

Perubahan Desain Sistem Pendingin PLTU Tanjung Balai Karimun 2 x 7 MW = Design Change of Cooling System at Tanjung Balai Karimun 2 x 7 MW Powerplant Project

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Abstrak

Proyek PLTU Tanjung Balai Karimun 2x7 MW merupakan salah satu proyek dalam program 10000 MW yang dicanangkan pemerintah. Pada tahap konstruksi ditemukan permasalahan pembangunan sistem pendingin PLTU tersebut yang menggunakan tipe once through-Intake channel disebabkan kondisi dasar laut yang dangkal dan relatif panjang, sehingga dibutuhkan biaya relatif besar. Studi ini bertujuan untuk mencari solusi yang paling optimal untuk menyelesaikan masalah tersebut dengan mempertimbangkan aspek biaya, kemudahan konstruksi, kemudahan operasi dan pemeliharaan, dan kemudahan perijinan. Analisis dilakukan terhadap 5 alternatif desain yaitu once through – intake channel, once through – intake piping, once through – offshore pumphouse, closedloop sea water cooling tower, dan closed-loop fresh water cooling tower. Hasil studi menunjukkan bahwa alternatif yang paling optimal adalah merubah desain pendinginan menjadi closed-loop menggunakan sea water cooling tower.

.....Tanjung Balai Karimun 2 x 7 MW PLTU project is one of the projects in the 10,000 MW program launched by the Government. At the construction stage, problems were found in building the PLTU cooling system which uses the once through-intake channel type due to the shallow and relatively long seabed conditions, so it required relatively large costs. This study aims to find the most optimal solution to solve this problem by considering aspects of cost, ease of construction, ease of operation and maintenance, and ease of licensing. Analysis was carried out on 5 design alternatives, namely single-through inlet pipe, single-through inlet pipe, single-through offshore pump house, closed-loop seawater cooling tower, and closed-loop freshwater cooling tower. The study results show that the most optimal alternatif is to change the cooling design to closed-loop using a sea water cooling tower.