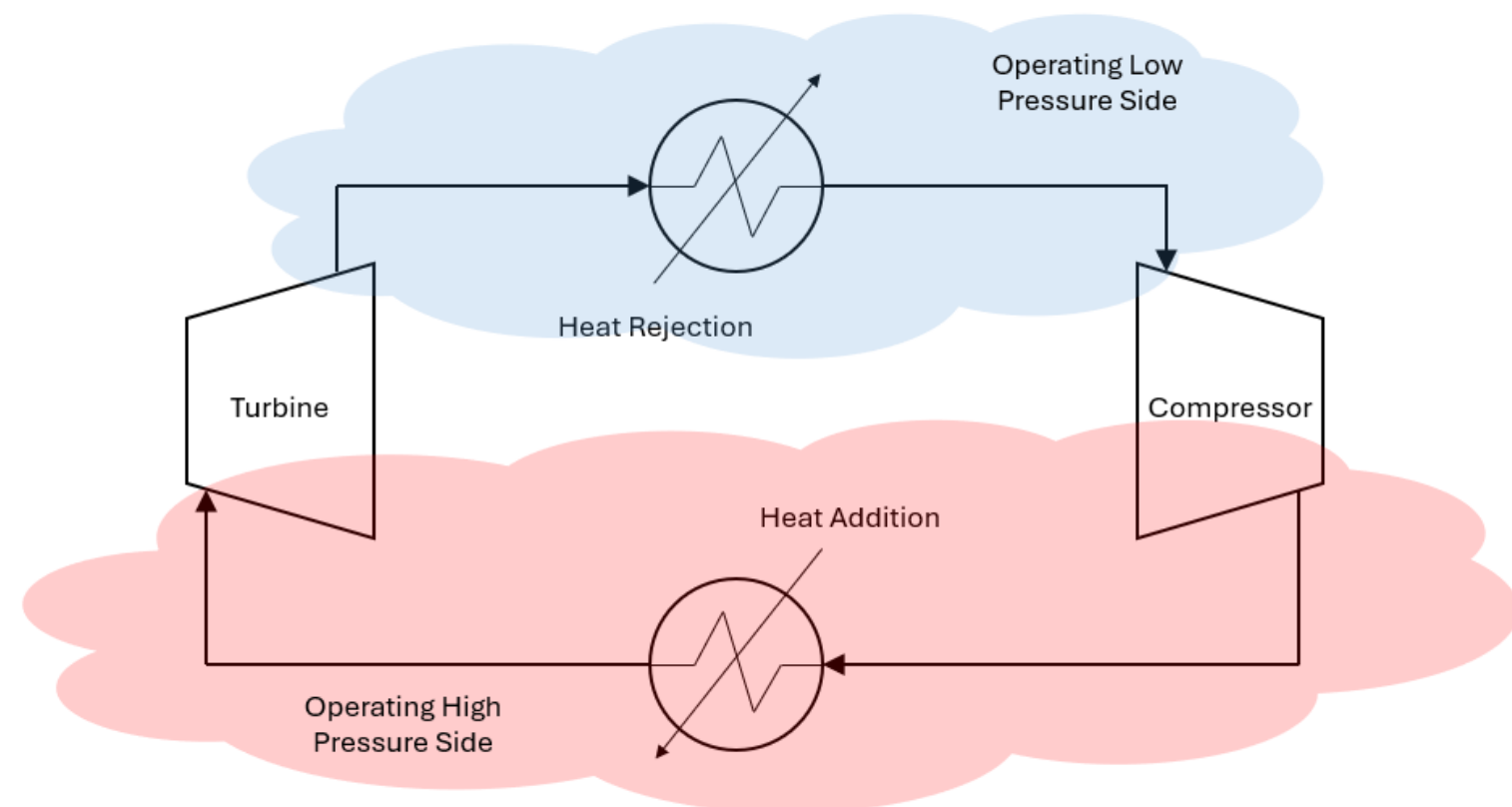


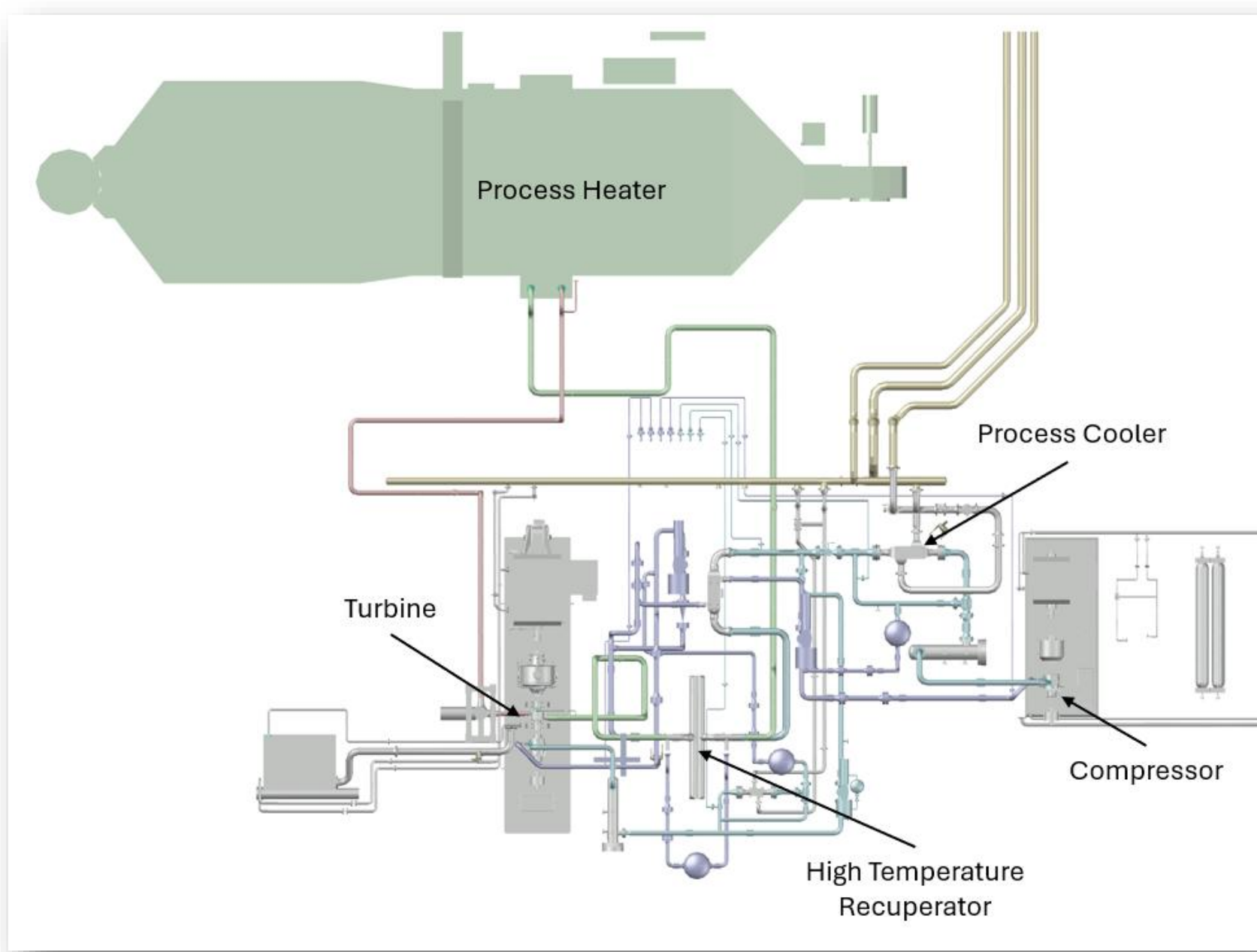
# VERIFICATION OF SETTLE OUT CONDITION PREDICTION METHODS FOR SUPERCRITICAL TRANSFORMATIONAL ELECTRIC POWER (STEP) 10 MWE PILOT SCALE POWER PLANT

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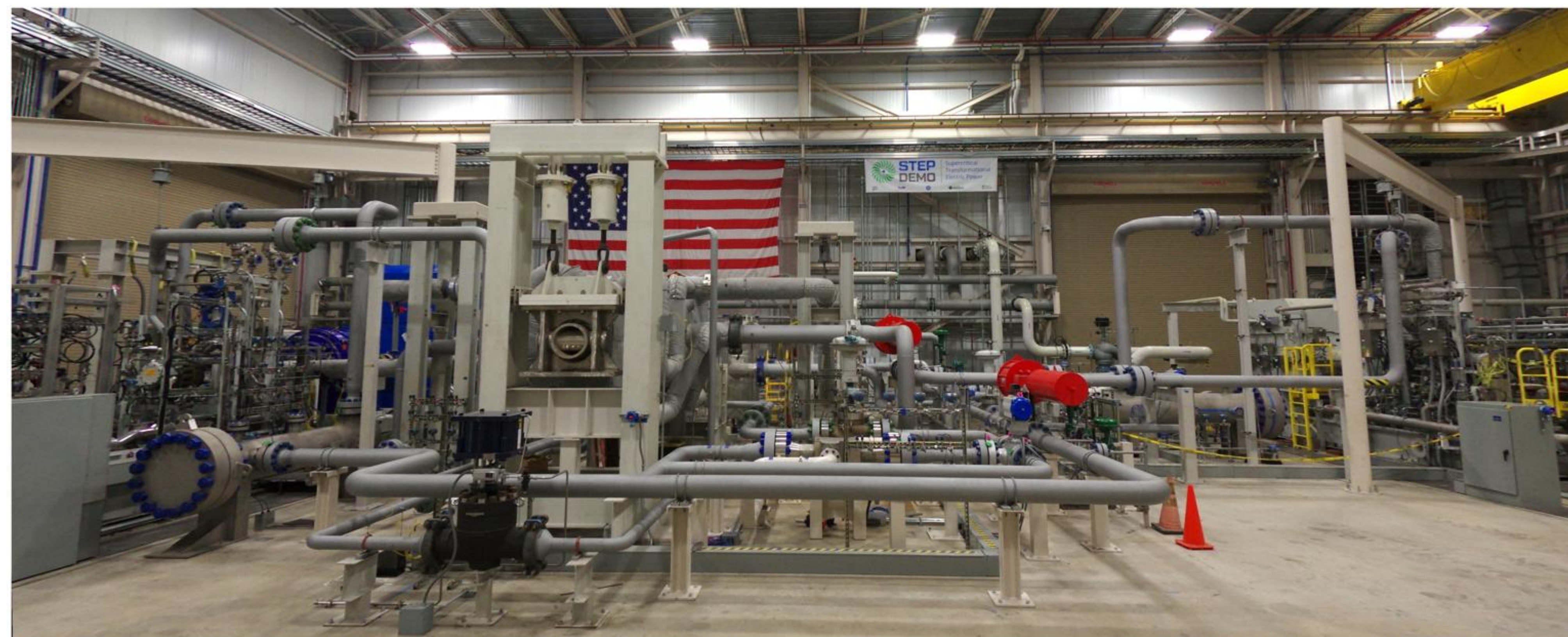
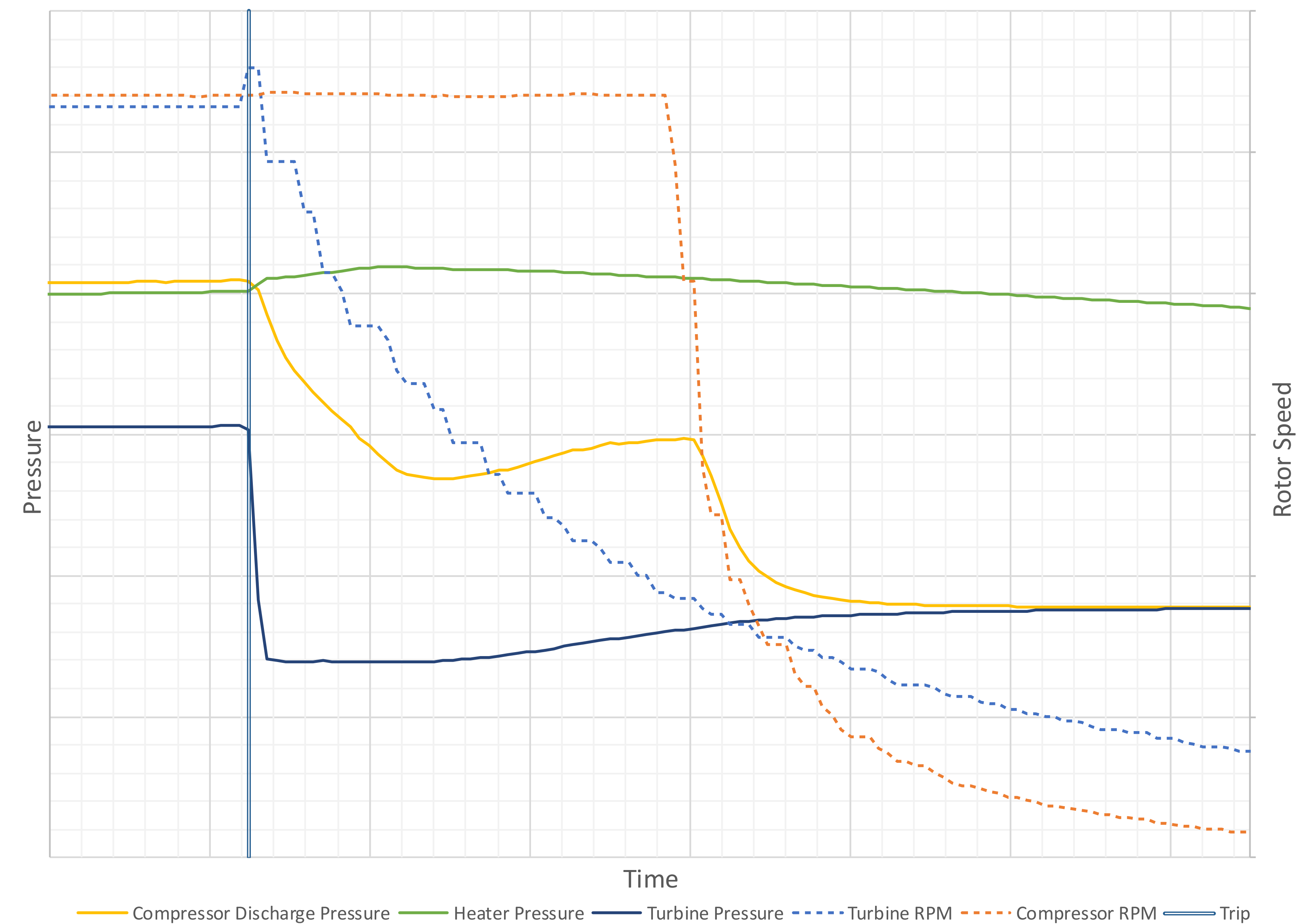
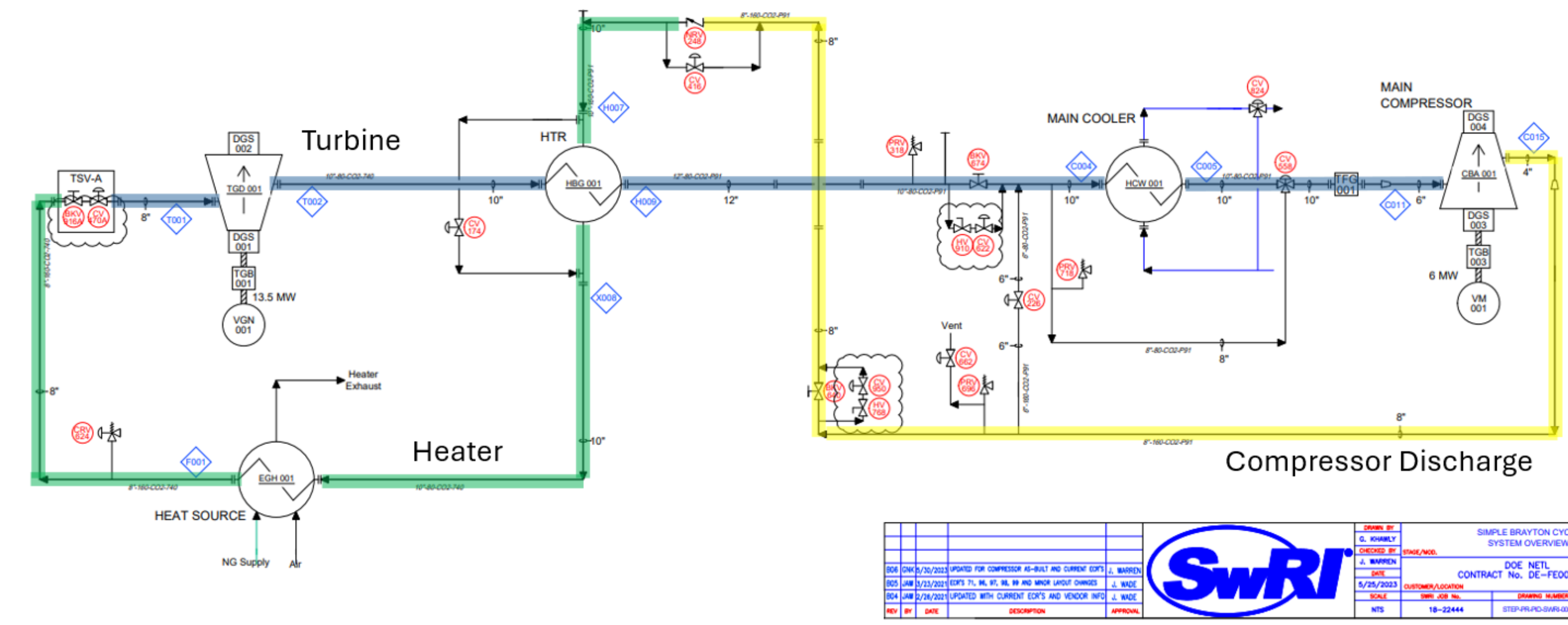


## Conclusions

The settle out conditions for an sCO<sub>2</sub> closed loop system are very