

# Sharp Site Report 2024



**SHARP MANUFACTURING (THAILAND) CO.,LTD.**

# CONTENTS

<b>MD's Statement</b>	<b>1</b>
<b>Company's Business</b>	<b>2 - 5</b>
<b>Environmental Policy</b>	<b>6</b>
<b>Environmental Management Systems</b>	<b>7 - 17</b>
<b>Environmental Objective and Achievements</b>	<b>18-22</b>
<b>Environmental Impacts and Reduction Measures</b>	<b>23-34</b>
<b>Environment Social Contribution Activities</b>	<b>35-37</b>

## **Period and Item Covered**

**Period covered : Fiscal 2023**

**(From April 1, 2023 to March 31, 2024)**

**Coverage : Environmental aspects of SMTL  
(Sharp Manufacturing (Thailand) Co.,Ltd.)**

# MD's Statement



**Mr. Ayumu Oda**  
**Managing Director**  
**Sharp Manufacturing (Thailand) Co., Ltd.**

**Sharp Manufacturing (Thailand) Co., Ltd. provides high quality products, We will fulfill our social responsibilities by committing to protect human health, natural resources and ecological environment.**

**Based on the philosophy of "Quality First", "Sincerity and Creativity", we will establish the following policies concerning quality, environment, occupational health and safety.**

**1. Establish a crystal clear and efficient management system for quality, environment, occupational health and safety, to meet the expectations of customers, governments, society and employees.**

**2. We will comply with all laws and regulations concerning quality, environment, occupational health and safety and other Requirements and contribute to improvement of the local environment through employee participation in local environmental conservation activities.**

**3. We will develop and produce highly safe and reliable products by accept the perspective from customers, which do not contain a toxic substance that was banned from both internal country regulation and also international regulation.**

**4. We will concern about Employee's safety as the first priority by eliminating all risks, creating a scientifically and reasonably safe and harmonious workplace environment and workplace style.**

**5. We will aggressive efforts to energy conservation and reduce CO<sub>2</sub> emissions, contribute to reduction of resource consumption, reduce environmental impact, reduction of global warming, aiming to be a company friendly to the earth as a Super Green Factory.**

**6. We will continue to improve Quality, environment, occupational health and safety, also improve the optimization the awareness of employees, and operational efficiency of the business.**

# Company's Business

## Summary of the organization

**Company  
name**

**Sharp Manufacturing (Thailand) Co.,Ltd.**

**Address**

**58 Moo 3, Tambol Sampatuan,  
Amphur Nakornchaisri,  
Nakornpathom 73120 Thailand.**

**Managing  
Director**

**Mr.Ayumu Oda**

**Established**

**August 14, 1992**

**Production  
start**

**November 1, 1992**

**Manpower**

**430 persons  
(On March 2023)**

**Total Land  
area**

**44,000 cm<sup>2</sup>**

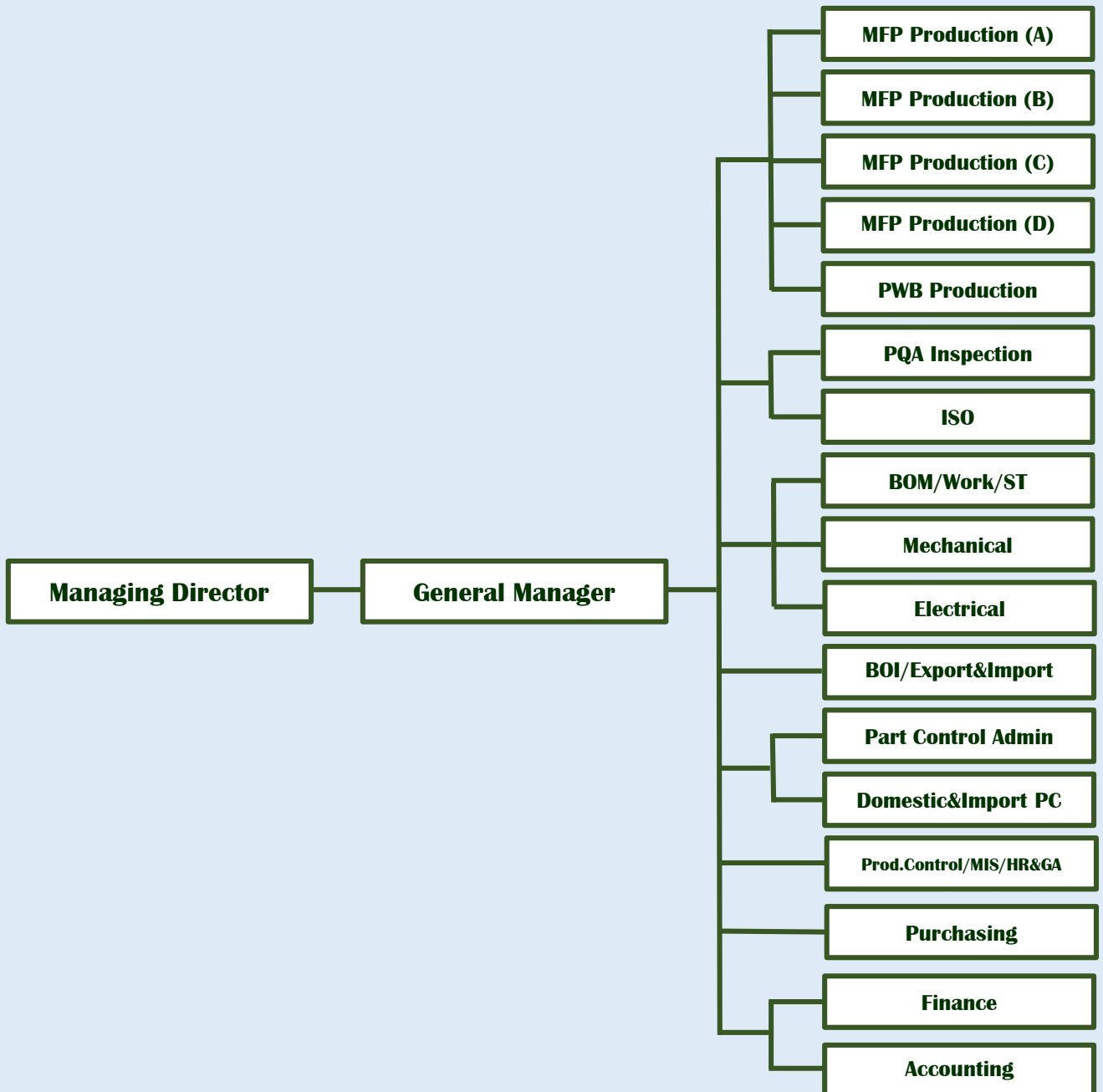
**Total Building  
area**

**14,732 m<sup>2</sup>**



# Company's Business

# SMTL's Organization



# Company's Business

## Our Products

### ➤ Multifunction printer



**MX-B455W**



**BP-30M38**



**BP-50C65**



**MXM-7570**

# Company's Business

## Our Products

### ➤ Multifunction printer



**MX-8081**



**MX-C306W**



**BP-C533WD**



**BP-C533WR**

# Environmental policy

## *... Environmental Policy ...*

SHARP MANUFACTURING (THAILAND) CO., LTD. is determine to do business with strong sense of responsibility for environmental and natural resources conservation as following;

1. Activate and build awareness in all employee of environmental and natural resources conservation.
2. Observe law and regulation which related environmental aspect of SMTL including the requirements of interested party.
3. Reduce resource usage, and efficient use of energy.
- 4 . Protection of the environmental including prevention and control of pollution, chemical, waste so that is shall have the least impact on environment.
- 5 . Review and determine the opportunities and risks in order to continuously improve and correct any problem which may have significant impact on environment through review of objectives and target in specified a intervals.

This policy will be recorded in Environmental management manual and implemented, communicated to all employee and interested party. It shall be open upon request.

