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・2013.12.6 外務省・JICA フックヒップ処分場・実験プラント視察状況

日時	2013年12月6日(金) 12:45-13:45
場所	フックヒップ処分場 SBH実験プラント
参加者	外務省 : 川田室長、山元事務官 JICA : 酒井所長 SBH (SVN) : 徳嶺、Hang EJBP : 小坂、庄野
概要	・SBH 浸出水処理技術概要の説明 ・実験プラント運転(浸出水処理)確認



浸出水調整池の確認



SBH 浸出水処理技術説明



実験プラント運転状況確認



処理水サンプリング状況



浸出水処理状況



集合写真

3. 収集資料

- 140108-MBS Confirmation

越国語版

SỞ TÀI NGUYÊN VÀ MÔI TRƯỜNG
THÀNH PHỐ HỒ CHÍ MINH
BAN QUẢN LÝ CÁC KHU LIÊN HỢP
XỬ LÝ CHẤT THẢI THÀNH PHỐ

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

Thành phố Hồ Chí Minh, ngày 08 tháng 01 năm 2014

Số: *40* /QLKLH-QHKH

V/v đề nghị xác nhận bằng thống kê nước rỉ rác
và tiêu chuẩn nước rỉ rác sau xử lý được xả
thải ra môi trường cho Công ty
Cổ phần Shiny Việt Nam

Kính gửi: Công ty Cổ phần Shiny Việt Nam

Ban Quản lý các khu liên hợp xử lý chất thải thành phố (MBS) nhận được Công văn số 2812/2013/CV-SNM ngày 28 tháng 12 năm 2013 của Công ty Cổ phần Shiny Việt Nam về việc đề nghị xác nhận bằng thống kê nước rỉ rác và tiêu chuẩn nước rỉ rác xả thải ra môi trường. Về việc này, MBS cung cấp các số liệu như sau:

1. Lượng nước rỉ rác tại bãi chôn lấp Phước Hiệp hiện nay do 02 công ty tham gia xử lý gồm Công ty TNHH MTV Môi trường đô thị thành phố (nhà máy Seen) và Công ty TNHH KHCN và MT Quốc Việt. MBS đã thống kê nước rỉ rác hàng tháng trong năm 2013 tại 02 công ty trên, cụ thể:

	Nhà máy Seen		Công ty Quốc Việt		
	Bơm vào (m ³)	Xả thải (m ³)	Bơm vào (m ³)	Pha Loãng (m ³)	Xả thải (m ³)
Tháng 1	28487	24900	33156	4921	34377
Tháng 2	32767	30710	24650	4221	26824
Tháng 3	27174	24680	23106	3806	24480
Tháng 4	27769	25200	23787	3954	27463
Tháng 5	25488	29100	26494	4648	28600
Tháng 6	10586	22900	23627	3969	27109
Tháng 7	22980	27930	26161	4922	33234
Tháng 8	22386	22470	18695	3936	22620
Tháng 9	24430	22270	16426	3892	20385
Tháng 10	25180	22400			
Tháng 11	25170	22400			
Tổng	272417	274960	216102	38269	177833

2. Nước rỉ rác sau xử lý phải đạt tiêu chuẩn cột B2 QCVN 25:2009/BTNMT và tiêu chuẩn cột B QCVN 40:2011/BTNMT thì được xả thải ra môi trường.-

Nơi nhận:

- Như trên;
- GD các PGD - MBS;
- Lưu: VT, QHKH.

**KT. GIÁM ĐỐC
PHÓ GIÁM ĐỐC**



Trần Minh Quân

Công ty Quốc Việt		Vị trí 20-11	
Xả thải (m ³)	Phân loại (m ³)	Xả thải (m ³)	Phân loại (m ³)
1287	487	2490	2487
2684	431	3070	1287
1480	290	2480	2774
2740	291	2200	2788
2800	448	2910	2288
2700	260	2200	1088
2224	477	2730	2288
2284	378	2370	2288

From: HCMC Department of Natural Resources and Environment (DONRE)
HCMC Management Board for Solid Waste Treatment Complexes (MBS)

To: Shiny Vietnam Company (SVN)

Date: January 8th 2014

Requirement from SVN to MBS for the confirmation about the list of leachate quantity records and the standards for leachate after treatment.

