

Hanoi, October 2017

**SUMMARY AUDIT REPORT ON
THE MANAGEMENT AND TREATMENT OF WASTEWATER
IN KHANH PHU INDUSTRIAL ZONE, NINH BINH PROVINCE**

A. OVERVIEW

In recent years, along with the development of the economy, environmental pollutions have worsened, especially water pollution originated from industrial zones (IZs) which cause significant harms. One of the main reasons that lead to the current state is a large number of corporations and entities do not fully follow the regulations in management and treatment of industrial wastewater and let untreated wastewater flow directly into water bodies (e.g. ponds, lakes, rivers, etc.) which in turn cause pollution. In addition to that, it's important to address the inadequacies and limitations within the management procedures of the government for wastewater in the IZs such as: undeterrent penalties and the fact that local authorities at various levels do not pay attention adequately to environmental protection activities; the assessment and improvement of many projects' environmental dossiers are only a procedural step.

Khanh Phu Industrial Zone (IZ) founded in 2004 was one of the Ninh Binh province's main IZs. There are 37 investment projects registered and 21 projects actively operating in sectors and industries with significant water pollution risks such as textile industry, fertilizer manufacturing, etc. Since the time Khanh Phu IZ started operating till now, there are many records of environmental pollution incidents related to waste water originated from the IZ on the media. Those incidents cause significant harms to the health and properties of residents who live in the IZ's area.

Conducting an audit on management and treatment of wastewater at Khanh Phu IZ is appropriate and necessary in order to discover/identify any inadequacies

and limitations presented within environmental protection activities in the IZ. This report also recommends solutions to conduct more frequent inspections and controls to improve the effectiveness of environmental protection activities, to contribute to preventing and reducing water pollution in Khanh Phu IZ in particular and Ninh Binh province in general.

Pursuant to Decision No. 541/QĐ-KTNN dated 18/04/2017 by the Auditor General of State Audit Office of Vietnam (SAV) about conducting an audit on management and treatment of wastewater in Khanh Phu IZ, Ninh Binh province, an audit team from Department of International Cooperation conducted an audit from 19/4/2017 till 30/5/2017 at three audited entities in Ninh Binh province: Industrial Zone Authority (IZA), Department of Natural Resources and Environment (DONRE), and Ninh Binh Industrial Zone's Infrastructure Development Company (Ninh Binh IZ IDC).

The goals of the audit focus on two pressing issues related to the industrial wastewater in Khanh Phu IZ:

- (1) To assess whether the management and treatment of industrial waste water in Khanh Phu IZ are complied with State's regulations or not;
- (2) To assess whether the discharged waste water was complied with standards set forth by regulations or not, as well as to assess its effects toward the surrounding environment.

In order to achieve the above-mentioned goals, the audit focused on assessing the collecting and treating of wastewater and sludge originated from the IZ's wastewater treatment system as well as the effects of wastewater from the IZ to environment and people around the site. In addition, the audit team also assessed the management activities of responsible governmental authorities on the basis of their duties and missions toward IZ's environmental protection.

While conducting the audit, aside from reviewing the environmental dossiers/documents, the audit team also cooperated with consultant experts from Vietnam Environment Administration (VEA) to analyze and assess the quality of discharged wastewater from Khanh Phu IZ, to conduct fieldwork at the IZ as well as to observe the central wastewater treatment system in the IZ and some big operating companies/corporations in the IZ.

B. SUMMARIZED MAJOR AUDIT FINDINGS

1. The quality of wastewater discharged from Thanh Nam Company's Central Waste Water Treatment Plant (CWWTP) is inconsistent; there are incidents when the testing figures exceeded threshold levels in regulations; Thanh Nam's CWWTP operated without an Environmental Impact Assessment (EIA) and WasteWater Discharge Permit during a long period of time (from 2010 till 2015); the operation of Thanh Nam Company's CWWTP is not fully complied with regulations; Thanh Nam Company's Automatic Waste Water Quality Monitoring (AWWQM) System is not constantly operated.

2. Ninh Binh IZs IDC does not comply with regulations applied to investors of IZ's infrastructure with regard to IZ environmental protection; does not maintain waste water collection and sewerage systems; does not implement periodic environmental assessment program; and does not fulfill its duties and responsibilities regarding environmental protection in the IZ.

3. In 2015, handling sludge from the CWWTP of Thanh Nam Company did not comply with Regulation on Hazardous Waste Management; there's potential existence of hazardous substances within NienHshing Garment Corp.'s large quantity of sludge which is being treated as normal sludge instead of hazardous waste.

4. Inquiries of 29 households living in Phu Hao hamlet, Khanh Phu commune nearby Khanh Phu IZ showed that the interviewees did not satisfy with the quality of waste water after treatment. There's concern/voicing about the wastewater pollution and its harmful effects toward residents' quality of life.

5. Fieldwork's findings and assessment results of sampled waste water show there are many corporations violated the Law on Environmental Protection: wrongful treatment of sludge at Ninh Binh Introgenous Fertilizer LTD; Trang An Glass Plant's surface water quality exceeds threshold parameters in the regulations; Chia Chen LTD does not reevaluate and resubmit its environment documentations after expanding its operation capacity which leads a six-fold increase in waste volume.

6. In the period of 2015 to 2016, Ninh Binh DONRE and IZA put efforts in fulfilling its oversight duties in management of IZ's environment in general and waste water in particular. However, the implementation was not in unity, not

executed properly and enthusiastically. Inspection and supervision activities were not rigidly and timely enough to identify and prevent all the violations of the Law on Environmental Protection. There are still short-comings in the process of issuing legal documents.