*A. Oda*

Mr. Ayumu Oda

( Managing Director )

Date 6 November 2023

# **SMTL**

# Environmental Management system

## We have certified ISO14001 by SOCOTEC EQS, History; ISO 14001 Version 1996

- Jan 27th,2000 Certified ISO14001:1996
- Feb 18th,2005 Extension scope of ISO14001:1996 for Solar module
- Aug 2nd,2005 Extension scope ISO14001:1996 for Multifunction Printer

## ISO 14001 Version 2004

- Jan 26th,2007 Upgrade ISO14001:1996 to ISO14001:2004
- Feb 26th,2009 : Renew the Certificate of ISO14001::2004
- Feb 26th,2012 : Renew the Certificate of ISO14001:2004

- Feb 21th,2014 : Extension scope of  
ISO14001:2004 for LDC monitor (IDP/IWB)

- Feb 26th,2015 : Renew the Certificate and  
Extension scope of ISO 14001:2004 For

ECR (Electronic Cash Register)

- Feb 26th,2016: Certificate of ISO14001:2004
- Feb 26th,2017 : Certificate of ISO14001:2004

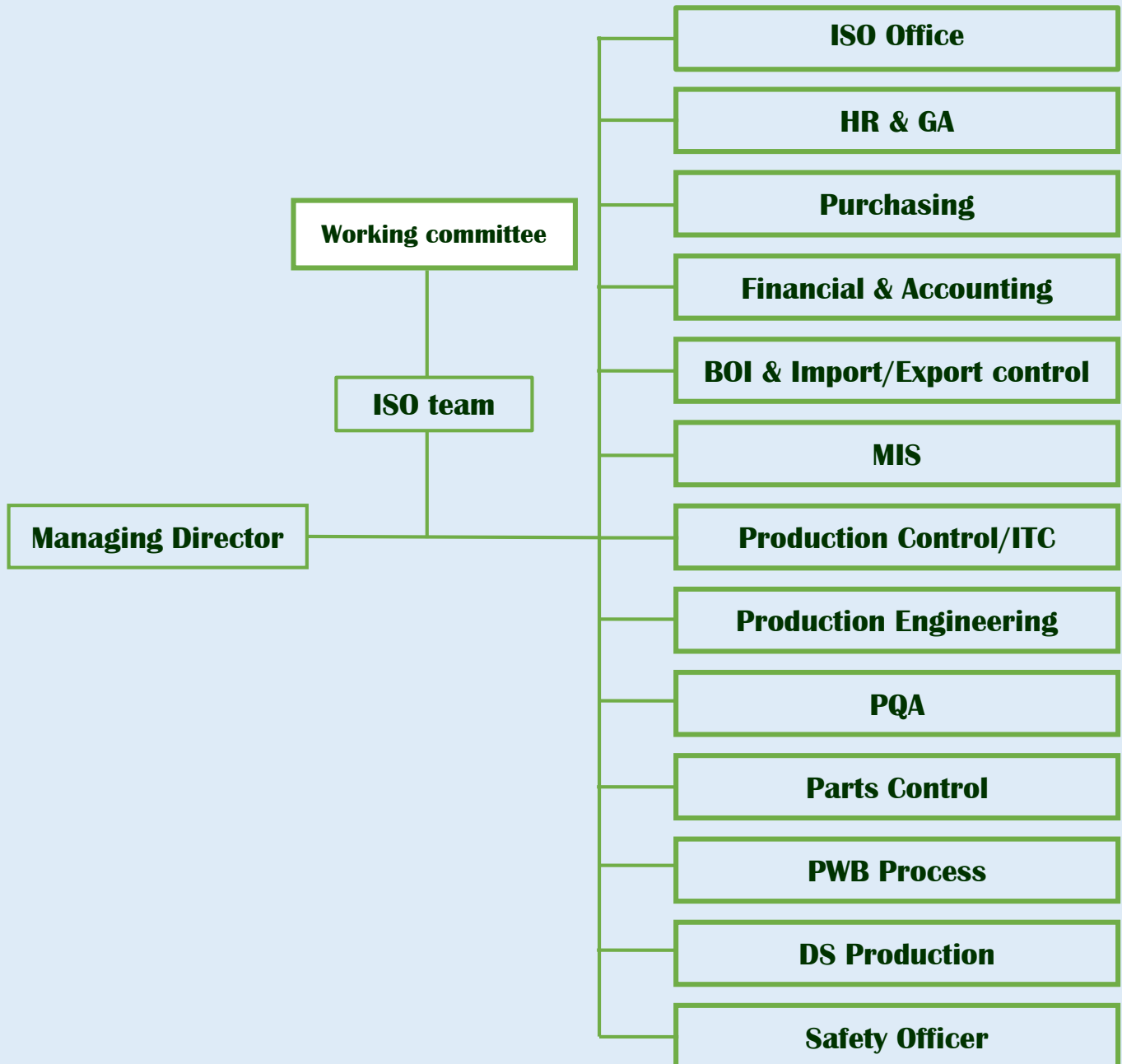
## ISO 14001 Version 2015

- Feb 26th,2018: Upgrade ISO 14001:2004  
to ISO14001:2015 and Extension scope for  
LCD TV
- Jul 1st,2019: Certificate of ISO14001:2015
- Feb 27th,2021: Certificate of ISO14001:2015
- Jan 16<sup>th</sup>, 2024 : Certificate of ISO14001:2015



# Environmental Management system

## Structure of an organization's Environment management system



# Environmental Management system

## ISO Team

**MD**



**Mr. Ayumu Oda**

**ISO Office  
Group**



**Ms. Tidarat Prodpromjariya**



**Ms. Kitsana Samkasorn**



**Ms. Kamonchanok Lapnanasap**

**We are responsible to control document of Environmental management system, internal audit and support to all department and section in order to improve our Environmental Management System.**

**Moreover, we also conduct the social activities that affect society and the environment that are not directly related to the operation of the organization such as plantation and donation etc..**

# Environmental Management system

## Structure of document for Environment management system

### Environmental Manual Procedure

- PR-GA-001-E : Waste Water Treatment**
- PR-GA-002-E : Training, Awareness and Competence**
- PR-MR-001-E : Management Review**
- PR-MR-002-E : Internal Audit**
- PR-MR-004-E : Identification and evaluation of environmental aspects**
- PR-MR-005-E : Control of records**
- PR-MR-006-E : Waste Management**
- PR-MR-007-E : Management of Chemical and Hazardous Material**
- PR-MR-008-E : Setting Objectives, Target and Environmental Management Program**
- PR-MR-009-E : Identification of compliance obligation**
- PR-MR-010-E : Communication**
- PR-MR-011-E : Corrective and Preventive Action**
- PR-MR-012-E : Emergency Preparedness**
- PR-MR-013-E : Monitoring and Measurement**
- PR-MR-014-E : Maintenance**
- PR-MR-015-E : Control of Subcontractor and Procurement**
- PR-MR-016-E : Evaluation of Compliance**
- PR-MR-017-E : Identification of Environmental risk and opportunities**

### Support Document

- Registration of environmental aspects**
- List of Compliance obligations Concerning Environmental**
- The list of chemicals and hazardous materials**
- Registration of environmental monitoring and measurement.**
- The list of machinery or equipment which environmental impact**
- The list of contractors**
- The list of Internal Auditor Risk/Opportunity Registration**
- The environmental Objective/Target and management program**
- Responsible for self-defense fire service (Emergency plan)**

### Work Instruction Format

# Environmental Management system

## Environmental Education

Education	Trainer	Training Date	Participants
Emergency plan practice case of chemical leakage.	Safety	Once a year	5 persons
Using and Storing hazardous substance training	ISO Office & Safety	Sep. 29, 2023	32 persons
First Aid Training	Nurse	Sep. 29, 2023	32 persons
Emergency plan practice case of radiation leakage.	The person responsible for the radiation technique	Dec. 21, 2023	25 persons
Firefighting and fire escape training.	Rai-Khing municipality office.	Mar. 29, 2024	<u>lecture</u> : 53 persons <u>Fieldwork</u> :100% of SMTL member
Forklift driver training	Safesiri (Thailand)Co., Ltd.	Jul. 20, 2023	35 persons

