Rehabilitation of Bridges between Thailand and Laos

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ABSTRACT

Due to overload problem, two bridges connecting between Thailand and Laos were damaged. One bridge was in the North of Thailand and the other was in the North East. Both bridges had been used for less than 10 years but many cracks were found at bottoms and along bridge sides. The visual inspections were conducted in order to rate the bridge conditions. All information was used for the design of bridge rehabilitation. After doing bridge structural analysis, it was found that factors of safety for both bridges were still greater than the specifications. From inspection and analysis, both bridges were needed crack repair and bearing pad replacement. The planning for bridge repair was that bridge superstructures were lifted and new bearing pads would be replaced. After that all cracks would be sealed and carbon fiber plates would be used for bridge strengthening. The difficulties of repair work were that truck traffic would be maintained in order to keep progress of business between both countries. The repair work had to be planned to fit the business working schedule. After bridge repairs were completed, both bridges would be tested to determine the load rating factors.

Keywords: crack; inspection; overload; repair; structural analysis , Engineering materials fatigue and fracture