



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



Restarting Russell City Energy Center



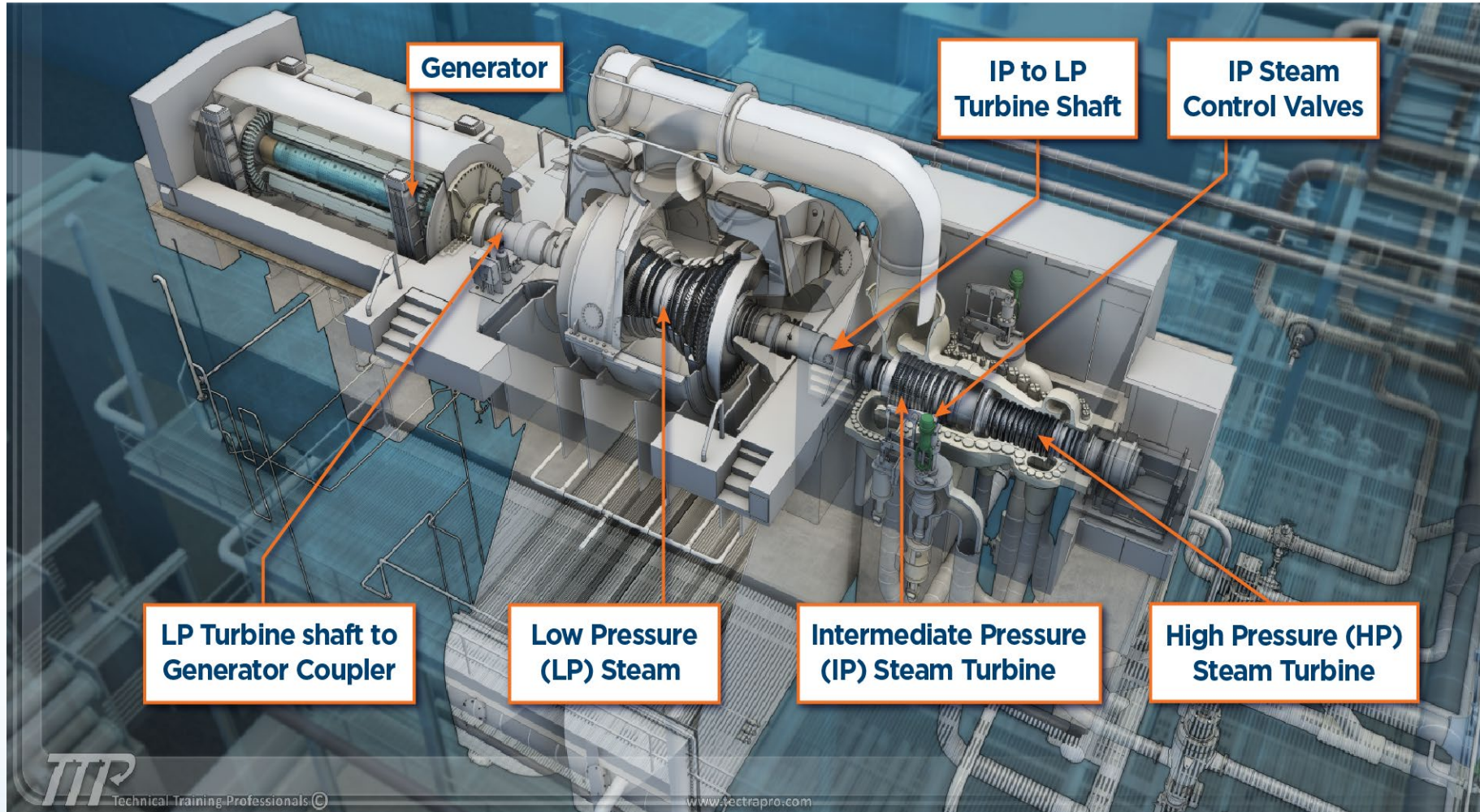


Russell City Energy Center Investigation





