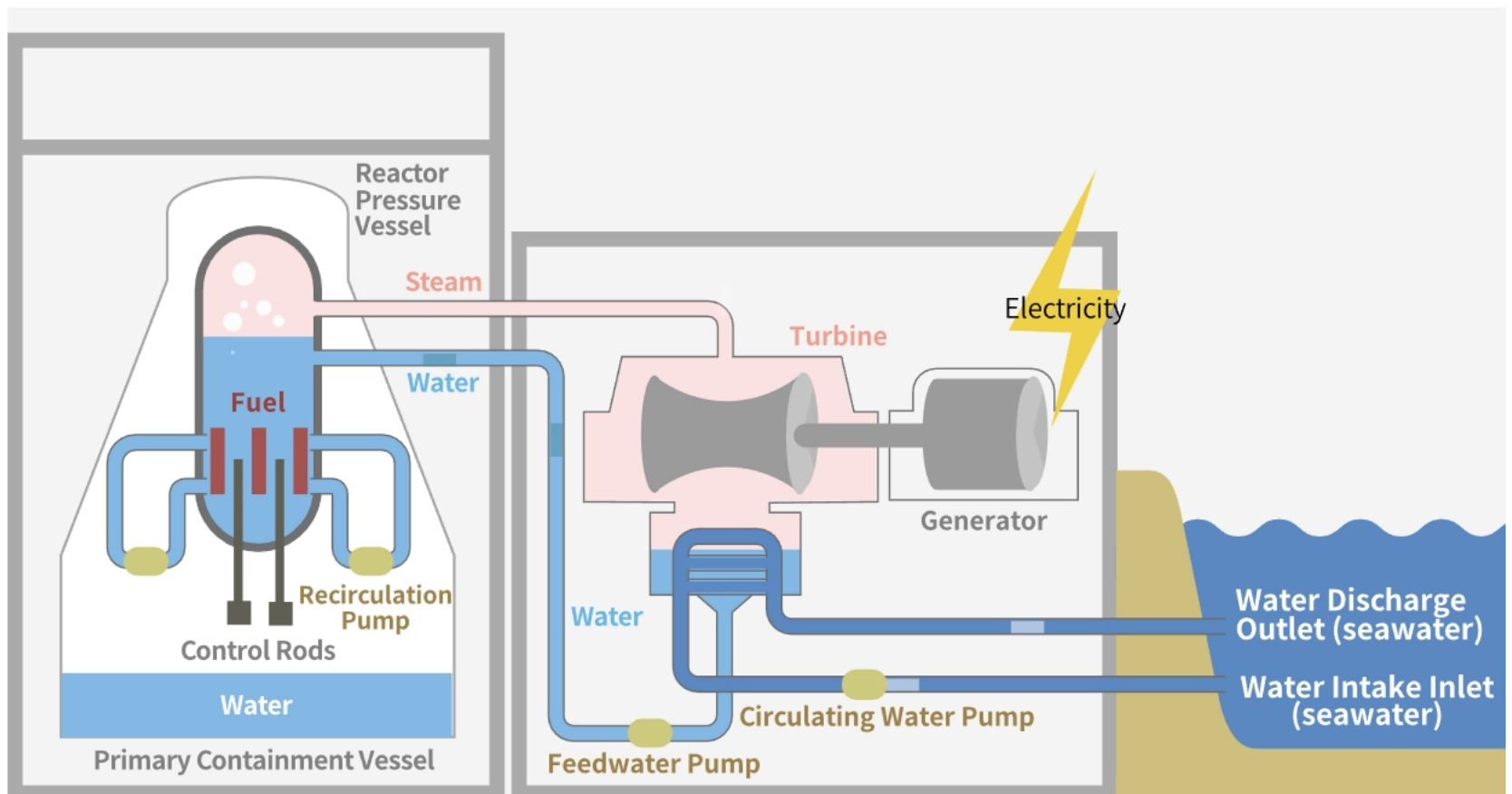


Nuclear power generation process



Nuclear power generation produces electricity in a similar way to thermal power generation. In both cases, boil water and convert it into steam, using that steam to turn large impellers known as turbines to operate a generator and produce electricity. While thermal power generates heat by burning coal, oil and natural gas, nuclear power generation uses the heat generated by the fission of uranium fuel inside a reactor.

There are various types of nuclear reactors, and the type used in Japan is known as a light-water reactor. In these light-water reactors, regular water is used to regulate the speed of nuclear fission and to cool the heat. Additionally, light-water reactors are further divided into two types based on differences in the mechanisms used to generate steam, Boiling Water Reactors (BWR) and Pressurized Water Reactors (PWR).

One of the characteristics of nuclear power generation is that it produces a large amount of electricity from a small amount of fuel. One piece of uranium fuel (with a diameter and height of around 10 mm) can produce enough electricity to power a regular home for 6-8 months. However, since uranium fuel is a radioactive substance, strict safety controls including containment are required.