

INFORMATION ON MASTER'THESIS

1. Full name: LE THI VINH
2. Sex: Female
3. Date of birth: March, 16, 1983
4. Place of birth: Hai Duong
5. Admission decision number:
- Dated
6. Changes in academic process:
7. Official thesis title: *“Classification the pollution levels of some industrial waste water in the city of Hai Phong and proposed mitigation measures”*.
8. Major: Environmental Science
9. Code: 60 85 02
10. Supervisors: Dr. Nguyen Quang Trung
11. Summary of the finding of the thesis:

After performing the survey, investigation and study to classify the pollution levels of some industrial waste water in the city of Hai Phong, the thesis has been reached to some results:

** Investigation results of general waste water treatment system in 05 huge Industrial zones of Hai Phong city.*

- There are 3/5 Industrial zones which have the general Waste water treatment plant, 5/5 Industrial zones which have the isolate waste water system (waste water and storm water are collected separately). Currently, industrial wastewater treatment methods are mainly applied cbiological treatment methods in artificial conditions (using Aerotank chamber, Sequencing batch reactor - SBR).
- Collected effluent datas at 05 Industrial zones, which was namely: Dinh Vu, Do Son, Nomura, Trang Due, Nam Cau Kien. There are two industrial zones (Dinh Vu, Nomura) have the output parameters of wastewater to meet the B column of QCVN 40:2011. For the rest of Industrial zones such as Do Son industrial zone (the total capacity is 1,200 m³/day, 4/6 basic parameters exceed the acceptable level); Nam Cau Kien industrial zone (the total capacity is 500 m³/day, 5/6 basic parameters exceed the

acceptable level); Trang Due industrial zone (the total capacity is 2,100 m³/day, 4/6 basic parameters exceed the acceptable level).

** Classify the pollution levels of some industrial waste water of some enterprises in studied Industrial zones.*

- Selected 10/37 venture enterprises operating in the province Do Son, Trang Due, Nam Cau Kien industrial zones for sampling and analysis of wastewater pollution parameters and conduct environmental comparison with the relating National technical regulations and Classification of wastewater pollution levels of these enterprises following Circular 04/2012/TT-BTNMT.
- The analysis shows that the enterprises are classified on the basis of environmental pollution of waste water. New business has small-scale operations so the waste small enough to rank for a business at establishments which cause serious environmental pollution.
- In general, Trang Due and Nam Cau Kien industrial zones have of the total discharged capacity which classified as business caused serious environmental pollution and should be necessary to have centralized wastewater treatment system. The proposed mitigation measures focus on the analysis for the Nam Cau Kien industrial zone.

** Proposed solutions to reduce pollution in Nam Cau Kien industrial zone on the basis of the criterion of management, technology and operation and maintenance*

- Suggested solution in terms of environmental management for the Nam Cau Kien Industrial Zone: establishment of the company / management unit including clear division of responsibilities, adjust planning Industrial zone operation mainly in the field of shipbuilding, assembly - mechanical, proposed building the preliminary treatment works in each business and centralized wastewater treatment all Industrial zone.
- Proposed technological solutions for the Nam Cau Kien industrial zone:

- Wastewater pre-treatment solution in each business: proposed treatment works for domestic wastewater and production wastewater for three typical areas in Nam Cau Kien Industrial Zone (shipbuilding, paper-pulp, steel).
- Centralized wastewater treatment solution Nam Cau Kien industrial zone: Preliminary calculations capacity, set parameters of wastewater treatment areas focus and propose appropriated technical line on the reference of other Industrial zones.
- Suggested solutions in terms of operation and maintenance for companies operating in the industrial zone and the general management apparatus in terms of management and waste water treatment.

12. Practical applicability:

13. Further research directions: None

14. Thesis-related publications: None

Date:

Signature:

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