Steam Turbine Generator





Steam Turbine Debris Field



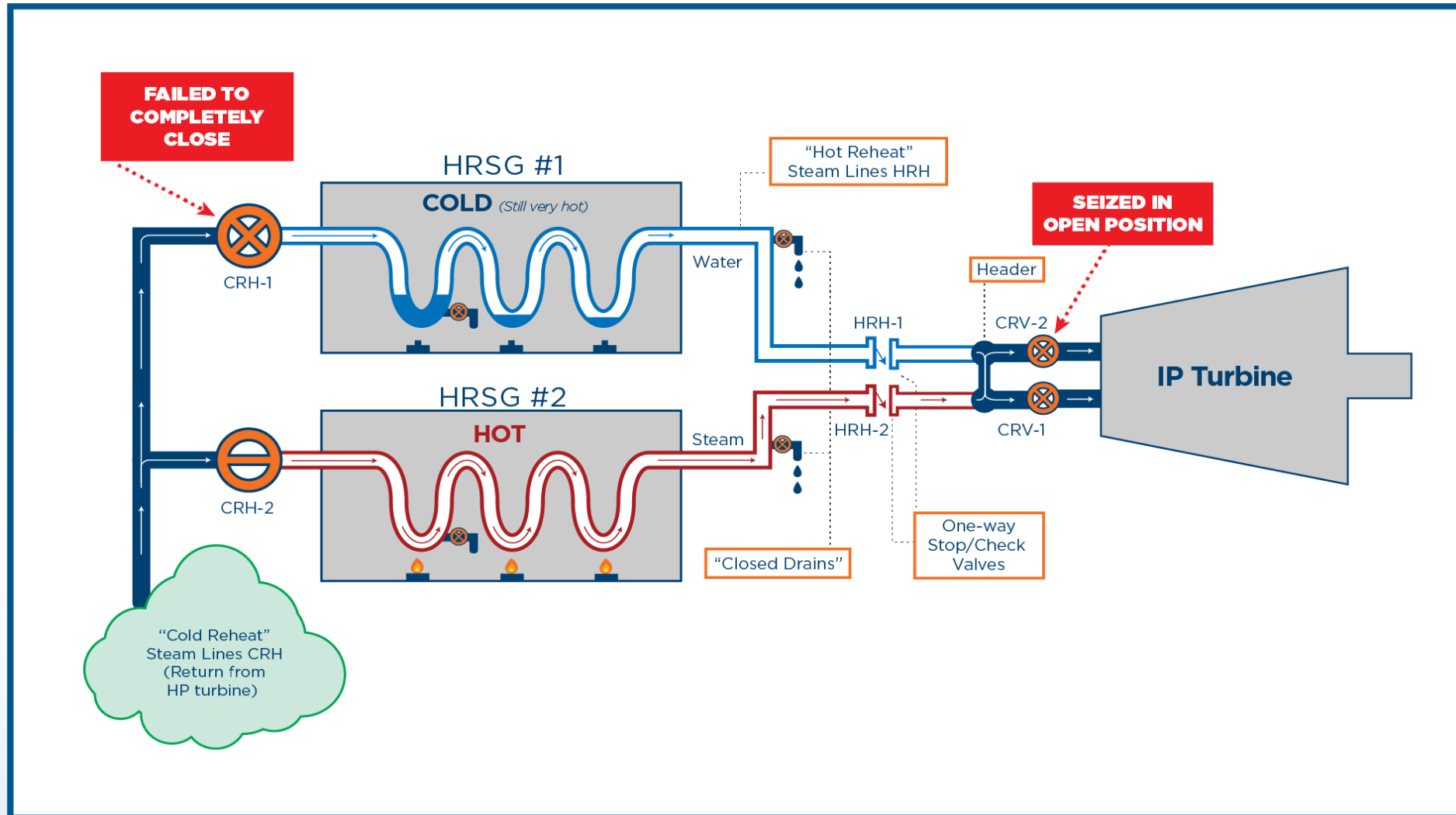


Heat Recovery Steam Generator



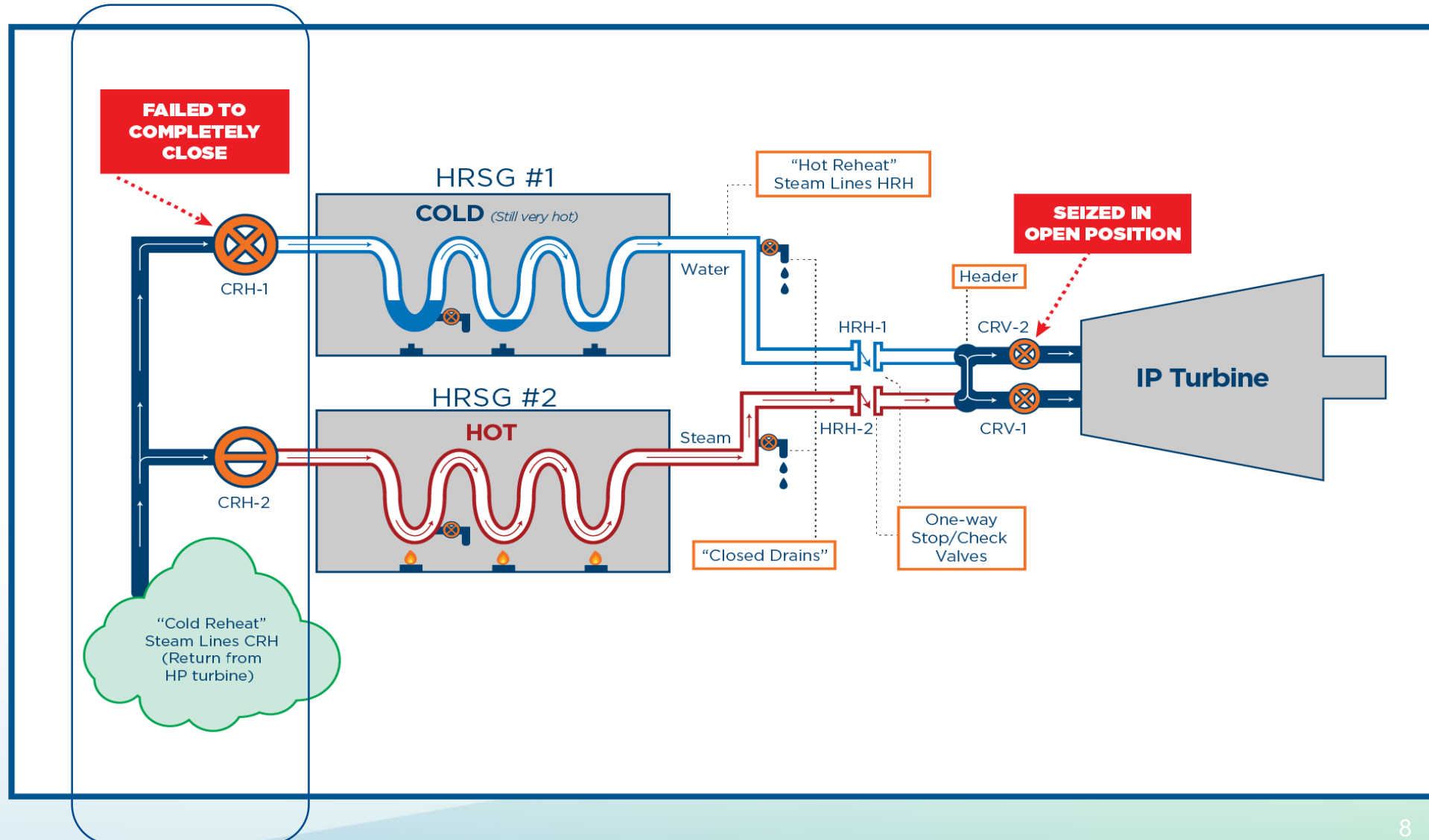


