

Study of Structural Health Monitoring System for Vam Cong Cable-Stayed Bridge

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Abstract : Vam Cong Bridge beside Can Tho Bridge is the next cable-stayed bridge spanning the Hau River, connecting Lap Vo district with Thot Not district. After construction by the end of 2018, the Vam Cong Bridge with Cao Lanh Bridge will help to improve the road network in this region of Mekong Delta. For this bridge, the SHM system also had designed for two stages - construction stage and exploitation stage. At the moment over 65% of the bridge construction had completed, and the bridge will be completed at the end of 2018. During the construction stage, the SHM system had been install to monitor behaviors of the bridge. Based on the study of the design documentation of the SHM system of the Vam Cong Bridge and site visit during construction work, many designs and installation errors have been detected. In this paper author thoroughly analyzed the pros and cons of this SHM system, simultaneously make conclusions and recommendations for this system. Specially concentrated on the possibility of implementing the acoustic emission method (AE) into this SHM system, which is an alternative to the further development of the system, enabling a full and cost-effective solution for the bridge management, which is of utmost importance for the service life and safe operation of the bridge.

Keywords : SHM system, design and installation, Vam Cong bridge, construction stage, acoustic emission method (AE)

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020