

# Environmental Compliance Audit Report

---

Project Number: 41456-033  
June 2012

## MFF 0054-VIE: Water Sector Investment Program – Tranche 2

This environmental compliance audit report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

## Checklist Environmental Compliance Audit Report - Present day operations only

### PFR2 – MFF0054-VIE Water Sector Investment Program - Quang Tri Subproject

**Name and Type of facility :** Quang Tri Water Treatment Plant

**Name Owner/Operator :** Quang Tri Provincial Peoples Committee / Quang Tri Water Supply and Construction Company One Member Limited

**Location:** Quang Tri Town

**Age of WTP:** 16 years

#### **Project Approval:**

Project approved by Prime Minister through MOC in 1993: Record lost (before the set-up of the water company) - PPC approval to hand over the project to the water company: 1150/QD-UB dated 6 December 1996

MONRE approval EMP: No requirement for EMP / EIA at that time

Date of commissioning : 15 June 1996 (Hai Phong May 2001)

**Capacity of WTP:** 3,500 cmd

**Population serviced:** 6,200 HH (5 persons / HH)

No.	Item	Yes	No	Remarks
<b>Water use information</b>				
	Water Supply Source/s - Surface water	X		Tich Tuong Reservoir
	Estimated Average Volume treated			3,500 cmd
	Water quality of river water for raw water intake monitored. (QCVN 08:2008/BTNMT on National technical regulation on surface water quality)	X		External: Provincial Centre Health & Preventive Medicine: few times a year (irregular) Internal: 1/month Meets A2 standards for water quality
<b>Compliance with applicable GOV laws and drinking water standards</b>				
	DRINKING WATER STANDARD QCVN 01:2009/BYT	X		Measured at the exit of the WTP. Refer to Water Safety Plan (WHO)
	License to use raw water Decree No. 149/2004/NĐ-CP dated 27/07/2004 on regulation of licensing to invest, exploit, use water resource, discharge wastewater in water	X		issued by Quang Tri PPC, 2291/QD-UBND, dated 06/11/2007 3,500 cmd for 15 years Tax Department charges 1% water tariff

	source.			(Note 3% for underground) New provincial circular has been issued for the new project under PFR2
	Decree No. 59/2007/NĐ-CP dated 09/04/2007 on solid waste management.	X		Solid waste collected by the Quang Tri municipal service URENCO
	QCVN 08:2008/BTNMT: national regulation on surface water quality			N/A Applicable to Department of Agriculture and Rural Development and Irrigation Company operating the reservoir, not the water company
	QCVN 26:2010/BTNMT: national technical standard for noise	X		No complains were recorded and registered with the customer service department located at the Water Quality Office of the water company.
	Decree 110/2002/ND-CP, supplementing some articles of Decree 06/1995 on labour code of occupational safety and health			<p>Training OHAS and Food Safety: (new and refreshing course) Annual for 300 staff for 3 days: Twice a year (half staff) Organized by Medical Centre (Food) and DOLISA (OHAS) Certified trainers in WSC: 22 responsible for internal safety network</p> <p>Safety audit: 2 per year by DOLISA. Last audit recommends to increase maintenance on heavy lifting equipment</p> <p>LTI : Record keeping, inspected by DOLISA (random) 1 week ago last accident Longest without LTI: 1 year</p>
	ISO Certification	X		ISO9001:2000
	Water Safety Plan (WHO)	X		Initial training (awareness) on methodology by WHO, moving to Phase 2: Definition of additional monitoring and additional chlorine injection points on the network. This activity is monitored under PFR2.