Russell City Energy Center's HRSG Reheater Schematic



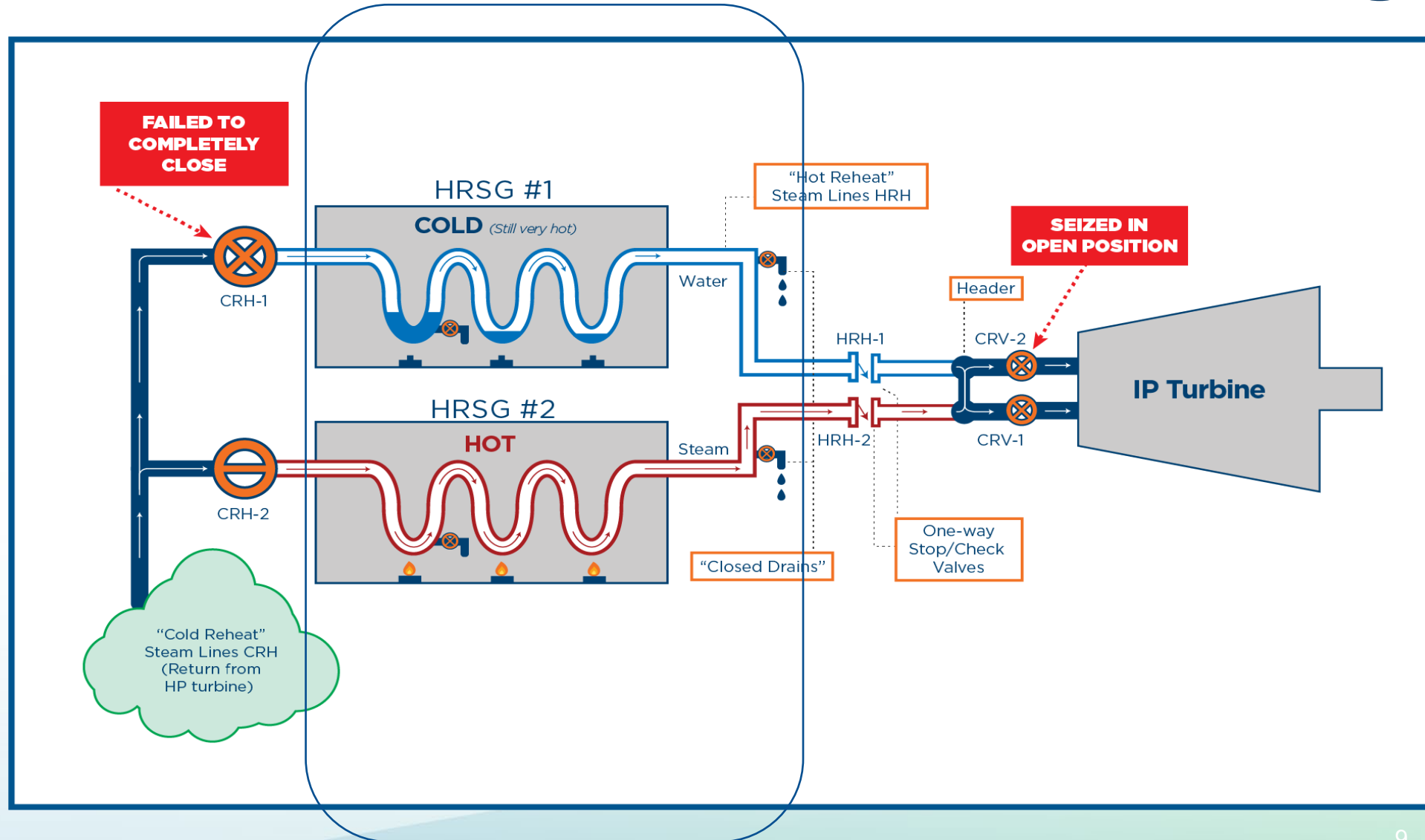


Causal Factor 1 – Equipment Maintenance and Monitoring



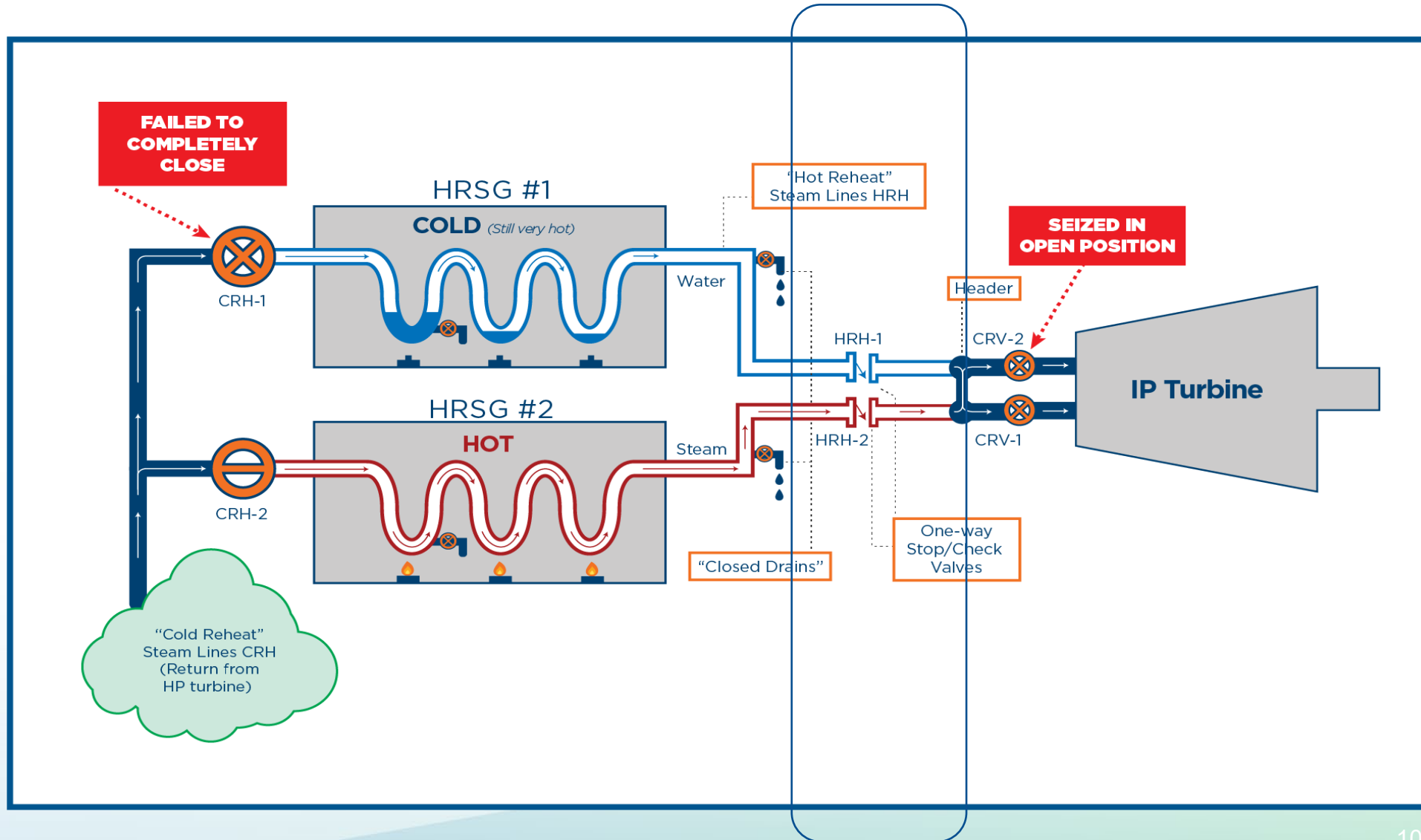


Causal Factor 2 – Deficiencies in Operator Interface and Training





Causal Factor 3 – Inadequate Water Induction Protection





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



Commission Decision and Next Steps

- 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 of Hayward



- 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

Thank you

