Buaphut, N., Suthikarnnarunai, N.  
**Effects of pipeline extension and network robustness evaluation: The case study of oil distribution to the northern region of Thailand**  

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**Abstract**

Oil distribution to the northern region of Thailand is large-scale infrastructure systems and never considers performance of network as emergency situations while government of Thailand has a policy to develop Thailand as energy center of Southeast Asia by investing pipeline expansion. This study defines a new measurement index for robustness evaluation of oil distribution. Base model and alternative model of distribution are formulated on linear programming. AMPL with CPLEX is used to solve these problems. In the process of model validation, distribution characteristics of base case are compared with previous study. After analysis, the results of study express the significance of future network impacts in this region.

**Author Keywords**

Linear programming; Network robustness; Oil distribution; Pipeline extension

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