# Environmental Management system

## Education provided for employees

- **Emergency plan practice case of chemical leakage.**



**Training photos of chemical spill emergency plan at DS Production Line High speed**



**Training photos of chemical spill emergency plan at DS Production Line D**

**SMTL defines departments that use chemicals to practice chemical spill emergency plan at least once a year by Safety officer and responsible person around 2-5 persons in order to use chemicals safely and act correctly in the event of an emergency.**

# Environmental Management system

## Education provided for employees

### ➤ Using and Storing hazardous substance training



**Employees of SMTL are trained about using and storage of chemicals along with demonstrations and simulations in the event of large chemical spill to ensure that employees understand chemicals and can use personal protective equipment correctly. In this course, there were 32 employees participating in the training.**

# Environmental Management system

## Education provided for employees

### ➤ First Aid Training

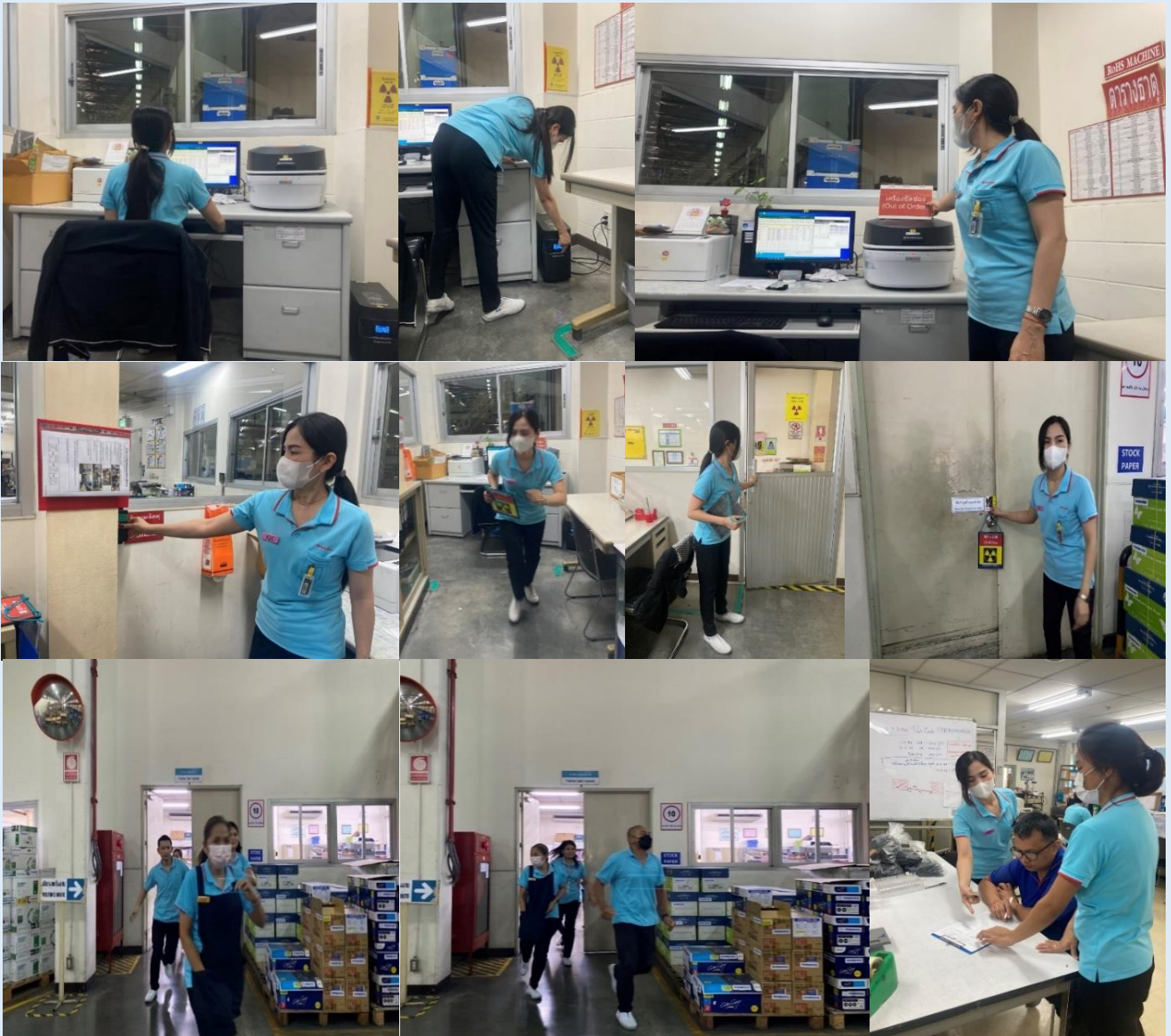


**Employees of SMTL are trained about first aid along with demonstration by professional nurse to enable employees to use basic knowledge for helping close acquaintances and colleagues when they are injured or dangerous, such as being poisoned by chemicals while working, etc. In this course, there were 32 employees participating in the training.**

# Environmental Management system

## Education provided for employees

### ➤ Emergency plan practice case of radiation leakage.



**SMTL arranges for employees to practice emergency plans for radiation leaks at the working area (PQA Department) twice a year, so that employees be able to respond by without panicking when a radiation leak occurs. For this training, PQA staff practiced together with radiation safety officers. Safety officers and the ISO office including 25 employees participated in the training.**

# Environmental Management system

## Education provided for employees

### ➤ Fire fighting and fire escape training.



Employees received training from Department of Disaster Prevention and Mitigation



Employees practice fire evacuation.



Employees use fire extinguishing equipment, such as fire extinguisher and fire hose.



SMTL arranges for employees to train and practice emergency plans in case of fire once a year by Department of Disaster Prevention and Mitigation. This fire evacuation was attended by 431 persons and employees participated in training and use fire extinguishing equipment for 53 persons.

# Environmental Management system

## Education provided for employees

### ➤ Forklift driver training



**SMTL provides forklift driving training to Part Control Department employees for 35 persons to encourage employees for using forklift correctly and safely.**