MBS received the requirement letter No. 2812/2013/CV-SNM dated Dec. 28th 2013 by SVN to reaffirm the list of leachate quantity records and the standards for leachate after treatment. Regarding to this issue, MBS provides the data as follows:

1. The leachate generated from Phuoc Hiep landfill currently is being treated by 02 companies: CITENCO (SEEN treatment plant) and Quoc Viet Company. MBS has recorded the monthly quantity of leachate in 2013 at those two companies as below.

Month	SEEN treatment plant		Quoc Viet Company		
	Influent (m3)	Effluent (m3)	Influent (m3)	Diluted (m3)	Effluent (m3)
1	28487	24900	33156	4921	34377
2	32767	30710	24650	4221	26824
3	27174	24680	23106	3806	24480
4	27769	25200	23787	3954	27463
5	25488	29100	26494	4648	28600
6	10586	22900	23627	3969	27109
7	22980	27930	26161	4922	33234
8	22386	22470	18695	3936	22620
9	24430	22270	16426	3892	20385
10	25180	22400			
11	25170	22400			
TOTAL	272417	274960	216102	38269	177833

2. If the leachate after treatment meets the standard of QCVN 25:2009, type B2 and QCVN 40: 2011, type B, then it could be released into the environment.

Vice Director has signed
Tran Minh Quan

- 埋立地浸出水水質基準 (QCVN25, 2009)



SOCIALIST REPUBLIC OF VIETNAM

QCVN 25: 2009/BTNMT

***National Technical Regulation on Wastewater
of the Solid Waste Landfill Sites***

HÀ NỘI - 2009

QCVN 25: 2009/BTNMT

Foreword

QCVN 25: 2009/BTNMT was compiled by Drafting Committee of national technical regulations on water quality, submitted by Vietnam Environment Administration and Department of Legislation and promulgated in line with Circular No. 25/2009/TT-BTNMT dated November 16, 2009 issued by Ministry of Natural Resource and Environment.

*National Technical Regulation on Wastewater
of the Solid Waste Landfill Sites*

1. GENERAL PROVISIONS

1.1. Scope of regulation

This regulation provides for maximum allowable values of pollution parameters of leachate from solid waste landfill discharged into receiving facilities

1.2. Subjects of application

This regulation applies to individuals and organizations carrying out activities related to the land-filling of solid waste

1.3. Interpretation of term

In this regulation, the terms below are construed as follows

1.3.1. Solid waste landfill is a site for solid waste treatment by burial

1.3.2. Waste water of solid waste landfill (leachate) is the solution (liquid) leaching from a landfill into receiving facilities

1.3.3. Wastewater-receiving facilities are surface water or coastal sea area with specific purpose of using where wastewater of solid waste landfill flows into

2. TECHNICAL REGULATION

2.1. Maximum allowable values of pollution parameters of leachate discharged into receiving facilities is stipulated at the table 1 below

Table 1: Maximum allowable values of pollution parameters of leachate

O. No.	Parameter	Maximum allowable value (mg/l)		
		A	B1	B2
1	BOD ₅ (20 °C)	30	100	50
2	COD	50	400	300

QCVN 25: 2009/BTNMT

3	Total N	15	60	60
4	Ammonia (as N)	5	25	25

where:

- Column A stipulates Maximum allowable values of pollution parameter in leachate discharged into receiving facilities using for sources of domestic water supply

- Column B1 stipulates Maximum allowable values of pollution parameter in leachate of landfill which have operated before January 01, 2010 discharged into receiving facilities not using for sources of domestic water supply

- Column B2 stipulates Maximum allowable values of pollution parameter in leachate of landfill operating as of January 01, 2010 discharged into receiving facilities not using for sources of domestic water supply

2.2. In addition to 04 parameters stipulated at the table No. 1, depending on requirement and purpose of pollution control, other pollution parameters shall be applied in accordance with provisions of QCVN 24: 2009/BTNMT – National technical regulation on industrial wastewater but not applying discharge/volumetric coefficients of wastewater-receiving facilities (K_q) and flow rate coefficient of wastewater source (K_f) for calculation maximum value of pollution parameters in leachate ($C_{max} = C$ shall be applied)

