ATTACHMENT IV



#### **Russell City Energy Center May 2021 Incident: Gap Analysis Report**

Hayward City Council - May 24, 2022

Presenting: Elizabeth Huber, Manager, Safety and Reliability Office and Geoff Lesh, Manager, Engineering Office Siting, Transmission and Environmental Protection Division California Energy Commission

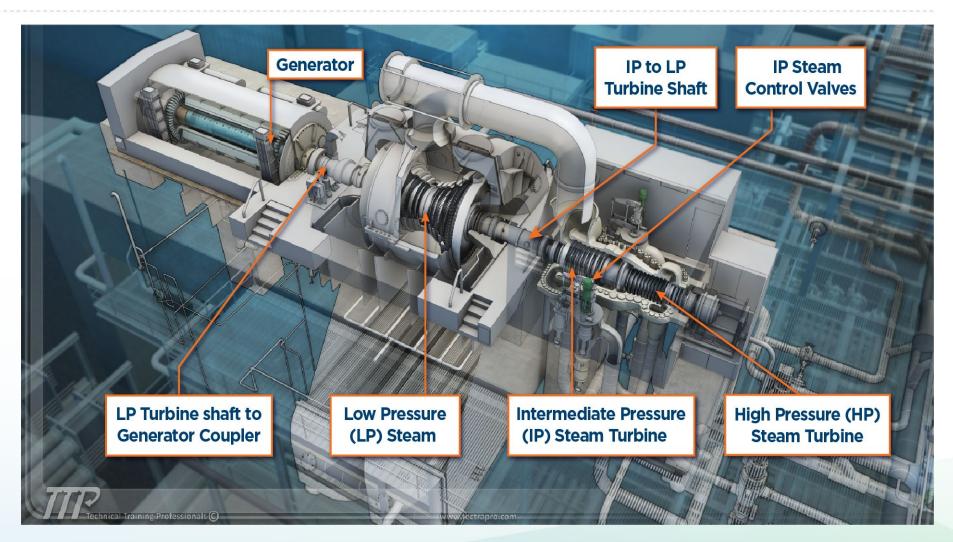














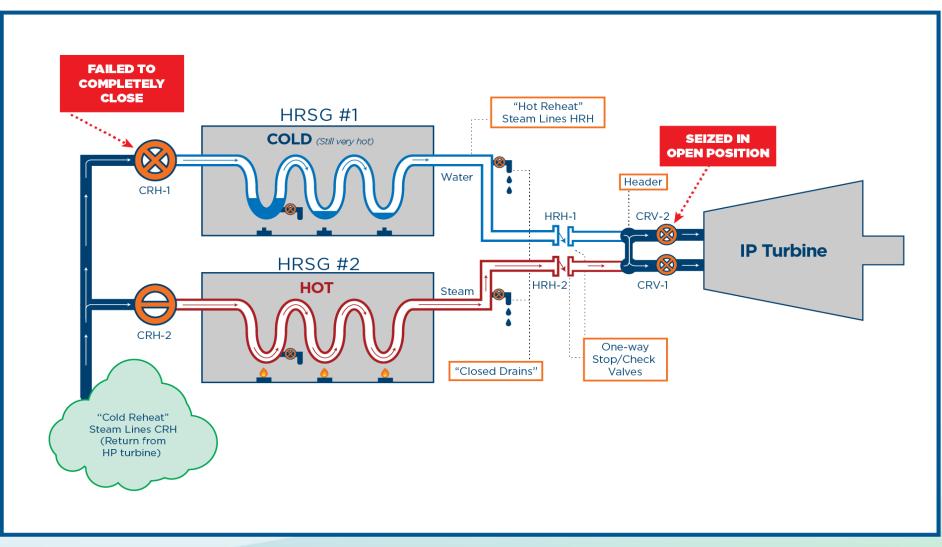


## Heat Recovery Steam Generator



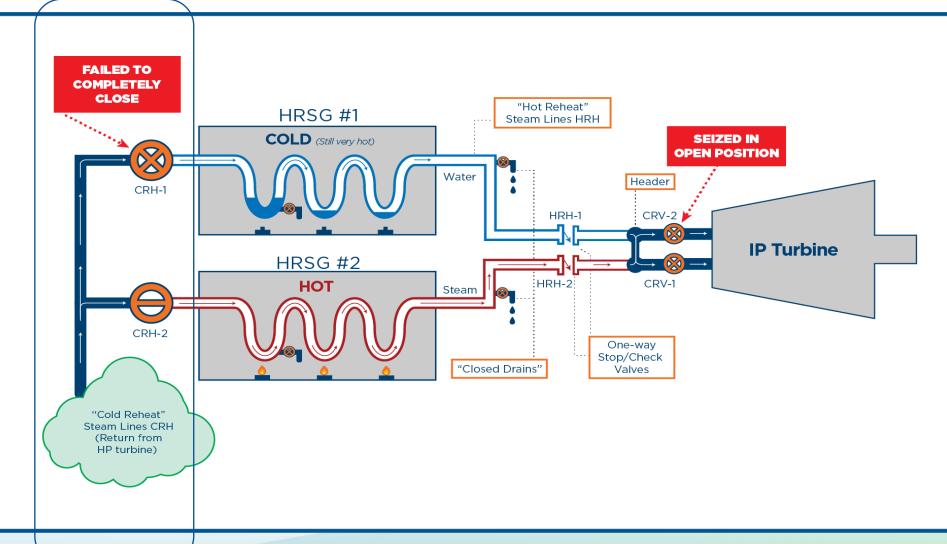


#### **Russell City Energy Center's HRSG Reheater Schematic**



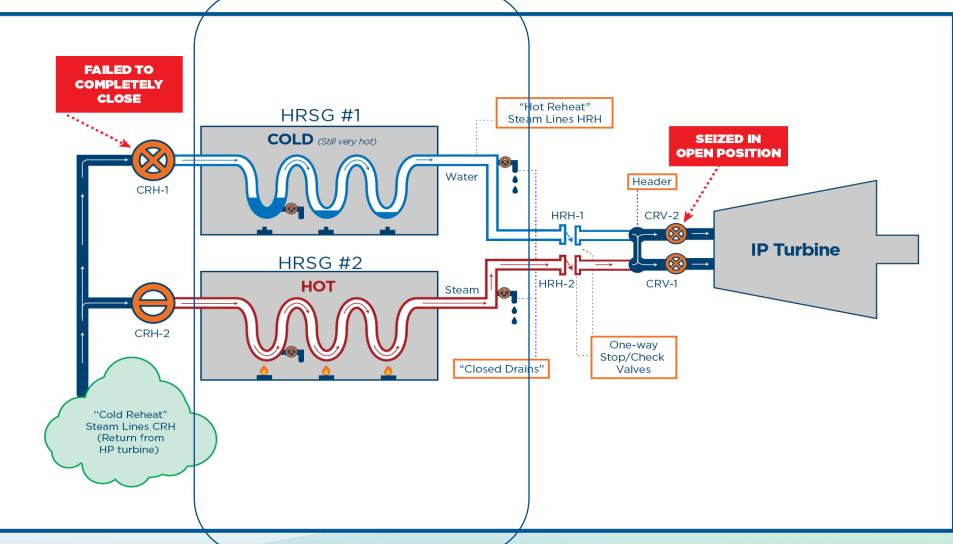


#### **Causal Factor 1 – Equipment Maintenance and Monitoring**





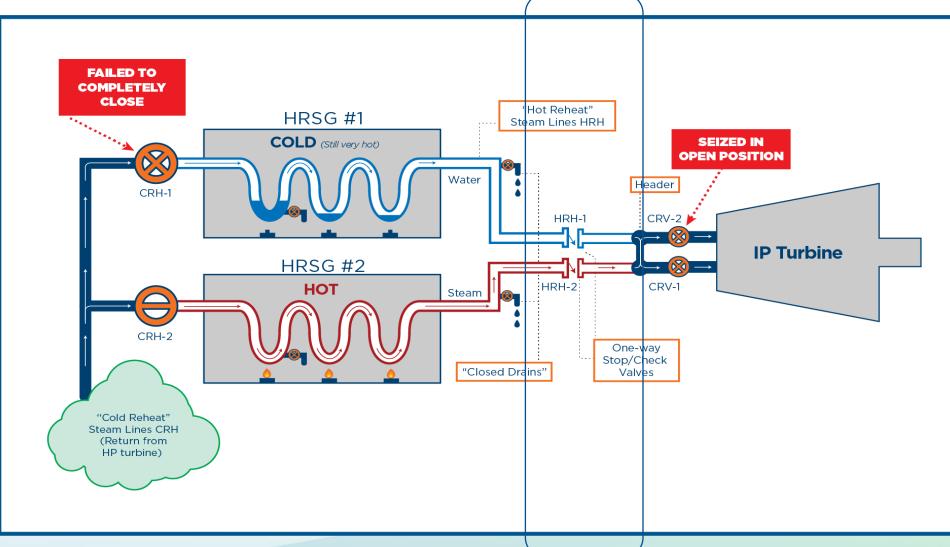
#### Causal Factor 2 – Deficiencies in Operator Interface and Training



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#### **Causal Factor 3 – Inadequate Water Induction Protection**



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# JAIT Corrective Actions

- Modify preventative maintenance and monitoring programs
- Re-configure the CRH stop valve to close based on actuator torque value
- Implement an annual preventative maintenance program for the steam attemperators and mixers for review and approval.