## Environmental Objective and Achievements

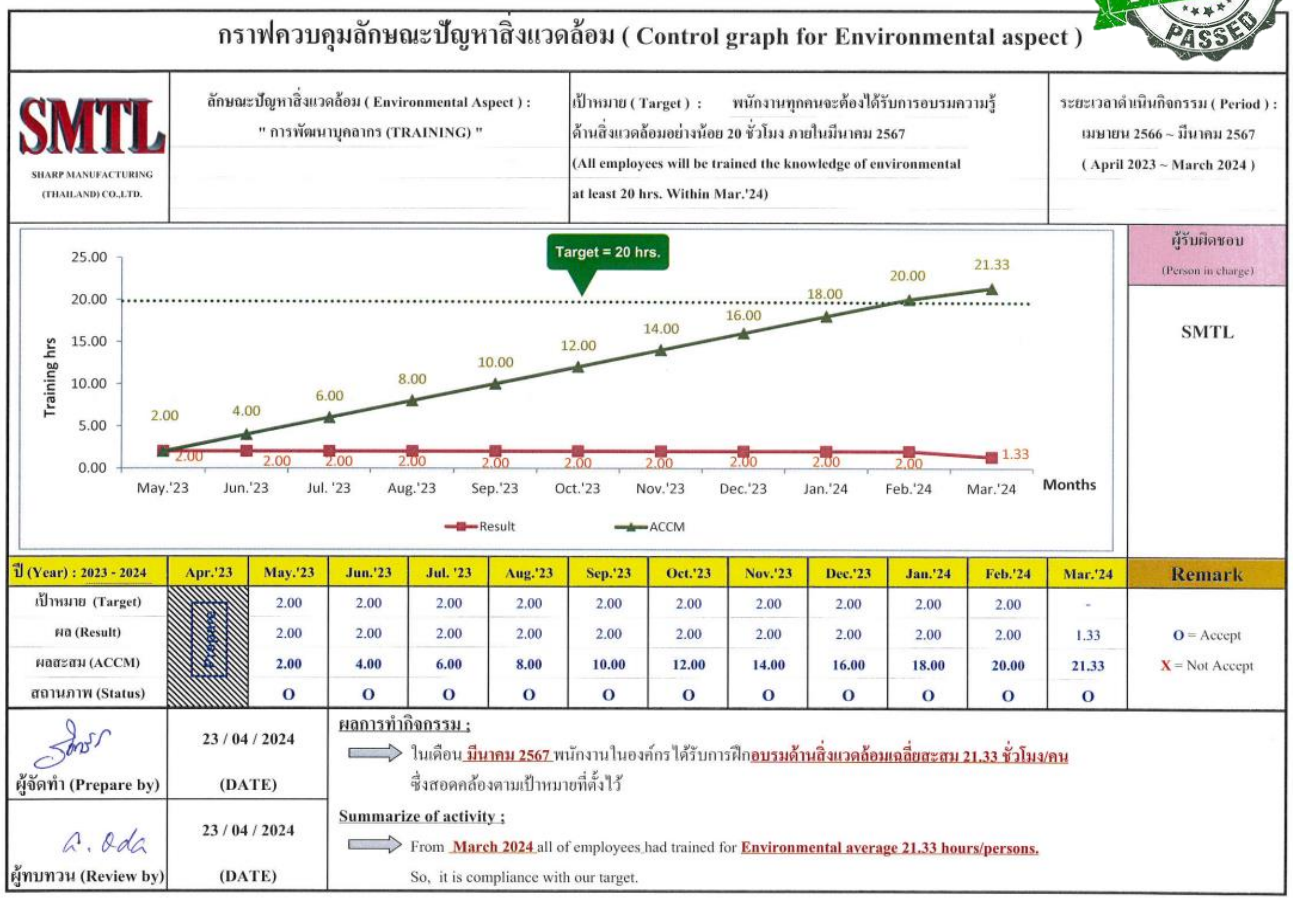
### Objective and Target in Fiscal 2023

#### ➤ Training

**Objective :** All employees will be trained The matter of Environmental 20 hours by average, within March 2024.

**Target :** 20 hours (by average)

**Results :** 21.33 hours (by average)



**From FY2023, SMTL's employees had trained the matter of Environmental is 21.33 hours by average.**

## Environmental Objective and Achievements

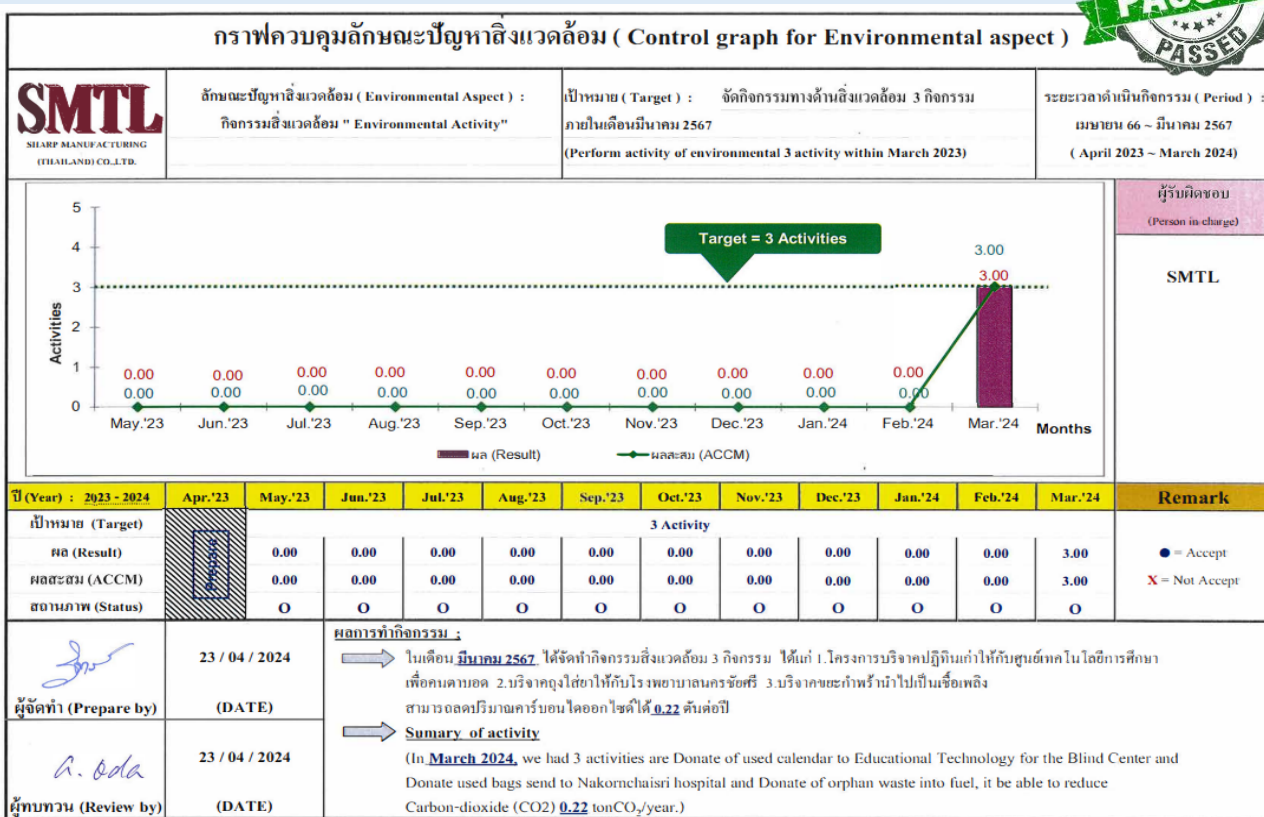
### Objective and Target in Fiscal 2023

#### ➤ Activity

**Objective : Perform the environmental activities, 3 activities within March 2024.**

**Target : 3 Activity**

**Results : 3 Activity**



**In FY2023, we had conducted 3 activities of Environmental as following;**

- Donate of used calendar to educational Technology for the Blind Center,
- Donate used bag send to Nakornchaisri hospital,
- Donate of orphan waste into fuel.

