

Power and Steam Balance

We use a steam turbine to generate electricity.

- More electricity = More steam
- More steam = More electricity

After steam is used by the turbine it needs to have an outlet

- The Turbine Condenser to be recycled
- The extraction header to be used in process

The Turbine Condenser is rated to take 31KPPH, anything over that must be used in process. If the turbine is requiring 40KPPH to generate power, that means we need to use 9KPPH in process minimum but can use up to 40KPPH. Process steam can be used in multiple places.

- Evaporators (biggest consumer of steam)
- Coproduct Tanks
- Mix Tanks
- Retention Tank
- Pressate Heater
- Process Water Heater
- White Water tank

If we were generating power, we need to have outlets for the steam. If we need more steam, then we have to generate more power to get it. The load bank is how we create demand for power in order to generate more steam.

Quiz/Discussion- Questions

1. The STG is consuming and exhausting 50KPPH of steam, the Evaporators are consuming 10KPPH. How much more steam must be used in process to avoid flooding the condenser?
2. The STG is consuming and exhausting 20KPPH, the Evaporators are consuming 15KPPH. You need another 10KPPH to heat the mix tanks. How do you make up the difference?