

Arapahoe Station
August 1, 1956

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Mech. Chief of Denver Plants

THE FOLLOWING WORK WAS DONE AT THE ARAPAHOE STATION DURING
THE MONTH OF JULY 1956.

We are still in the process of #2 Unit overhaul. No. 4 cooling tower is out of service for Martreat. All hand hole plugs from all water-wall headers on #2 Boiler are being removed. Plugs are being machined and header seats cleaned up or ground as needed.

- 7-2 Install water-wall hand hole plugs. Head up 2A oil cooler after cleaning. Paint condenser and clean hotwell. Remove and acid clean condenser vent and drain piping. Assemble bearings and coupling on 2B I.D. fan. Install stainless lined 6" cross in the 7th stage heater drain to the H.P. flash tank. Install new glass and gaskets in the water gauge on the East side of #4 Boiler. Repair water piping in #2 control air compressor aftercooler. Start Martreat #4 tower.
- 7-3 Build and install baffle plates in #4 coal mill for Riley tests. Repair H.P. flash tank on #2 Unit. Open up H2 coolers on #2 Generator. Start bearing and vane inspection on 2A F.D. fan. Clean "B" turbine oil cooler #2. Clean combustion on #2 Boiler air heater. Repair water-wall header hand holes on #2. Pack valves on #2 Boiler. Paint #2 condenser.
- 7-5 Work on baffle plates on #4 mill for Riley. Finish installing 6" cross in H.P. flash tank on #2. Finish repair of cold fill valve on #2 Boiler feedwater. Finish oil coolers on #2 Turbine. Paint #2 condenser. Tear down motor on 2B I.D. fan to find cause of vibration. A broken weld was found on the ring that holds the stator bars on the outboard end of the rotor. This break was re-welded. When put back in service, motor was O.K. Inspect bearings on 2A F.D. fan; bearings show no change since last year. Pack valves on #2 Boiler. Clean air heater and dust collectors on #2 Unit. Weld broken seams and braces on #2 forced air duct.
- 7-6 Repair safety valves on #2 Boiler. Work on rotor on 2B I.D. fan motor. Inspect motor bearings on 2A F.D. fan. Clean dust collectors and ash hoppers on #2. Repair hand hole plugs on #2. Repair cracks in air ducts. Inspect and clean stack breeching; no trouble here. Clean and paint gland seal tank on #2.
- 7-9 Open and clean tubes in 7th stage heater on #2 Unit. Clean up hand holes in lower water-wall headers. Finish inspection of 2A F.D. fan and motor bearings; bearings show no change, all are O.K. Start inspection of 2B F.D. fan. Clean H2 coolers on #2 Generator. Weld piping on steam air jet to fill loop seal. Head up steam air jet; all tubes are good.

- 7-10 Install baffle gates in 4A mill for Riley. Clean tubes in 7th stage heater on #2 Unit. Clean H2 coolers on #2 Generator. Install new lead safety diaphragms on #2 Turbine L.P. chest. Repair hand hole plugs on #2 Boiler. Repair motor on 2B I.D. fan. Weld leaking gauge line on 3B heater on #4 Unit. Weld piping in H2 coolers on #2 Unit. Weld cracks in forced draft air ducts on #2 Unit.
- 7-11 Clean and inspect hotwell on #2 Unit. Head up H2 coolers on #2 Generator. Finish installing lead explosion diaphragms on #2 Turbine. Head up 7th stage heater on #2 Unit. Weld rotor on 2B I.D. fan motor. Repair water column blowdown valves on #2. Re-weld superheater spacer bar hangars. Finish welding in air ducts on #2. Line up and weld temp. probe hangars. Head up #2 Boiler. Install new water glass in 3B feedwater heater on #4 Unit.
- 7-12 Repair cracks in #2 Boiler wet ash pit. Head up #2 condenser. Pack valves on #2 Unit. Repair safety valves on #2 Unit. Open and clean seal oil cooler on #2 Unit. Finish welding superheater hangars in #2 Boiler. Test run 2B I.D. fan; runs normal. Install new belts on S7 air conditioning unit.
- 7-13 Install stilling well in #2 Turbine hotwell. Weld in new instrument valves on feedwater systems for Results. Reweld drag line in #2 condenser. Repair safety valves on #2. Tighten hand hole plugs on #2 Boiler. Test run all fans; all are O.K. Head up hotwell on #2. Finish cleaning seal oil cooler on #2. Boiler #2 filled with water and ready for Hydro. Burn out coal bunkers on #3 Unit. Assemble 3D coal mill.
- 7-16 Put Hydro on #2 Boiler; held 1000# pressure on Boiler 4 hours so that all hand hole plugs could be tightened under pressure. All plugs are good; Boiler ready for fire. Tighten heads on feedwater heaters on #2 Unit. Pack valves on #2 Turbine. Clean stack ash hopper; we had to remove piping and lance out 3 ton of hard fly ash on to the ground here. Finish coal bunkers on #3 Unit. Repair broken valve on service water tower. Start gathering up fly ash for #3 Unit Turbine job.
- 7-17 Clean #4 tower after Martreat and put in service. Rebuild two sections of screen for #4 tower. Set safety valves on #2 Boiler. The superheater safety valve popped and only relieved about 4 lbs. The blowdown ring was raised about 1/2 turn; when the valve popped this time, it started multiple popping. This we stopped after it had seated two times by holding valve open. The blowdown ring was raised 1/2 turn and 6 notches again; popping pressure was O.K., blowdown O.K. Hank will send the test sheet. Tighten all plugs and man holes on #2 Boiler. Tighten heater flanges and heads, also flash tank head on #2. No. 2 Boiler put on the line. Install new rotor in 3A primary air fan motor; all primary fans now have new rotors. Repair stack valve on #4 tower. Clean up #2 Unit. Get fly ash for #3 Turbine overhaul.