## Environmental Objective and Achievements

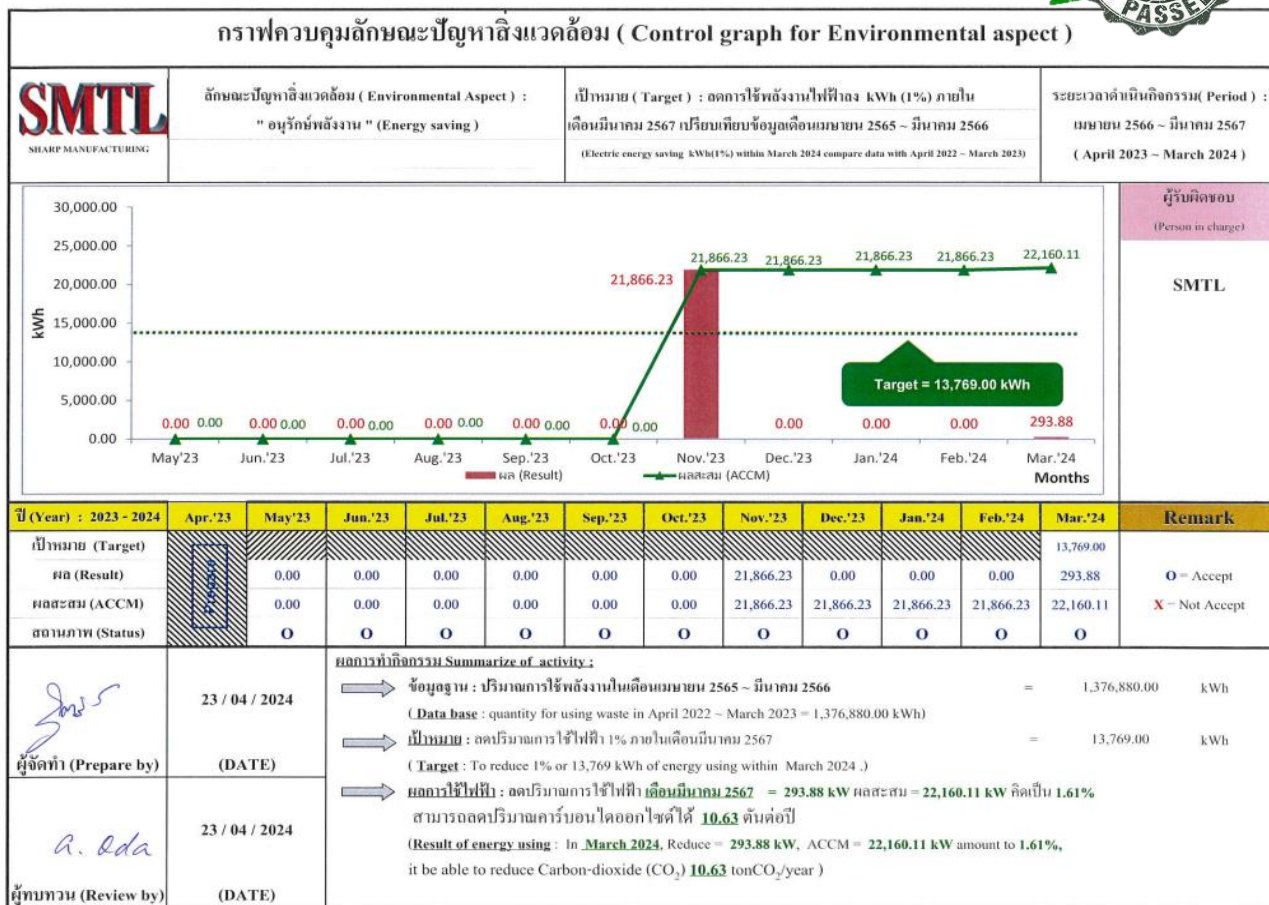
### Objective and Target in Fiscal 2023

#### ➤ Energy saving

**Objective : Reduce electricity using by 1%, within March 2024.**

**Target : 13,769.00 kWh (1.00%)**

**Results : 22,160.11kWh (1.61%)**



**In FY2023, SMTL had changed fluorescence tube to LED tube and changed LED highbay. We are able to save energy about 22,160.11 kWh amount to 1.61%.It was successful in our target.**

## Environmental Objective and Achievements

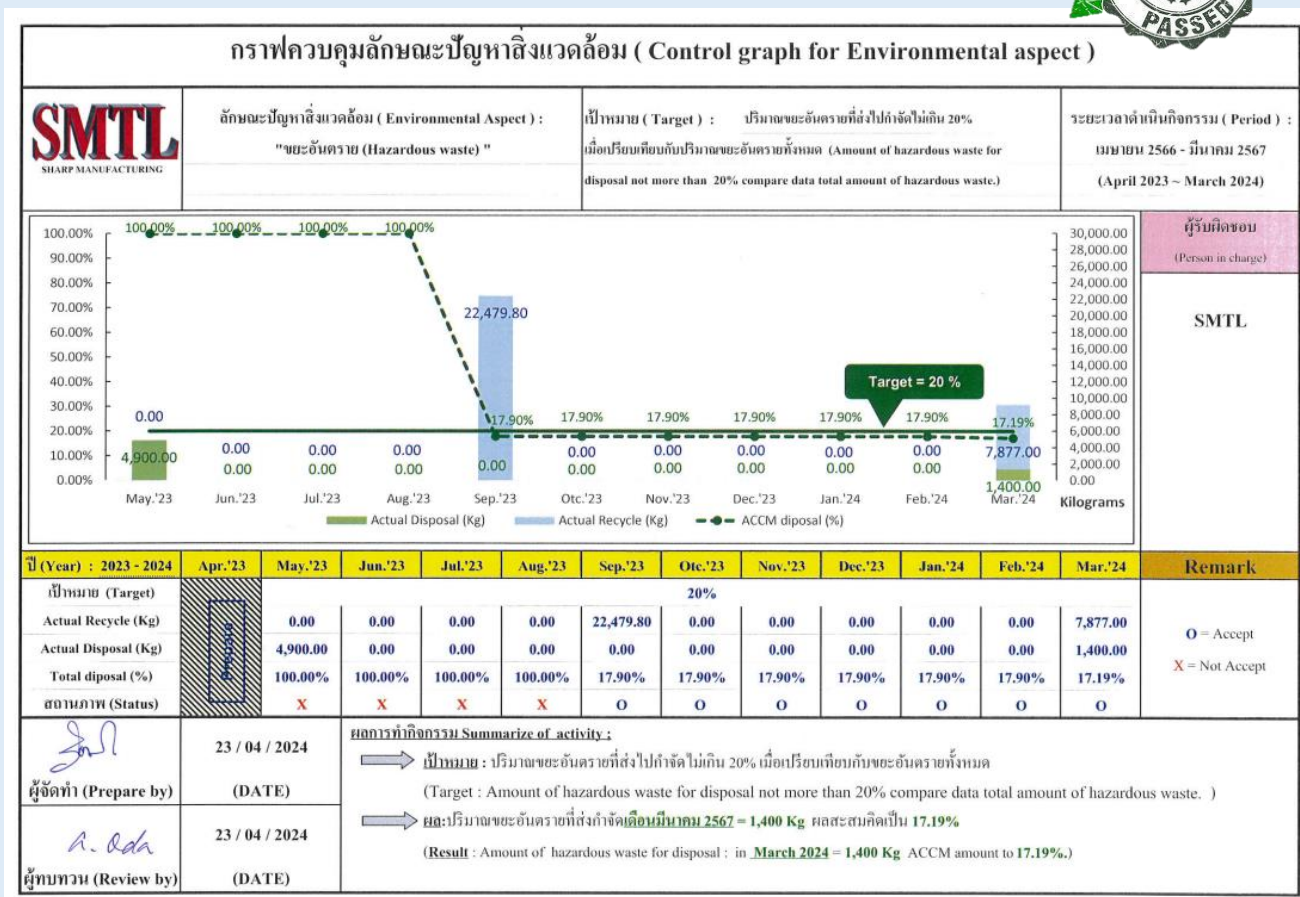
### Objective and Target in Fiscal 2023

#### ➤ Waste

**Objective : Less than 20% amount of hazardous waste for disposal within Mar.'24 compare data total amount of hazardous waste.**

**Target : 20.00 %**

**Results : 17.19 %**



**In FY2023 we had amount of hazardous waste for dispose 17.19% or 6,300.00 Kg, compare data total amount of hazardous waste. It was successful in our target.**

