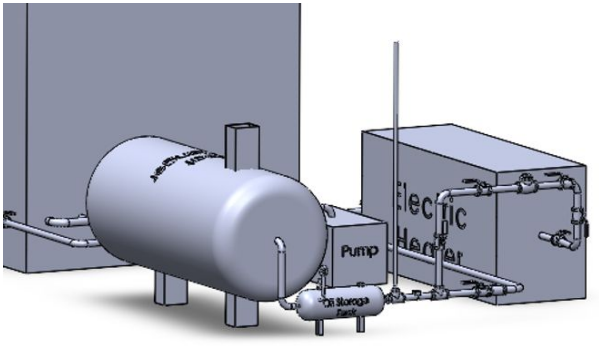
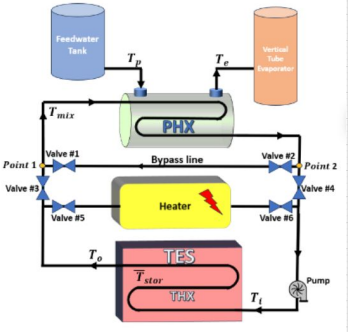
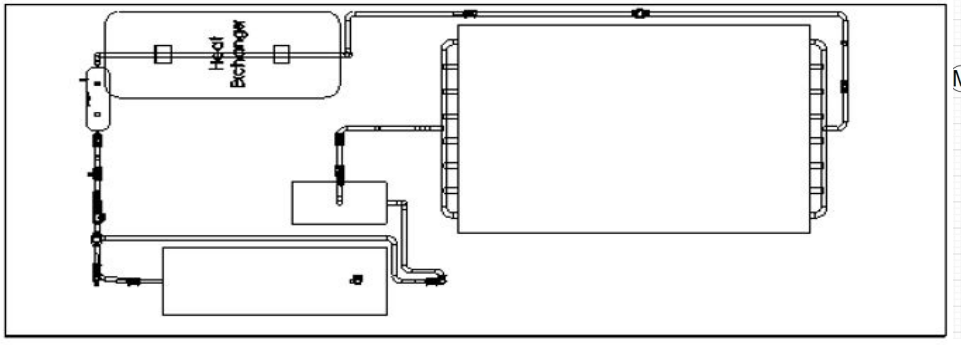
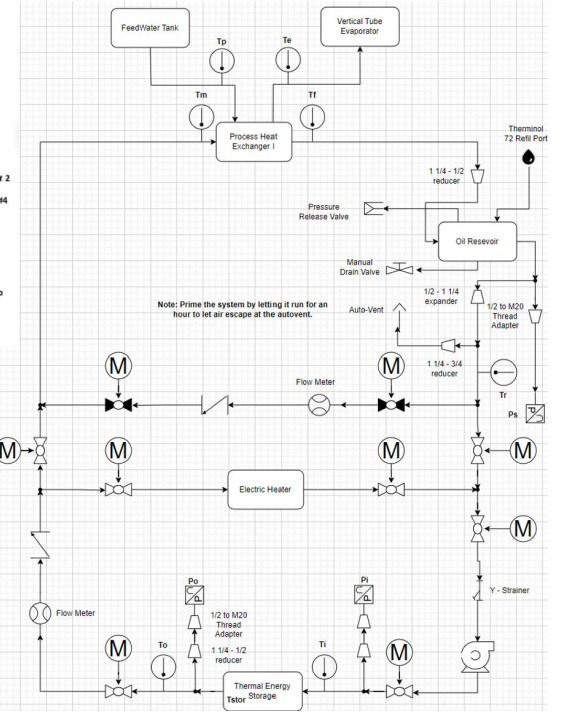
Thermal Energy Storage (TES) System Design









What?

Designed and validated a TES system to store renewable energy with a multidisciplinary team.

How?

Determined economic tube diameter based on mass flow rate and fluid.

Created a process flow diagram and selected hardware for the system.

CAD Modeled the TES system using SolidWorks.

Estimated project timeline for implementation and cost.

Results

Selected ASME Class 150 elbows and pipes for Therminol 72.

Included oil reservoir, unions, insulation, instrumentation, and motor-operated valves for maintenance and safety.

Delivered a $132,144 system meeting operational reliability/budgetary goals.