dynamic and a detailed transient model is required to accurately predict the behavior. Bulk models can be used to get approximate values but the behaviors observed, specifically the increase in the heater pressure after the trip will not be predicted without a transient model. The pressure increase observed in the heater section is due to heat addition from the heater even though the combustion is tripped off with the process trip.



The two zone settle out strategy was successful as can be observed by the heater pressure zone maintaining a pressure approximately 100 bar above the compressor discharge and turbine sections.



Acknowledgements: The authors would like to thank the U.S. Department of Energy, Office of Fossil Energy and the National Energy Technology Laboratory, under Award Number DE-FE0028979 that supports this work, as well as Supercritical Transformational Electric Power (STEP) project prime, GTI Energy, and the STEP project partners, Southwest Research Institute and General Electric Vernova.

Disclaimer: This information, data or work presented herein was funded in part by the National Energy Technology Laboratory (NETL), U.S. Department of Energy, under Award Number DE-FE0028979. THIS REPORT WAS PREPARED BY SOUTHWEST RESEARCH INSTITUTE (SwRI) AS AN ACCOUNT OF WORK SPONSORED BY GAS TECHNOLOGY INSTITUTE (GTI) AND NATIONAL ENERGY TECHNOLOGY LABORATORY (NETL), U.S. DEPARTMENT OF ENERGY. NEITHER GTI, MEMBERS OF GTI, NETL, NOR ANY PERSON ACTING ON BEHALF OF ALL OR ANY OF THEM: A. MAKES ANY WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED WITH RESPECT TO THE ACCURACY, COMPLETENESS, OR USEFULNESS OF THE INFORMATION CONTAINED IN THIS REPORT, OR THAT THE USE OF ANY INFORMATION, APPARATUS, METHOD, OR PROCESS DISCLOSED IN THIS REPORT MAY NOT INFRINGE PRIVATELY-OWNED RIGHTS; OR B. ASSUMES ANY LIABILITY WITH RESPECT TO THE USE OF, OR FOR ANY AND ALL DAMAGES RESULTING FROM THE USE OF, ANY INFORMATION, APPARATUS, METHOD, OR PROCESS DISCLOSED IN THIS REPORT.