## Environmental Objective and Achievements

### Objective and Target in Fiscal 2023

#### ➤ Greenhouse Gas

**Objective : Change air conditioner 2 sets, using R22 refrigerant within March 2024.**

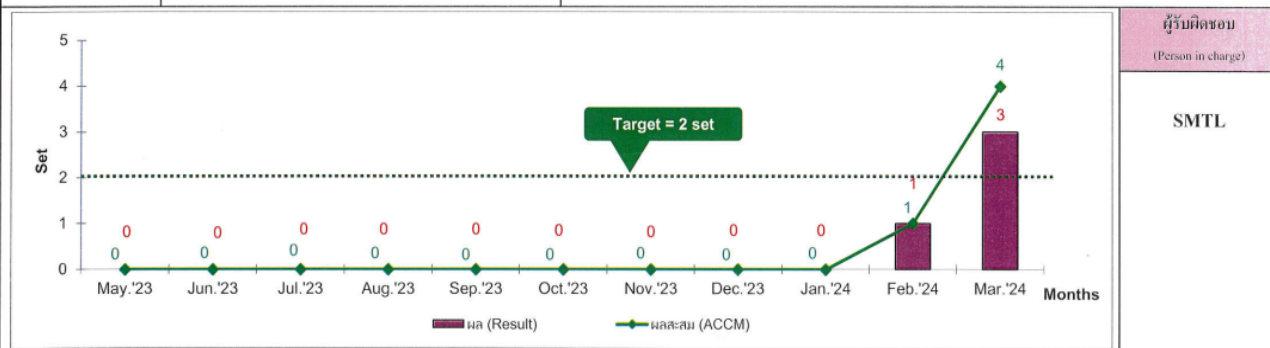
**Target : 2 set**

**Results : 2 set**



กราฟควบคุมลักษณะปัญหาดังกล่าว (Control graph for Environmental aspect)

	ลักษณะปัญหาดังกล่าว (Environmental Aspect) : "ก๊าซเรือนกระจก (Greenhouse Gas) "	เป้าหมาย (Target) : เปลี่ยนเครื่องปรับอากาศที่ใช้น้ำยาแอร์ R22	ระยะเวลาดำเนินกิจกรรม (Period) :
		จำนวน 2 เครื่อง ภายในเดือนมีนาคม 2567	เมษายน 2566 - มีนาคม 2567
		(Change air conditioner use R22 refrigerant amount 2 set within March 2024.)	(April 2023 ~ March 2024)



ปี (Year) : 2023 - 2024	Apr.'23	May.'23	Jun.'23	Jul.'23	Aug.'23	Sep.'23	Oct.'23	Nov.'23	Dec.'23	Jan.'23	Feb.'23	Mar.'23	Remark
เป้าหมาย (Target)													2 set
ผล (Result)		0	0	0	0	0	0	0	0	0	1	3	O = Accept
ผลสะสม (ACCM)		0	0	0	0	0	0	0	0	0	1	4	X = Not Accept
สถานภาพ (Status)		O	O	O	O	O	O	O	O	O	O	O	

	23 / 04 / 2024	<b>ผลการทำกิจกรรม (Summary of activity) :</b> ➡ เป้าหมาย : เปลี่ยนเครื่องปรับอากาศที่ใช้น้ำยาแอร์ R22 จำนวน 2 เครื่อง (Target : Chang air conditioner use R22 refrigerant amount 2 set) ➡ ผล : เปลี่ยนเครื่องปรับอากาศ เดือนมีนาคม 2567 = 3 เครื่อง (พื้นที่ Packing DS Production และ ห้อง Sever) ผลสะสม = 4 เครื่อง สามารถลดการทำลายชั้นโอโซนในบรรยากาศและเพิ่มประสิทธิภาพการทำความเย็น (Result : Chang air conditioner in March 2024. = 3 set (at packing DS Production and Server room), ACCM = 4 set , it be able to reduce ozone depletion and increase cooling capacity.)
	(DATE)	
ผู้จัดทำ (Prepare by)	(DATE)	
ผู้ทบทวน (Review by)	(DATE)	

**In FY2023, we had change air conditioner use R22 refrigerant amount 2 set. It was successful in our target.**

## Environmental Impacts and Reduction Measures

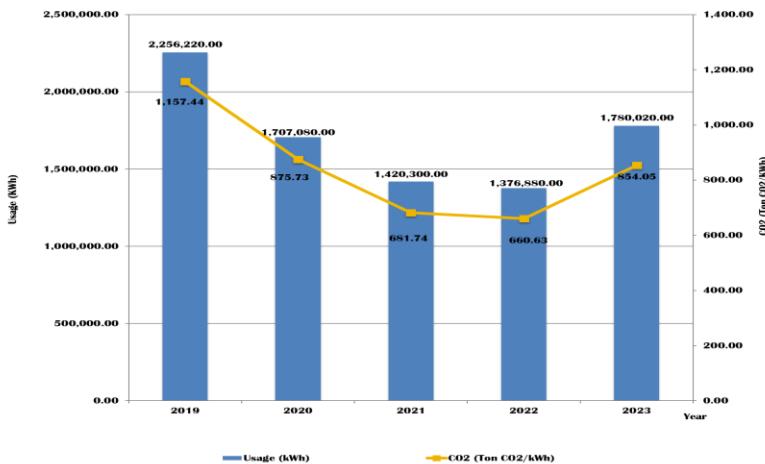
### Greenhouse Gas Emissions

Input	
Electricity	1,780,020 kWh



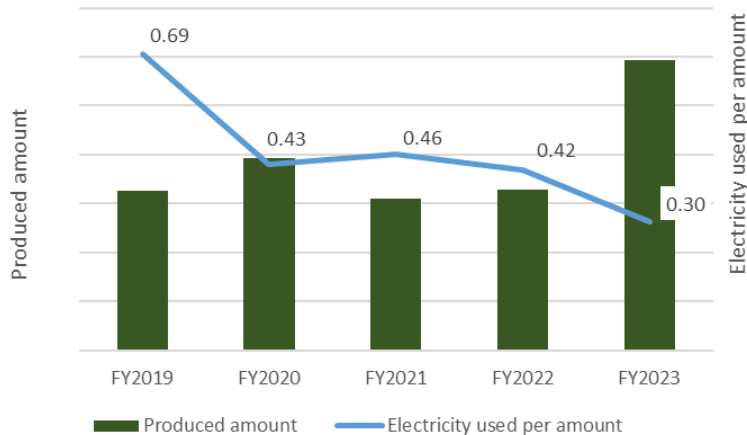
Output	
Electricity	854.05 (ton-CO <sub>2</sub> /kWh)

Electric using & CO2 emission



In 2023, the production of Multifunction printer (MFP) was increased 123.62% (Compare to 2022), resulting in increase of electricity consumption 29.28%, and it was equivalent to carbon dioxide emission into the atmosphere by 29.28%.