C. RECOMMENDATIONS

1. To Ninh Binh Industrial Zone Authority (IZA):

1.1. To closely inspect and supervise the implementation of the Law on Environmental Protection for IZs in all three phases (inspection planning, conducting inspection, follow-up activities); review and improve the efficiency and effectiveness of environment dossiers' assessment process as well as the assessment process of granting Investment license.

1.2 To collaborate with DONRE to review and inspect corporations/entities violating the requirements in the Law on Environmental Protection and Law on Water Resources on the basis of audit findings in order to remedy/fix the issues subjected to regulations related to handling violations in environment segments.

1.3 To collaborate with DONRE to collect samples of sludge from NienHshing Garment Corp. and perform accordantly with the requirements stated in QCVN 50:2013/BTNMT in order to assess the nature of NienHshing Garment Corp.'s sludge and issue appropriate solution. To monitor regularly the sludge's quality to ensure that NienHshing Garment Corp. fully complies with the regulations.

1.4 To direct and collaborate with Ninh Binh IZ IDC to strengthen the jointing and discharge of waste water at companies in the IZ; move the connection into the centralized wastewater network node to outside of the companies's vicinity; encourage connecting to the centralized waste water treatment system.

1.5 To collaborate with responsible authorities, firstly with the DONRE, to develop an environmental database about all the IZs in order to be used for inspections and monitoring.

2. To Ninh Binh Department of Nature resource & Environment

2.1 To strengthen inspection and monitoring activities regarding the implementation of Law on Environmental Protection in waste water in all three phases (Planning, audit conducting and follow-up activities); To increase

cooperation activities, information sharing with regard to inspection planning, inspection/monitoring results between different units within Ninh Binh DONRE as well as collaboration with the IZA; To strengthen and improve the quality of environmental dossiers assessment procedures.

2.2 To report the assessment results in a timely manner; assign qualified monitoring personnel and appropriate equipments to receive data from the IZ's AWWQM in order to utilize for inspection and monitoring activities, especially with regard to Thanh Nam Company's AWWQM and other unjointed, directly discharge companies such as Ninh Binh Introgenous Fertilizer LTD (discharge the cooling water into the environment); have a solution to straighten the periodic testing assessment activities at Thanh Nam Company; improve the cooperation as well as information and data sharing with the IZA in monitoring activities.

2.3 To review and amend Document No. 2394/STN&MT-BVMT dated 13/12/2016 regarding the installation of Air and Waste Water Online Monitoring system to ensure the applicability and feasibility.

2.4. To lead and coordinate with the DONRE to take samples of sludge from the NienHshing Garment Corp. to satisfy statistics methodology and strictly follow the requirements of Vietnam Standard 50:2013/BTNMT in order to accurately determine the quality of sewage sludge of NienHshing Corp. and to have appropriate management measures; at the same time, to regularly monitor the sludge quality of NienHshing Garment Corp. to ensure that the company's sewage control methods are in accordance with regulations.

2.5. To review all corporations violating the Law on Environmental Protection and the Law on Water Resources based on the audit results for imposing sanctions and fixing the issues according to the provisions of Decree No. 155/2016/ND-CP dated 18/11/2016 on the sanction of administrative violations in the field of environmental protection.

3. To Ninh Binh IZs IDC

3.1 To perform all of the responsibilities of the IZ's Infrastructure Investor in accordance with regulations.

3.2 To improve cooperation with the IZA in monitoring corporations' compliance with Law on Environmental Protection.

4. To Ninh Binh People's Committee

4.1 To direct the DONRE and Ninh Binh IZs IDC to fully implement all of SAV's recommendations stated in the audit report.

4.2 To direct the implementation and improvement of monitor capability of the DONRE (in terms of equipments, personnel, and duties) including periodic monitoring and inspection activities as well as collecting monitoring data from the AWWQM in order to use it effectively in the environment management activities.

4.3 To put relevant authorities in charge of review and recommend amendments on organization structure, responsibilities and duties of Ninh Binh IZs IDC as Khanh Phu IZ's investor in order to improve its capabilities, responsibilities, and readiness in accordance with current governmental regulations regarding IZ environment management. To segregate the duties between IZA and Ninh Binh IZs IDC with regard to the IZ environment management.

4.4 To direct DONRE, IZA, and other relevant authorities to collaborate to impose sanctions on investors/corporations violating the Law on Environmental Protection, Law on Water Resource (such as not connect to the joint discharge network, exceeding the discharge level, unlicensed wells drilling)

4.5 To secure the budget for environmental activities at IZA, IDC so that these authorities have enough funds to conduct inspections, monitoring, infrastructure maintenance in order to protect the IZ's environment in general and Khanh Phu IZ's waste water quality in particular.

4.6 To direct DONRE and IZA to monitor the quality of NienHshing Garment Corp.'s sludge periodically in order to ensure the management and treatment of such sludge is in accordance with applied regulations.

5. To Ministry of Nature resource & Environment

5.1 To strengthen monitoring the operation of entities offering assessment service, to strictly punish any entity or individual offering assessment services out of his authority or without license.

5.2 To strengthen reviewing, inspecting entities, under the Ministry's authority, without wastewater discharge permit, EIA, and verified environmental protection structures. Do not allow entities without completed environmental dossiers operate in a long run.