3. METHOD OF DETERMINATION

3.1. Method for definition of pollution parameters in leachate shall be carried out in accordance with national standards below::

- TCVN 6001-1:2008 Determination of biochemical oxygen demand after n days (BOD_n). Part 1: Dilution and seeding method with allylthiourea addition

- TCVN 6491:1999 (ISO 6060:1989) Water quality. Determination of the chemical oxigen demand (COD);

- TCVN 6179–1:1996 (ISO 7150–1:1984) Water quality – Determination of ammonium – Part 1: Automated spectrometric method

- TCVN 5988:1995 (ISO 5664-1984) Water quality – Determination of ammonium – Method of distillation and titration

QCVN 25: 2009/BTNMT

- TCVN 6638:2000 Water quality - Determination of nitrogen - Catalytic digestion after reduction with devarda's alloy;

3.2. When there are still no standard for determination of pollution parameters in leachate stipulated in this regulation, international standard with accuracy being correspondent or higher shall be applied.

4. ORGANIZATION OF IMPLEMENTATION

4.1. This technical regulation supersedes the application of Vietnamese standard TCVN 5945:2005 on Industrial wastewater – Discharge standard enclosed with Decision No. 22/2006/QĐ-BTNMT of Minister of Natural Resource and Environment dated December 18, 2006 on compulsory application of Vietnamese environmental standards

4.2. State environment management agencies take responsibility for guiding, inspecting and supervising the implementation of this technical regulation.

4.3. In the case that national standard on method of determination referred to in the section 3.1 are amended, supplemented or replaced, the new standard shall be applied

- 産業排水基準 (QCVN40, 2011)

**MINISTRY OF NATURAL
RESOURCES AND
ENVIRONMENT**

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

No. 47/2011/TT-BTNMT

Hanoi, December 28, 2011

CIRCULAR

ON NATIONAL TECHNICAL REGULATION ON ENVIRONMENT

THE MINISTER OF NATURAL RESOURCES AND ENVIRONMENT

Pursuant to the Law on Technical regulations and standards dated June 29, 2006;

Pursuant to the Government's Decree No. 127/2007/ND-CP dated August 01 2007 detailing the implementation of a number of articles of the Law on Technical regulations and standards;

Pursuant to the Government's Decree No. 25/2008/ND-CP on March 04, 2008 on defining the functions, tasks, powers and organizational structure of the Ministry of Natural Resources and Environment; amended in the Government's Decree No. 19/2010/ND-CP dated March 05, 2010 and the Government's Decree No. 89/2010/ND-CP dated August 16, 2010;

At the request of the Director of the Vietnam Environment Administration, the Director of Science and Technology Administration, and the Director of the Legal Department,

PRESCRIBES:

Article 1. Promulgating together with this Circular the National Technical Regulation on Environment: QCVN 40:2011/BTNMT – National Technical Regulation on Industrial Wastewater.

Article 2. This Circular takes effect on February 15, 2012.

Article 3. The Director of Vietnam Environment Administration, Heads of units affiliated to the Ministry of Natural Resources and Environment, Directors of provincial Services of Natural Resources and Environment, relevant organizations and individuals are responsible for the Circular of this Circular.

**PP. THE MINISTER
DEPUTY MINISTER**

Bui Cach Tuyen

QCVN 40:2011/BTNMT

NATIONAL TECHNICAL REGULATION
ON INDUSTRIAL WASTEWATER

Foreword

QCVN 40:2011/BTNMT supersedes QCVN 24:2009/BTNMT, is submitted by the Vietnam Environment Administration, the Science and technology Administration, and the Legal Department, and promulgated together with the Circular No. 47/2011/TT-BTNMT dated December 28, 2011 of the Minister of Natural Resources and Environment.

NATIONAL TECHNICAL REGULATION
ON INDUSTRIAL WASTEWATER

1. GENERAL PROVISIONS:

1.1. Scope of regulation

This Regulation provides for the maximum values of pollution parameters of industrial wastewater being discharged into receiving waters.