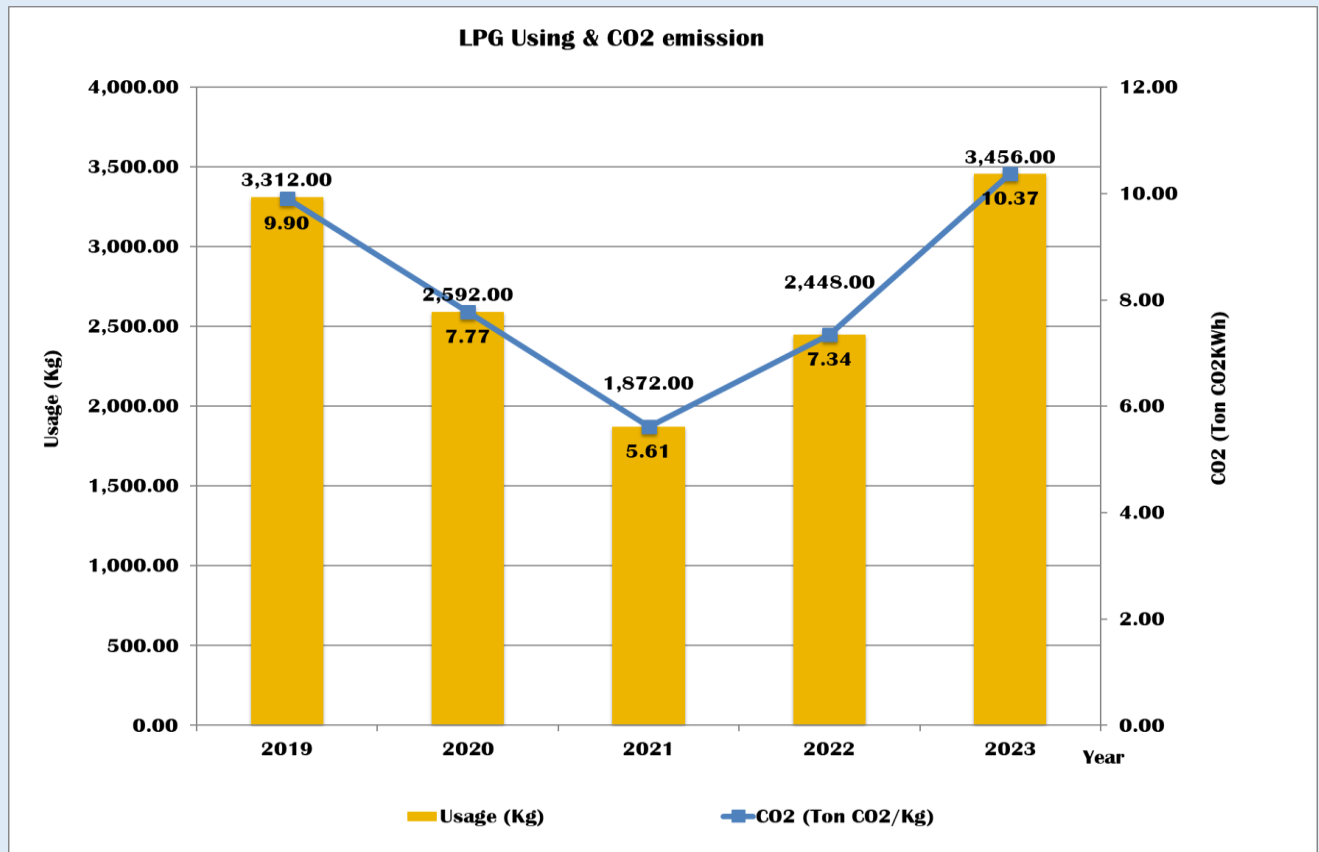
In case of comparison by electricity usage per amount it have been decrease and improved.



## Environmental Impacts and Reduction Measures

### Greenhouse Gas Emissions

Input			Output	
LPG	3,456.00 Kg		LPG	10.37 (ton-CO <sub>2</sub> /kg)



**SMTL uses LPG gas to cook food for employees and no use LPG gas in the production process. In 2023, SMTL has more employee to support increased production capacity and this resulting in an increase in using LPG gas including and carbon dioxide emissions into the atmosphere from 2022 by approximately 41.28%.**

**CO<sub>2</sub> emission : LPG usage = 3.000 kg-CO<sub>2</sub>/kg**

## Environmental Impacts and Reduction Measures

### Reduction of CO<sub>2</sub> Emission

FY	Electricity usage		LPG usage		Total of CO <sub>2</sub> emission (ton-CO <sub>2</sub> )
	Unit (kWh)	CO <sub>2</sub> Emission (ton-CO <sub>2</sub> /kWh)	Unit (Kg)	CO <sub>2</sub> Emission (ton-CO <sub>2</sub> /kg)	
2019	2,256,220.00	1,157.44	3,312.00	9.90	1,167.34
2020	1,707,080.00	875.73	2,592.00	7.77	883.50
2021	1,420,300.00	681.74	1,872.00	5.61	687.35
2022	1,376,880.00	660.63	2,448.00	7.34	667.97
2023	1,780,020.00	854.05	3,456.00	10.37	864.42

#### CO<sub>2</sub> emission :

- Electricity usage = 0.4798 kg-CO<sub>2</sub>/kWh
- LPG usage = 3.000 kg-CO<sub>2</sub>/kg

## Environmental Impacts and Reduction Measures

### Our activities for Energy saving in FY2023

FY	Energy Saving			Total of CO <sub>2</sub> emission (ton-CO <sub>2</sub> )	Ratio of CO <sub>2</sub> reduction
	Energy saving (kWh)	Investment (Baht)	Cost saving by Energy saving (Baht/year)		
2019	28,969.87	56,496.00	119,066.15	14.86	1.28%
2020	10,717.48	52,002.00	47,907.12	5.50	0.63%
2021	6,547.05	98,654.00	29,265.31	3.14	0.46%
2022	6,102.39	52,323.00	31,671.36	2.93	0.43%
2023	22,160.11	129,593.05	115,010.91	10.63	1.61%

Activities	Reduction		Investment (Baht)	Payback period (year)
	kWh/year	Saving (Baht)		
1.Change fluorescence tube to LED tube.	21,866.23	113,485.72	90,217.05	0.79
2.Change LED highbay	293.88	1,525.25	39,376.00	25.82
<b>Total</b>	<b>22,160.11</b>	<b>115,010.91</b>	<b>129,593.05</b>	<b>-</b>

## Environmental Impacts and Reduction Measures

### Calculation for saving energy effect

#### ➤ Change fluorescence tube to LED tube.

Description	kW	kWh/year	Baht/year
Energy using before reduction	0.05007	26,946.28	139,851.19
Energy using after reduction	0.01072	5,080.05	26,365.47
Energy saving	0.03935	21,866.23	113,485.72
Investment	90,217.05	Baht	
Pay back return	0.79	Years	

#### ➤ Change LED highbay

Description	kW	kWh/year	Baht/year
Energy using before reduction	0.20	2,938.82	15,252.50
Energy using after reduction	0.18	2,644.94	13,727.25
Energy saving	0.02	293.88	1,525.25
Investment	39,376.00		Baht
Pay back return	25.82		Years

#### Remark :

Working hours in FY2022 =  $245 \times 8.33 = 2,040.85$  hours

- Working day in FY2022 = 245 days

- Working time (8:00am.-5:20pm) = 8 hours and 20 minute or 8.33 hours

Electricity purchasing = 5.19 Baht/unit (by estimated)

# Environmental Impacts and Reduction Measures

## Minimization and Recycle of Waste

### ➤ Trends of Recycle waste and Waste Landfill

Year	Total of Waste (kg)	Waste recycle (kg)	Waste Landfill (kg)
FY2021	209,290.40	195,585.40	13,705.00
FY2022	248,977.40	238,187.40	10,790.00
FY2023	262,079.00	256,326.00	5,753.00

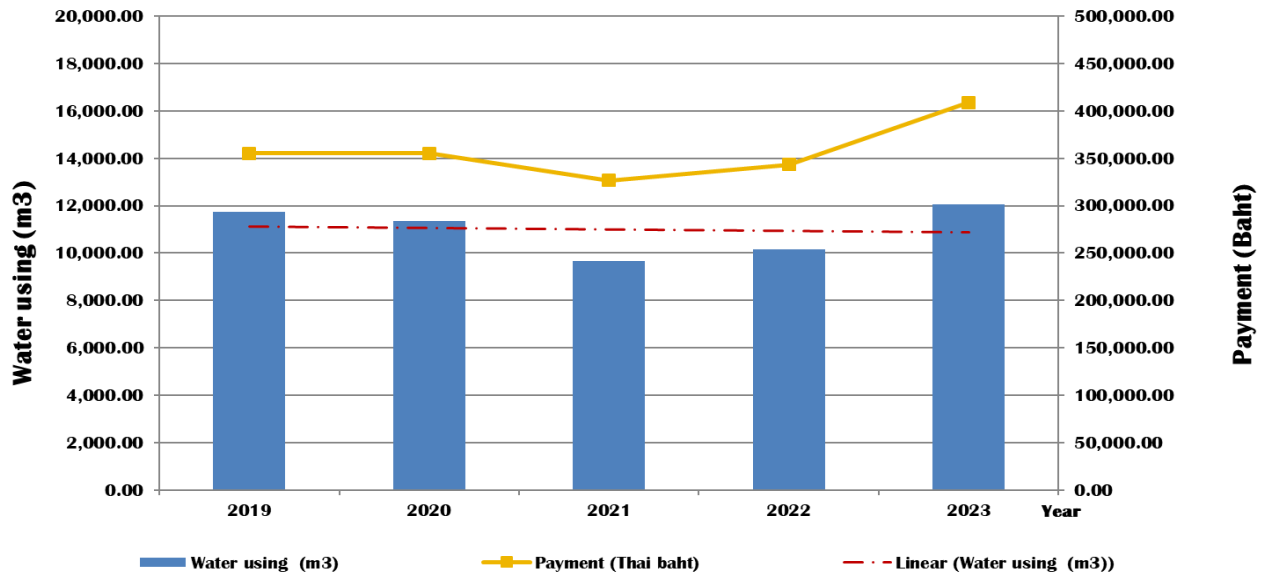
Waste data in Year 2023			
Investigation item	Total of waste (kg)	Recycling	Landfill
		Total (kg)	Total (kg)
Compound waste	8,744.00	8,099.00	645.00
Waste plastics	53,065.00	53,065.00	0.00
Scrap metal	4,688.00	4,688.00	0.00
Waste paper	181,448.00	181,448.00	0.00
Wood chips	0.00	0.00	0.00
Toxic waste	765.00	0.00	765.00
General waste	13,369.00	9,026.00	4,343.00
Amount	100	97.80	2.20
Ratio (%)	%	%	%

