

عنوان مقاله:

D CFD modeling-investigation of potential vortex formation at the intakes of Caruachi Powerhouse-3

محل انتشار:

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خلاصه مقاله:

In this paper, the 3-D CFD simulation of the free-surface flow approaching the intakes of Caruachi Powerhouse is presented. The aim of the investigation is to determine whether or not vortex structures are likely to appear from the water surface through the intakes, as the result of the presence of cofferdams placed few meters upstream of the intakes. The presence of cofferdams was a note of concern with regard to the effects they might have on the turbine intakes once the hydroelectric central starts operating. In all the considered conditions, results did not show neither strong surface vortices in the proximities of the Powerhouse intakes, nor air entrainment/entrapment towards the intakes, which reflects the safe operation of the turbines in the presence of the cofferdams. The latter added in decision taking on leaving the cofferdams submerged instead of removing them, which resulted in cost savings for the project.

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

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