1.2. Subjects of application

1.2.1. This Regulation is applicable to organizations and individuals involved in the discharge of industrial wastewaters into receiving waters.

1.2.2. Industrial wastewater of special industry is subject to separate National Technical Regulations.

1.2.3. Industrial wastewater being discharged into the collecting system of centralized wastewater treatment plants shall comply with the charters of the plants.

1.3. Interpretation of terms

In this Regulation, the terms below are construed as follows:

1.3.1. Industrial wastewater is wastewater produced from the technological processes of industrial facilities, from centralized wastewater treatment plants that are connected to the sewer system of industrial facilities.

1.3.2. Receiving waters are drainage system of urban areas and residential areas, rivers, streams, canals, channels, lakes, ponds, swamps; coastal water that have defined purposes.

2. TECHNICAL PROVISIONS

2.1. The maximum permissible values of pollution parameters in industrial wastewater being discharged into receiving waters.

2.1.1. Maximum permissible values of parameters of industrial wastewater being discharged into receiving waters are calculated as follows:

$$C_{max} = C \times K_q \times K_f$$

- C_{max} is the maximum permissible value of a pollution parameter of industrial wastewater being discharged into receiving waters.

- C is the value of a pollution parameter of industrial wastewater specified in Table 1;
 - K_q is the coefficient of receiving waters specified in Point 2.3 which is correspond to the flow rate of the rivers, streams, canals, channels, or the volume of the lakes, swamps, or the purposes of coastal water;
 - K_f is the coefficient of the flow rate of the receiving waters specified in Point 2.4 which corresponds to the total flow rate of wastewater discharged by industrial facilities into receiving waters;
- 2.1.2. Apply the maximum permissible value $C_{max} = C$ (not K_q and K_f) to the following parameters: temperature, color, pH, coliform, gross α activity, and gross β activity.
- 2.1.3. Industrial wastewater being discharged into the drainage systems of urban areas and residential areas without centralized wastewater treatment plants shall apply the value $C_{max} = C$ in Column B of Table 1.

2.2. Values of parameter of industrial wastewater (C) are specified in Table 1

Table 1. Values of parameter of industrial wastewater (C)

No.	Parameter	Unit	Value (C)	
			A	B
1	Temperature	°C	40	40
2	Color	Pt/Co	50	150
3	pH	-	6 to 9	5.5 to 9
4	BOD ₅ (20°C)	mg/l	30	50
5	COD	mg/l	75	150
6	Suspended solids	mg/l	50	100
7	Arsenic	mg/l	0.05	0.1
8	Mercury	mg/l	0.005	0.01
9	Lead	mg/l	0.1	0.5
10	Cadmium	mg/l	0.05	0.1
11	Chromium (VI)	mg/l	0.05	0.1
12	Chromium (III)	mg/l	0.2	1
13	Copper	mg/l	2	2

14	Zinc	mg/l	3	3
15	Nickel	mg/l	0.2	0.5
16	Manganese	mg/l	0.5	1
17	Iron	mg/l	1	5
18	Total cyanide	mg/l	0.07	0.1
19	Total phenol	mg/l	0.1	0.5
20	Total mineral fats and oils	mg/l	5	10
21	Sulfide	mg/l	0.2	0.5
22	Fluoride	mg/l	5	10
23	Ammonium (as N)	mg/l	5	10
24	Total nitrogen	mg/l	20	40
25	Total phosphorus (as P)	mg/l	4	6
26	Chloride (not applicable when discharging into saline water and brackish water)	mg/l	500	1000
27	Excess Chlorine	mg/l	1	2
28	Total organochlorine pesticides	mg/l	0.05	0.1
29	Total organophosphorus pesticides	mg/l	0.3	1
30	Total PCB	mg/l	0.003	0.01
31	Coliform	bacteria/100ml	3000	5000
32	Gross α activity	Bq/l	0.1	0.1
33	Gross β activity	Bq/l	1.0	1.0

Column A in Table 1 indicates the values of parameters of industrial wastewater (C) when it is discharged into the water sources serving tap water supply;

Column B in Table 1 indicates the values of parameters of industrial wastewater (C) when it is discharged into the water sources not serving tap water supply;

The purpose of receiving waters is determined at the location into which wastewater is discharged.