- 7-18 No. 3 Unit off of the line at 1 P.M. Safety valves set on #3 Boiler. Move pump and equipment and clean up around #4 tower. Clean up stop logs to get ready for inspection of #2 and 3 circulating pumps. Cover Turbine Room floor and get cribbing for #3 Turbo-Generator job. Inspect and tighten all hand hole plugs on #2 Boiler.. Repack #4B feedwater pump. Pack recirculating pump on S1 Unit. Ready to start #3 overhaul. No. 2 Unit in service and operating O.K.
- 7-19 Start overhaul of #3 Unit. Remove lagging on #3 Turbine. Open #3 condenser and hotwell. Open fire side on #3 Boiler. Set stop logs to inspect #3 circulating pump and basin. Get fly ash for #3 Turbine rotor. Break Moul in on overhead crane.
- 7-20 Drain #3 Boiler. Turn spade valve and open drums. Remove hand hole plugs on top water-wall header. The seats on most of the hand holes will need grinding. Blow combustion on superheater tubes. Inspect #3 circulating pump; no wear found on metal spray except for a small section 4" in diameter on one impeller blade. Remove lagging and insulation on #3 Turbine. Set aux. springs and remove bolts on L.P. case on #3 Turbine. Clean scale in #3 condenser. Pack valves on #3 Boiler. Weld cracks in F.D. fan ducts. Install line drain valve on #3 deareator.
- 7-23 Test clay valves on #3 circulating pump. Clean up oil reservoir on #3 circulating pump motor. Pull stop logs and clean up to set in #2 circulating pump basin. Remove end bells on #3 Generator. Remove exciter. Wash drums and tubes in #3 Boiler; blow fly ash. Inspect 45° flanged ell on 7th stage heater of #3 Boiler; no wear in ell. Fill #2 bunkers with coal. Scale #3 condenser. Inspect Boiler and condenser steam side and hotwell #3. Weld Boiler air ducts.
- 7-24 Remove steam chest bolts on #3 Turbine. Open up #3 Generator. Set stop logs in #2 circulating pump basin. Scale and paint #3 condenser. Wash drums and tubes, blow fly ash in #3 Boiler. Open and clean tubes in 15th stage feedwater heater on #3. Install baffle gate in 4A coal mill for Riley Co. Remove drain line on 15th to 18th stage heater, from 18th stage heater and install in #3 hotwell.
- 7-25 Repair valves on #2 sootblowing air compressor. Clean 15th stage heater on #3. Paint #3 condenser. Inspect #2 circulating pump; pump is O.K., shows no wear. Erosion has started in the bottom of the basin since the new baffle wall was installed last year. The eroded section is about 3 ft. in diameter and ranges from 0" at the edges to 1/2" deep at the center. This place is center under the pump suction bell. Tear down #3 Generator. Remove steam chest bolts on #3 Turbine. Paint #3 condenser. Seven men working on the Turbine and Generator job. Install baffle gate in 4A mill for Riley. Repair wear plates in 1A coal mill. Work on #3 Boiler overhaul.

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- 7-26 Repair valves and clean water jackets on #2 sootblowing air compressor. Repair valves on #1 control air compressor. Pull stop logs on #2 circulating pump. No. 3 Generator overhaul. Pull 3B condensate pump. Pump has hole in 2nd stage Volute and wear under the wear rings and bushings. Will be built up in the shop. Clean vent lines on #3 condenser. Install velocity test tube in #3 Boiler as per Stearns Rogers instructions. Repair wear plates on 1A coal mill. Clean up #3 Boiler.
- 7-27 Field out of #3 Generator. Repair hand hole plugs on #3 Boiler. Pack valves on #3 Boiler. Blow combustion on #3 Boiler air heater. Install velocity connections on #3 Boiler. Work on 3B condensate pump. Inspect bearings on 3B I.D. fan. There is no change since last year. Tear down 3D I.D. fan motor for cleaning; bearings O.K. Clean vent lines on #3 condenser. Inspect valves and clear water jackets on #3 and 4 control air compressors.
- 7-30 Lift L.P. chest off #3 Turbine. Chest came off 2 3/4" out of level. Clean combustion and repair hand hole plugs on #3 Boiler. Pack valves. Clean water jackets and repair valves on #3 sootblowing air compressor. Inspect bearings on 3B I.D. fan. Clean up diversion dam and river screens. Garts, Dacus and Schmitt off; Britton off until 1 P.M. Moul, Roberts, Oatzko, and Jackson on vacation.
- 7-31 The heavy rains filled the coal tunnels during the night; we spent all day pumping the crusher House and removing the pump for motor repair. The motor was under about 2 ft. of water. The motor on the pump in the track hopper was still above water. We pumped this with the bilge pump. The acid man hole also filled up; we pumped this and cleaned out the mud. Continuing work on #3 Boiler and Turbine job. High Pressure chest lifted off #3 Turbine. Chest was not balanced and rubbed coming off. We had to cut out the partitions on the stub header on the West side of #3 Boiler so that we could grind 21 hand hole plugs.

This is about everything for July. At this time it looks like the #3 overhaul will take all of the month of August.

Respectfully submitted .

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Mech. Working Foreman

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