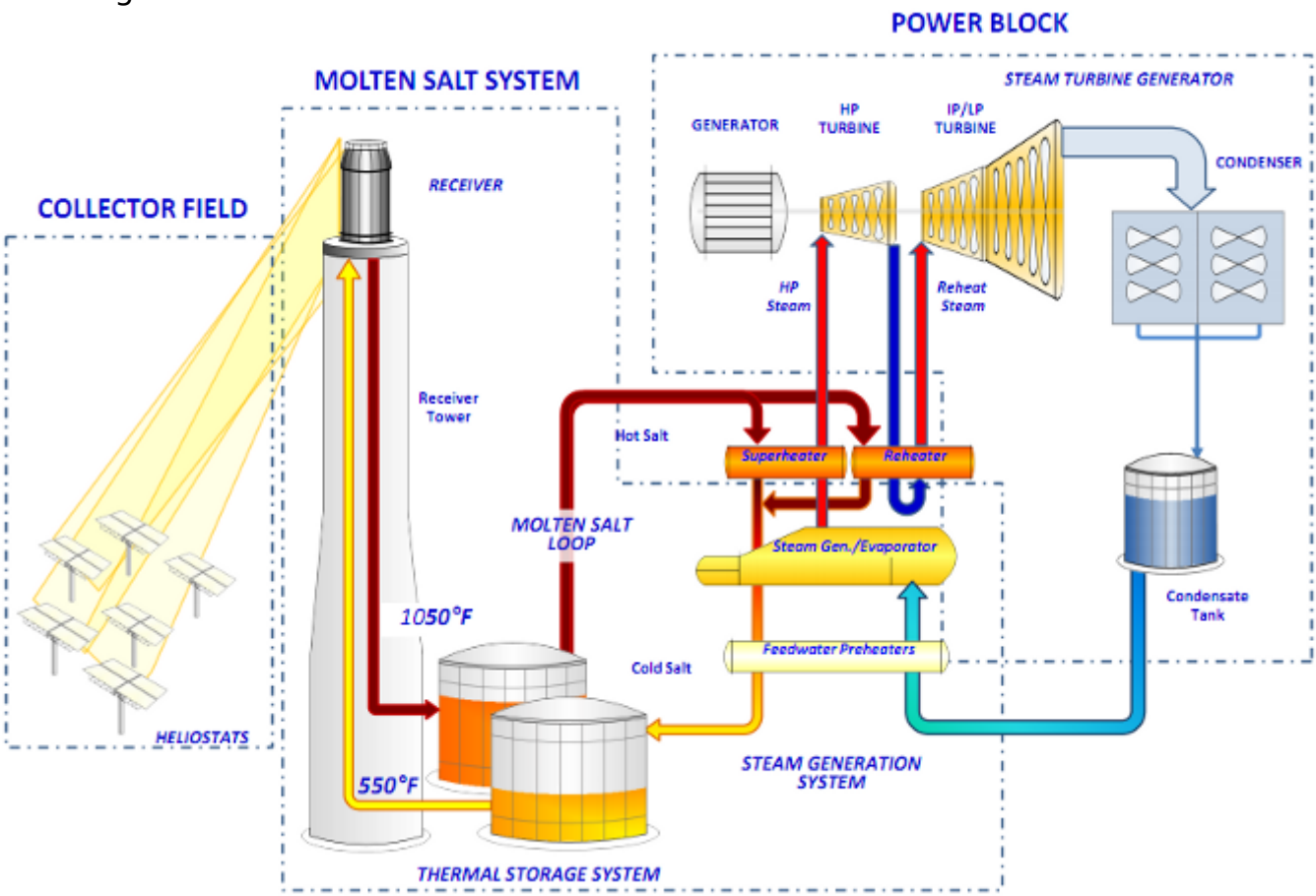
Molten Salt Solar Reactor Approved by California

Curious Cat Science and Engineering Blog

California has approved a molten salt solar reactor [1] project. The plan is for a 150-megawatt solar power tower project. From the press release: the “Solar Energy Project has the ability to collect and store enough thermal energy each morning to operate at full power all afternoon and for up to 8 hours after sunset. The game-changing technology featuring inherent energy storage affords utilities with a generator that performs with the reliability and dispatchability of a conventional power generator without harmful emissions that are associated with burning coal, natural gas and oil.”



[2]
molten salt solar system diagram

The heliostats focus concentrated sunlight on a receiver which sits on top of the tower. Within the receiver, the concentrated sunlight heats molten salt to over 1000 degrees Fahrenheit. The heated molten salt then flows into a thermal storage tank where it is stored, maintaining 98% thermal efficiency, and eventually pumped to a steam generator. The steam drives a standard turbine to generate electricity. This process, also known as the “Rankine cycle” is similar to a standard coal-fired power plant, except it is fueled by clean and free solar energy.

This is another green energy project that has a great deal of potential. There is a great need for such new energy sources and hopefully quite a few of these projects will let us enjoy a greener and more sustainable way to meet our future energy needs.

For those interested in the business aspects of this energy project: United Technologies provided SolarReserve with an exclusive worldwide license to develop projects using the proprietary molten salt power tower technology, which has been in development for nearly three decades.

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