2.3. Coefficient of receiving waters (Kq)

2.3.1. Coefficients Kq corresponding to the flow rate of rivers, streams, canals, channels, etc. are specified in Table 2 below:

Table 2: Coefficients Kq corresponding to the flow rate of receiving waters

Flow rate of receiving waters (Q) Unit: m ³ per second	Kq
$Q \leq 50$	0.9
$50 < Q \leq 200$	1
$200 < Q \leq 500$	1.1
$Q > 500$	1.2

Q is calculated according to the average flow rate of receiving waters in 3 driest months in 3 consecutive years (according to the data of meteorology and hydrography agencies).

2.3.2. Kq corresponding to the volume of receiving waters that are lakes, swamps are specified in Table 3 below:

Table 3: Kq corresponding to the volumes of receiving waters

Volume of receiving waters (V) Unit: m ³	Kq
$V \leq 10 \times 10^6$	0.6
$10 \times 10^6 < V \leq 100 \times 10^6$	0.8
$V > 100 \times 10^6$	1.0

V is calculated according to the average volume of the receiving lake or pond or swamp in 3 driest months in 3 consecutive years (according to the data of meteorology and hydrography agencies).

2.3.3. If the flow rate of receiving waters which is a river, stream, canal, or channel is unknown, then Kq = 0.9; if the volume of a lake, pond, or swamp is unknown, then Kq = 0.6.

2.3.4. Kq of receiving waters that are coastal saline water, coastal saline and brackish swamps.

For coastal saline water used for aquatic conservation, water sports and water recreation, coastal saline and brackish swamps, $Kq = 1$.

For coastal saline water not being used for aquatic conservation, water sports and water recreation, $Kq = 1.3$

2.4. Coefficient of discharge rate Kf

The coefficients of discharge rate Kf are provided in Table 4 below:

Table 4. Coefficients of discharge rate Kf

Discharge rate (F) Unit: $m^3/24h$	Kf
$F \leq 50$	1.2
$50 < F \leq 500$	1.1
$500 < F \leq 5,000$	1.0
$F > 5,000$	0.9

The discharge rate F is calculated according to the highest discharge in Environmental Impact Assessment Reports, Environment Protection Commitments, or Environment Protection Schemes.

3. DETERMINATION METHODS

3.1. Wastewater shall be sampled to evaluate quality in accordance with the guidance of the following National Standards:

- TCVN 6663-1:2011 (ISO 5667-1:2006) – Water quality -- Sampling -- Part 1: Guidance on the design of sampling programmes and sampling techniques;
- TCVN 6663-3:2008 (ISO 5667-3: 2003) – Water quality - Sampling. Guidance on the preservation and handling of water samples;
- TCVN 5999:1995 (ISO 5667 -10: 1992) - Water quality - Sampling - Part 10: Guidance on sampling of wastewaters.

3.2. Values of pollution parameters in industrial wastewater shall be determined according to the following national and international standards:

- TCVN 4557:1988 – Water quality – Method for determination of temperature;
- TCVN 6492:2011 (ISO 10523:2008) - Water quality -- Determination of pH;
- TCVN 6185:2008 – Water quality - Examination and determination of color;
- TCVN 6001-1:2008 (ISO 5815-1:2003), Water quality - Determination of biochemical oxygen demand after n days (BOD_n) -- Part 1: Dilution and seeding method with allylthiourea addition;
- TCVN 6001-2:2008 (ISO 5815-2:2003), Water quality - Determination of biochemical oxygen demand after n days (BOD_n) -- Part 2: Method for undiluted samples;

