Many differences exist between the two configurations, whereby the OT design is not only easier in concept and design but also has a higher performance ratio, especially in the case of large-scale projects.While dosing rates, in ppm, are lower for the OT process, as the coolant seawater has the equivalent feed concentration, the large intake flow rate calls for a higher rate of chemical dosing than in the case of BR. The net result is higher overall chemical consumption in the OT process.The temperature of the intake was around 25–30 oC; therefore, a preheater was added to the simulated plant to moderate the intake seawater temperature through the year, whereby the influent seawater into the plant was fixed at approximately 40 oC. Some chemicals are added to the feed water (anti-scaling, chlorine, and anti-foaming).On the other hand, the elimination of the heat rejection section and the recirculation pump, with all of the associated controls and civil work, means lower capital investment and simpler operation than is the case with the brine recirculation (BR) configuration.After warming the seawater feed in the condenser tubes, part of this feed water is evacuated to the sea (known as cooling water),while the rest of the feed water is delivered to the deaerator (known as makeup wateAccording to [22], three major features verify the advancement of the OT design--the performance ratio, the top brine temperature and the brine loading, all of which are superior.It should be noted here that the main disadvantage of the OT design is its high consumption of chemicals for the pretreatment of water.The consumption of chemicals depends on the volume of seawater to be treated, as well as the concentration ratio.In the BR process, deaeration of the pretreatment is accomplished in a deaerator, which is integrated with the last rejection stage.This is a disadvantage since the amounts of noncondensable gases released, including oxygen, are much higher than what is released by recycling in The BR process [23].Chlorine is added to the seawater feed at the source to avoid bio-fouling inside the condenser tubes [24].The top brine temperature can increase106C, which means efficient absorption of thermal energy (heat) from heating steam.In any case, the selection of a specific configuration depends mainly on economic and operational considerations.The BR practice uses very few chemicals .for makeup pretreatment