice with the Maintenance Department.

#### Stainless Steel Piping Leaks

Some welded joints of the stainless steel piping exhibited leaks. Currently these are being weld repaired as they occur as part of the regular maintenance.

#### Other Observations - Bolting

In addition to the specific assigned tasks, a problem with bolting was noticed. We found mixed bolting in several flanged connections and bolts holding butterfly valves in position.

To properly share loads, bolts and cap screws in a connection should all be the same strength. Therefore, we recommend that the Maintenance Department should check each set of connections for mixed bolting. A query needs to be made with a plumbing engineering firm to find out which grade of bolts is required for each type of connection.

#### **RECOMMENDATIONS**

1. The major piping parts suffering corrosion should be replaced in accordance with the schedule shown on the accompanying spreadsheets.
2. Yellow brass fittings and valves should be replaced when dripping leaks caused by dezincification are noticed as part of the regular maintenance schedule.
3. The proper grade of bolting for the various connections should be determined, and replacements made accordingly.
4. Continue the repair welding of stainless steel leaks.