- TCVN 6491:1999 (ISO 6060:1989) - Water quality - Determination of the chemical oxygen demand;
- TCVN 6625:2000 (ISO 11923:1997) Water quality - Determination of suspended solids by filtration through glass-fibre filters;
- TCVN 6626:2000 - Water quality - Determination arsenic - Atomic absorption spectrometric method (hydride technique);
- TCVN 7877:2008 (ISO 5666:1999) – Water quality – Determination of mercury;
- TCVN 6193:1996 – Water quality – Determination of cobalt nickel, copper, zinc, cadmium, and lead. Flame atomic absorption spectrometric methods.
- TCVN 6222:2008 – Water quality- Determination of chromium - Atomic absorption spectrometric method;
- TCVN 6658:2000 - Water quality – Determination of chromium (VI). Spectrometric method using 1,5-diphenylcarbazine;
- TCVN 6002:1995 - Water quality – Determination of manganese - Formaldoxime spectrometric method;
- TCVN 6177:1996 - Water quality – Determination of iron - Spectrometric method using 1,10-phenantroline;
- TCVN 6665:2011 (ISO 11885:2007) - Water quality -- Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES);
- TCVN 6181:1996 (ISO 6703 -1:1984) - Water quality - Determination of total cyanide;
- TCVN 6494-1:2011 (ISO 10304 -1:2007) - Water quality -- Determination of dissolved anions by liquid chromatography of ions -- Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulfate;
- TCVN 6216:1996 (ISO 6439:1990) - Water quality -- Determination of phenol index -- 4-Aminoantipyrine spectrometric methods after distillation;
- TCVN 6199-1:1995 (ISO 8165/1:1992) - Water quality -- Determination of selected monovalent phenols -- Part 1: Gas-chromatographic method after enrichment by extraction;
- TCVN 5070:1995 – Water quality - Weight method for determination of oil and oil product;
- TCVN 7875:2008 – Water - Determination of oil and grease - Partition-infrared method;
- TCVN 6637:2000 (ISO 10530:1992) - Water quality - Determination of dissolved sulfide - Photometric method using methylene blue;
- TCVN 5988:1995 (ISO 5664:1984) - Water quality -- Determination of ammonium -- Distillation and titration method;
- TCVN 6620:2000 - Water quality - Determination of ammonium - Potentiometric method;
- TCVN 6638:2000 – Water quality - Determination of nitrogen - Catalytic digestion after reduction with devarda's alloy;
- TCVN 6202:2008 (ISO 6878:2004) - Water quality -- Determination of phosphorus -- Ammonium molybdate spectrometric method;

- TCVN 8775:2011 - Water quality - Total coliform - Membrane-filter technique.;
- TCVN 6187-1:2009 (ISO 9308-1:2000) - Water quality - Detection and enumeration of Escherichia coli and coliform bacteria - Part 1: Membrane filtration method.
- TCVN 6187-2:1996 (ISO 9308 -2:1990(E)) – Water quality - Detection and enumeration of coliform organisms, thermotolerant coliform organisms, and presumptive Escherichia coli - Part 2: Multiple tube (most probable number) method;
- TCVN 6225-3:2011 (ISO 7393-3:1990) - Water quality - Determination of free chlorine and total chlorine - Part 3: Iodometric titration method for the determination of total chlorine;
- TCVN 7876:2008 – Water - Determination of organochlorine pesticides content. Liquid-liquid extraction gas chromatographic method
- TCVN 8062:2009 - Organophosphorus compounds by gas chromatography - Capillary column technique
- TCVN 6053:2011 - Water quality - Measurement of gross alpha activity in non-saline water - Thick source method;
- TCVN 6219:2011 - Water quality - Measurement of gross beta activity in non-saline water.

3.3. The analysis methods with equivalent or higher accuracy than that of the standards cited in Point 3.2, and the new national and international standards that are not cited in this Regulation are accepted.

4. IMPLEMENTATION

4.1. This Regulation supersedes QCVN 24:2009/BTNMT - National Technical Regulation on Industrial Wastewater promulgated together with the Circular No. 25/2009/TT-BTNMT dated November 16, 2009 of the Minister of Natural Resources and Environment.

4.2. People’s Committees of central-affiliated cities and provinces shall announce the purposes of water sources and the coefficient Kq when planning the use of water sources and zoning receiving waters.

4.3. State agencies in charge of environmental issues shall select typical parameters and basic values (C) in Table 1 to control environmental pollution depending on the characteristics of industrial wastewater and the purposes of the receiving waters.

4.4. When the national standards cited in this Regulation are amended or superseded, the new standards shall apply.

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