

Pantipa Potarod 2009: Application of GIS for Wastewater Transportation from Textile Industries and Electroplating Industries to Central Wastewater Treatment Plant. Master of Engineering (Safety Engineering), Major Field: Safety Engineering, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Kiatkrai Ayuwat, M.Eng. 210 pages.

This research is to application of Geographic Information Systems for wastewater transportation from textile industries and electroplating industries to central wastewater treatment plant. Google Earth 4.3 program was used to find out the main way that use in the wastewater transportation including, Network Analysis in ArcGIS 9.2 program was used to analyzed the wastewater transportation routing in order to offer chosen way. Then the result of these program have identified the hazard to assess the risk by What if Analysis technique.

The researcher has analyzed the data of both each factory amount ten factories. H company was analyzed by Google Earth 4.3 program in order to find out the main way that use in the hazardous waste water transportation which, it was 35.5 km. and this main way was used to assess the risk of H company was high risk totally 23 cases. Also H company was analyzed the wastewater transportation by Network Analysis program totally 4 route in order to offer chosenway. As the 1st routing have least risk which, it was 27.9 km. and this way was used to assess the risk of H company was high risk totally 14 cases. T electroplating company was analyzed by Google Earth 4.3 program in order to find out the main way that use in the wastewater transportation which, it was 32.7 km. and this main way was used to assess the risk of T company was high risk totally 36 cases. Also T company was analyzed by Network Analysis program totally 3 route in order to offer chosen way. As the 3rd routing have the least risk which, it was 29.3 km. and this way was used to assess the risk of T company were high risk and unacceptable risk totally 30 cases.

Therefore, the application of ArcGIS 9.2 was analyzed to find out the shortest way in hazardous waste water transportation to shortcut the routing of hazardous waste water transportation and decreasing the risk effect on environmental and community.

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Thesis Advisor's signature

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