				Support by French public water company under bilateral cooperation
<b>Permits and licence/s to operate</b>				
	Availability of GOV issued permits and / or licenses pertaining to the WTP operation and Compliance with enforcement conditions if any.	X		Included in issued by Quang Tri PPC, 2291/QD-UBND, dated 06/11/2007 3,500 cmd for 15 years
<b>Water quality monitoring</b>				
	Treated water quality sampling carried out regularly (during different periods of operations including during peak operation in the day).	X		External: -Provincial Centre for Health Preventative Medicine: 1/month including random sampling By "Provincial Qualification Measurement Department": Irregular Standardization  Internal: 1/day
	Records maintained of past water quality monitoring reports	X		10 years record keeping at water company HQ in Dong Ha
<b>Sludge management</b>				
	Sludge disposal adequately carried in compliance GOV regulations Sludge mass balance maintained (Volume generated, volume disposed and volume reused (if known))		X	Discharged into the drainage system.  New facilities included in the new project
<b>Consumer and public satisfaction</b>				
	Registration of complaints due to noise, / odour or other environmental aspects from surrounding community	X		Customer Services Relations Department records complains: No complains received (rural setting)  Additional surveys carried out as part of Social Assessment
	Record maintained of response to community complaints and grievances	X		For water users, stored in the water quality office (no complains registered for Quang Tri WTP)

**Findings:** The field visit shows good operation and maintenance of the WTP in a low density area in the peri-urban area of Quang Tri.

Chemicals used at the WTP: PAC, Lime, Gas Chlorine. Properly stored and people trained for use, including safety equipment and signage (refer to photos)

No sludge management facilities in place; discharge into the drainage system without treatment.

No complains ever recorded on the Quang Tri WTP; the site visit did not highlight any specific noise and odour beyond the usual.

Raw water quality data: In accordance with A2 standards of the QCVN 08:2008/BTNMT on National technical regulation on surface water quality (copy enclosed)

Random raw water quality samples from external monitoring dated 10 May 2012 and 10 November 2011 enclosed. Internal monitoring recorded on lab book at the water company laboratory and checked by the Team Leader.

Treated water quality measured at the WTP: In accordance with QCVN 01:2009/BYT on standards for drinking water supply (there is another standard for rural water supply, called domestic water supply)

Random treated water quality samples from external monitoring dated 18 May 2012 and 3 May 2011 enclosed

Internal monitoring (on coliforms) recorded on lab book at the water company laboratory and checked by the Team Leader.

WHO has conducted for all the water companies in Viet Nam through the Ministry of Construction an awareness campaign to water safety plans (WSP) under Phase 1 (completed). Under WSP Phase 2 (ongoing), selected water companies, including Quang Tri participated in the implementation of the WSP. Focus is on location of monitoring points for residual chlorine on the distribution network and then on the need for additional injection points for chlorine. Todate, only Hue (fully) and Hai Phong (partly) have completed Phase 2 and supplied drinking water over the service area.

## **Corrective Action Plan**

The proposed subproject financed by ADB under PFR2 (MFF0054-VIE) includes the rehabilitation and upgrading of the existing Upgrading existing 3,500 m<sup>3</sup>/d Quang Tri Water Treatment Plant to capacity 13,500 m<sup>3</sup>/day to address the demand of the urban population and improve operational efficiency. The preliminary engineering designs (included in the FSR and project documents) include environmentally sound design features and treatment technology. In addition to the overall improved management of water, the proposed design ensures that the above stated findings are addressed, including sludge collection and treatment facilities to cover for the existing and the new plant. Environmental management plans have also been prepared to ensure the compliance of occupational health and safety standards.

**Site Visit PHOTOS (June 2012): Quang Tri WTP 3,500 cmd**

**Entrance gate (rural setting: WTP located in the peri-urban area)**



Main office building and operation board



Ngày : 20/6/2012	Lịch Bơm Tàng áp.
PAC : 8Kg/xilô	QT: 10 <sup>h</sup> → 18 <sup>h</sup>
Cl <sub>2</sub> : 0.29 Kg/h.	TP: Sáng: 8 <sup>h</sup> - 10 <sup>h</sup> = 2 <sup>h</sup>
Định lượng: 80 l/h	Tối : 22 <sup>h</sup> - 5 <sup>h</sup> = 7 <sup>h</sup>
(Đầu nguồn = 8.7mru)	(Bơm máy to)
(1h → 12 cm)	



## Chemical storage and preparation





**Sedimentation tank**



**Sand filter and valves (with view of reservoir treated water and location for expansion)**







**Control panel pumping station (Treated water)**



Treated water pumps a house and safety instructions



**Chlorine gas tanks and house and safety equipment**

