

DEVELOPMENT A SET OF ENVIRONMENTAL RISK ASSESSMENT CRITERIA FOR LOADING/UNLOADING AND STORAGE OF HAZARDOUS AND NOXIOUS SUBSTANCES AT SEAPORTS

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Abstract

Environmental incidents caused by the shipping of oil and toxic chemicals causing serious environmental degradation have been recorded in the world. Hazardous and Noxious Substances (HNS) through Vietnam's ports have increased rapidly in recent years. Loading/unloading and storage of Hazardous and Noxious Substances at seaports have many potential risks of causing environmental incidents. This study proposes a set of environmental risk assessment criteria for Loading/unloading and storage of Hazardous and Noxious Substances at seaports. The set of criteria is built with 2 groups of criteria: source of risk (P) and degree of damage caused by risk (C). Using Analytic Hierarchy Process method (AHP) and the expert method to determine the weight of each component criterion. Research applied risk assessment for 30 terminals with Loading/unloading and storage of Hazardous and Noxious Substances in the group of northern seaports, results, 2/30 terminals rated very high pollution risk, 6/30 terminals rated high pollution risk, 22/30 terminals rated medium pollution risk, no terminals rated low pollution risk. The set of criteria is a tool to support the building of an appropriate environmental incident response plan and development planning of the seaport system Vietnam.

Key words: seaport, Hazardous and Noxious Substances; Environmental risk; Loading/unloading and storage.