

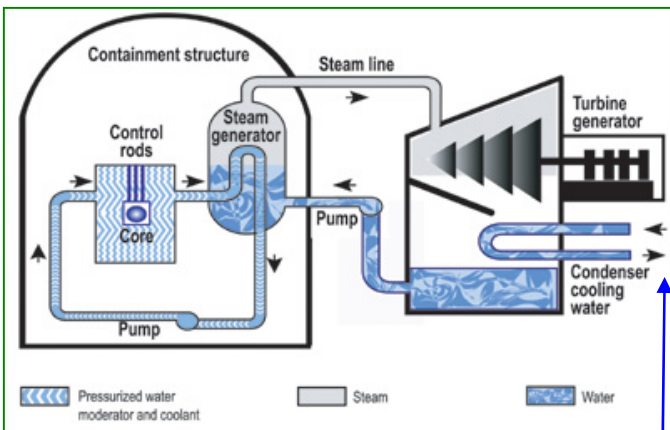
## San Onofre Plant's Ocean Water Cooling System – a Net Benefit for Local Marine Life

Most utility power plants require a major source of water.

- They use a heat source to boil water and create steam that turns turbines, generating electricity.
- Equipment near the heat source – a burning fossil fuel or a nuclear reaction – must be cooled.

This is why many power plants are built near rivers, lakes and oceans.

- 40 percent of California's generating capacity is located along its coast and uses ocean water "once through" cooling systems, including Southern California Edison's (SCE) San Onofre Nuclear Generating Station.
- California's coastal plants have a generating capacity of 20,750 megawatts or enough electricity to power 14.5 million average California homes.



### San Onofre's Water Systems

**System #1** – A closed loop recycles purified water through the reactor transferring heat to the plant's steam generators.

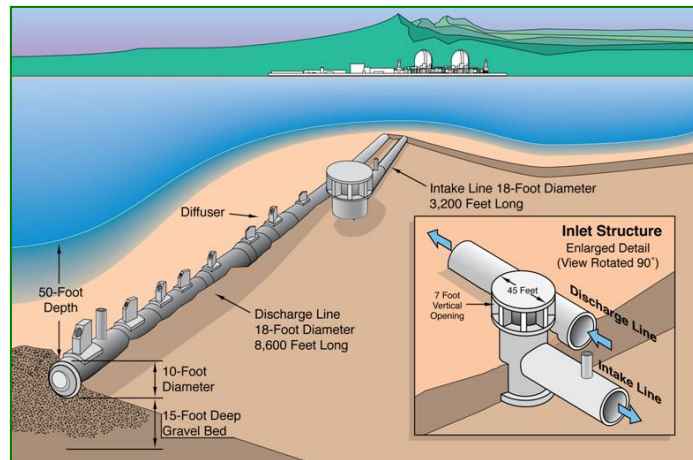
**System #2** – A second closed loop passes purified water through steam generators creating steam to turn the plant's turbines.

**System #3** – A once-through system uses ocean water to condense the steam back to water.

Ocean water "once-through" system #3

## How San Onofre Plant's Ocean Water System Works

- A 3,000-foot intake pipe begins with a unique "velocity cap" using a special design that causes most fish to swim away.
- The pipe's opening is located at a depth and distance from the shore where the least fish are found.
- An innovative protective system diverts the small percentage of fish that enter the intake pipe to a catch basin where they are returned to the ocean.



## Strengthening Southern California Marine Ecosystems

- Innovative features of San Onofre plant's ocean water intake system prevents harm to 94 percent of local marine life.
- SCE's environmental restoration projects – the Wheeler North Kelp Reef off San Clemente and the San Dieguito Wetlands Restoration Project in Del Mar – fully restore fish and larvae affected by the plant.
- The projects have produced significant new marine science, insights that will serve as a blueprint for other coastal restoration efforts.

