

3rd International Conference on

COASTAL ZONES AND OCEANOGRAPHY

May 18-19, 2018 Singapore



Ho-Shong Hou

I-Shou University, Taiwan

Research of improvement and hydraulic model test for the treatment of thermal diffusion around the intake and outlet structure of Linkou power plant in Taiwan coastal zone

Taiwan Power Company tries to solve the warm water from outlet affecting water temperature of intake for protecting power generation of Linkou power plant runs well. Therefore, the company subscribed the research project to Institute of Harbor and Marine Technology (IHMT). The author oversaw this project and supervising for improving the arrangement of intake and outlet structures. Linkou power plant is in the north-western coast of Taiwan. Tamsui river and Linco river located in the east side (upstream) and Nan Kang river located in the west side (downstream). Sediment transport around Linkou power plant is very active. This research is also concerning about how to prevent sediment silting the intake. In summer, water temperature is higher and the reverse tidal current bring warm water (from outlet discharged) to increase the intake water temperature. Due able to diffusion effect of the thermal discharged from outlet, it is easily affect the function of power generation and probably decrease the efficiency of power generation. Therefore, a lot of field survey using echo-sounding to measure sea bottom topographic change, currents (tidal current, near shore current and alongshore current, etc.) measurement, waves and littoral drift are measured to supply the hydraulic thermal diffusion test in the basin (60 m×45 m×1 m) of physical model. Through above physical model experimental results, an optimal arrangement of intake and out let structures are proposed for future improvement of the Linkou power plant.

Biography

Ho-Shong Hou has worked for three years as a Hydraulic Laboratory Director and Chief Research Engineer with the Taichung Harbor Project, a man-made deep-water port construction on the West Coast of Taiwan. He has received his PhD in Civil and Coastal Engineering at the University of Florida. He has then worked as the Director of the Graduate Institute of Harbor and Ocean Engineering at the National Taiwan Ocean University and as an Adjunct Professor of the Institute of Naval Architecture at National Taiwan University. He subsequently became the Deputy Director of the Harbor Research Institute in Taichung for the following five years, whilst maintaining his two professorships. Later, he accepted to become the Division Director and later Deputy Director-General of the Institute of Transportation of the Ministry of Transportation and Communications (MOTC). He is a Registered Civil and Hydraulic Engineer and an Active Member of American Society of Civil Engineers. He is currently a Professor of I-Shou University and President of Kaohsiung Southern Taiwan Industry Technology Association.

hshou.tw@gmail.com

Notes: