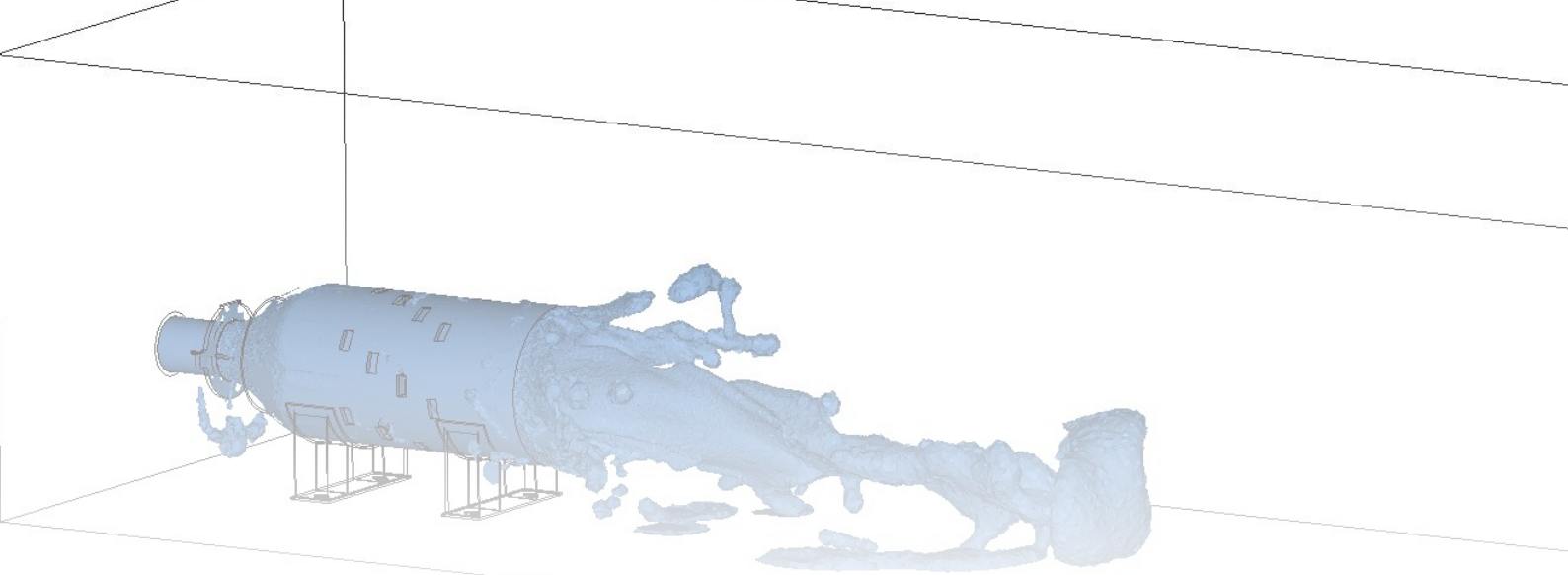

CASE STUDY ›

TARONG POWER STATION - WATER SAVING INITIATIVE

PROJECT OVERVIEW

In June 2020, a comprehensive analysis was conducted by RSGx-Stanwell to identify and implement strategies aimed at diminishing the water loss due to evaporation in the Tarong Cooling Water dam, as well as the Wivenhoe-Tarong pipeline discharge valve.

Subsequently, measures were taken to address the evaporation losses caused by the dispersed spray pattern emanating from the discharge valve. This involved the utilization of advanced computational fluid dynamic modelling techniques, as well as the design and manufacture of a specialized confinement shroud. This initiative was carried out with the goal of effectively mitigating evaporation losses.

SCOPE OF WORK

RSGx's scope of work included a detailed design of confinement shroud using computational fluid dynamics and fabrication.

SOLUTION

Subsequent to a thorough examination of the existing spray pattern from the discharge valve, it was determined that action was necessary to address the significant evaporation losses caused by the dispersed pattern. In a bid to mitigate this issue, a comprehensive approach was undertaken, comprising of the utilization of state-of-the-art computational fluid dynamic modelling techniques, expertly crafted design, and meticulous fabrication of a specialized confinement shroud. The overarching objective of this initiative was to effectively mitigate the evaporation losses and optimize the overall efficiency of the cooling water storage dam and the Wivenhoe-Tarong pipeline.

ACHIEVEMENTS TO DATE

RSGx is proud to announce the successful implementation of a comprehensive strategy aimed at reducing water loss due to evaporation in the Tarong Cooling Water dam. Through the utilization of advanced computational fluid dynamic modelling techniques, expertly crafted design and fabrication of a specialized confinement shroud, we were able to eliminate a significant portion of the evaporation losses caused by the dispersed spray pattern.

Based on calculations, it was determined that the Dam could experience a loss of 637ML per annum due to evaporation. With the application of the confinement shroud, it was expected that 70% of this loss would be eliminated, resulting in a staggering savings of 446ML of water per year, translating to a cost saving of $715,384 for the Tarong Power Station. This is an outstanding achievement and a testament to the expertise and dedication of the RSGx team.

CLIENT
STANWELL

SERVICES PROVIDED
DESIGN & FABRICATION

SCOPE
COMPUTATIONAL FLUID ANALYSIS & SHOP FABRICATION DRAWINGS

INDUSTRY
WATER

LOCATION
TARONG POWER STATION

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