- Synchronize control system clocks
- Consolidate the alarms generated by the control systems

- Implement control logic to alleviate pressure within offline HRSG
- Implement control logic to discharge water from offline HRSG
- Provide an ASME TDP-1-2013 conformance analysis
- Convert the HRH stop/check valve from manual to electrical actuation
- Revise operations procedures
- Reduce the occurrence of nuisance/false alarms



- Revise operations CEC Commissioners adopted the corrective actions and delegated to the CEC Executive Director to verify that the corrective actions have been completed.
- The JAIT spent the third week of May at Russell City Energy Center verifying the implementation of each of the corrective actions.
- Russell City Energy Center begins testing and commissioning the last week of May and will be available for CAISO to dispatch on June 1, 2022.





- City staff have been participating on Joint Agency Working Group with CEC and CPUC staff
- Consistent with the CEC Order to allow Calpine to restart operations at RCEC, City staff and Calpine staff have meeting "to discuss any needed modifications of [RCEC's] standard operating procedures for first responders to implement when responding to incidents on site, including establishing a process for reimbursement of reasonable expenses."
- Finalizing joint City/Calpine hazardous resiliency and action plan this includes partial funding for a hazardous materials response vehicle
- Insurance claims for Homeless Navigation Center being processed
- Conversations with Russell City descendants/community action group underway – additional monetary contribution from Calpine proposed

#### Hayward First Responder Training Plan Enhancements

- Notified City of Hayward of Plant Management Changes on March 10.
- Schedule Annual HFD/City Manager/RCEC Meeting -TBD
- Knox Box Updated 12/14/2021

   Updated MSDS's
  - Updated Plot Plan with Location of oil filled equipment and hazardous materials
- Met with Hayward Fire Department Training Battalion Chief on March 14, 2022
- Hazmat Table Top Drill TBD

- Schedule Plant Tour for new Fire Company Officers – TBD
  - Identifying Hazardous Material locations
  - Review Emergency Action Plan
  - Identify possible Fire/Explosive areas
  - Identify areas of static Electricity potential for Aerial Ladder Trucks
  - Identify water supply locations and access points
- Rope Rescue Scenario Drill (incapacitated victim on platform or scaffolding) – TBD

HAY WARD

### Thank you