# Environmental Impacts and Reduction Measures

## Water usage

Trend of Water using from FY2019- FY2023

Item	Unit	2019	2020	2021	2022	2023
Water usage	Water using (m <sup>3</sup> )	11,747.00	11,368.00	9,648.00	10,148.00	12,062.00
	Payment (Thai baht)	397,873.65	355,229.42	326,525.24	343,501.05	408,738.70

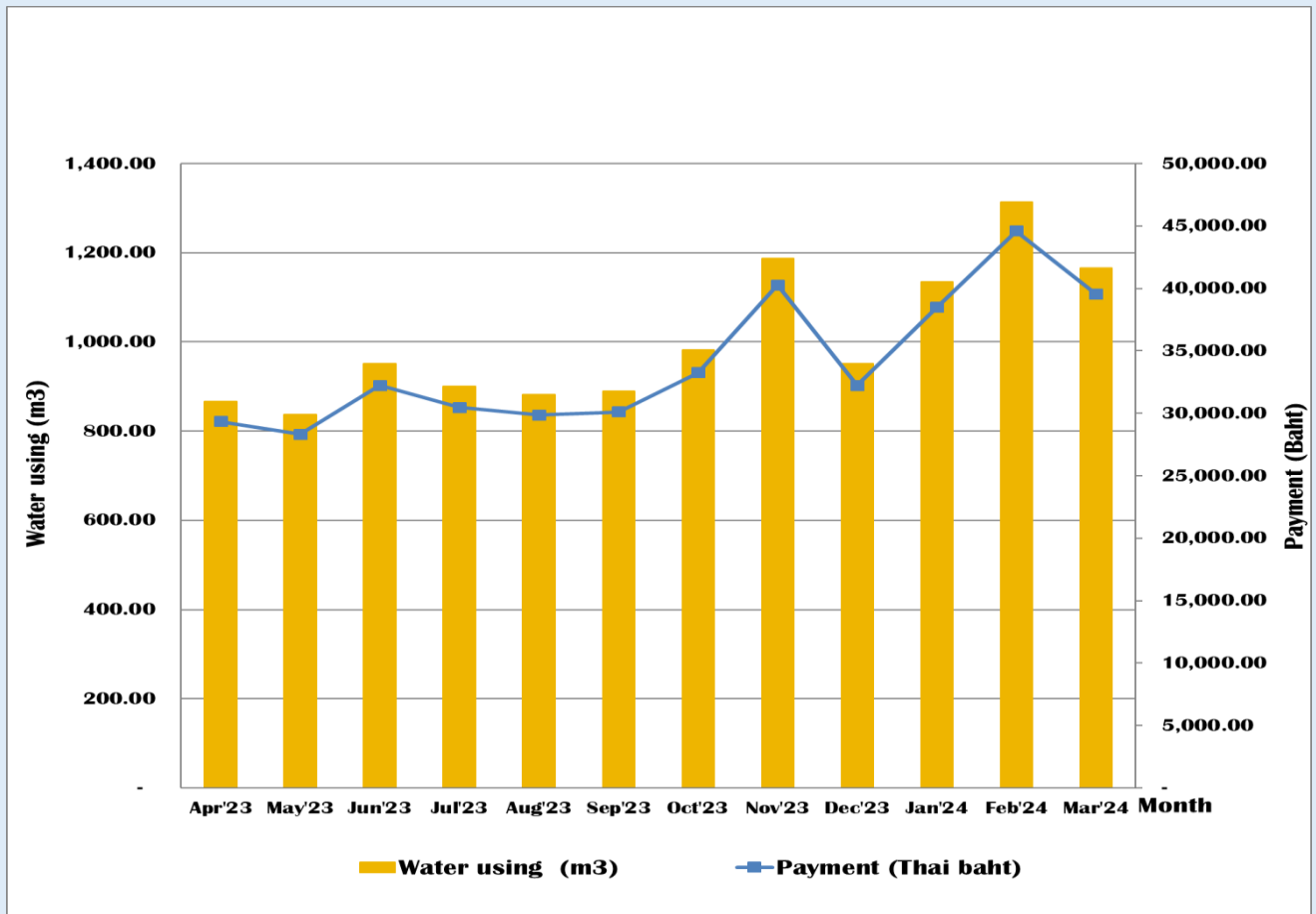


The trend of water using in FY2023 is higher than FY2022 is 15.87% by estimated. Because of we had new employees increased.

# Environmental Impacts and Reduction Measures

## Data of Water Using in FY2023

Month	Apr.'23	May.'23	Jun.'23	Jul.'23	Aug.'23	Sep.'23	Oct.'23	Nov.'23	Dec.'23	Jan.'24	Feb.'24	Mar.'24
Water using (m <sup>3</sup> )	867.00	837.00	952.00	900.00	882.00	889.00	982.00	1,187.00	952.00	1,135.00	1,313.00	1,166.00
Valuable (Baht)	29,349.83	28,330.66	32,237.50	30,470.93	29,859.42	30,097.23	33,256.67	40,271.06	32,237.50	38,490.58	44,585.30	39,552.02



## Environmental Impacts and Reduction Measures

### Management of Chemical

We will keep chemical on the shelf with identified by condensation SDS



Usage chemical will be kept in the cabinet by protect leak with aluminum tray and identified by condensation SDS.



# Environmental Impacts and Reduction Measures

## Compliance with Environment Regulations

### ➤ Atmosphere Emissions

Monitored by SMILE LABORATORY CO.,LTD., on Dec. 18 - 19, 2024

Item	Parameter	Sampling area	Standard Level			Results	Status
			Standard	Unit	Reference		
Workplace	Tin (Sn)	- Harness unit (DS Production)	2.0	mg/m <sup>3</sup>	<sup>1</sup>	0.012	Pass
		- PWB	2.0	mg/m <sup>3</sup>	<sup>1</sup>	0.003	Pass
	Styrene	- Adjustment (DS-A)	100	ppm	<sup>1</sup>	0.124	Pass
		- Adjustment (DS-B)	100	ppm	<sup>1</sup>	0.108	Pass
		- Adjustment (DS-High speed)	100	ppm	<sup>1</sup>	<0.050	Pass
	Ethanol	- Sub material room	1000	ppm	<sup>1</sup>	0.112	Pass
		- Process unit (DS-B)	1000	ppm	<sup>1</sup>	0.258	Pass
	Zinc stearate as Zinc dust	- High speed	5	mg/m <sup>3</sup>	<sup>1</sup>	0.015	Pass
	Total Dust	- Toner cartridge	15	mg/m <sup>3</sup>	<sup>1</sup>	1.25	Pass
		- DV	15	mg/m <sup>3</sup>	<sup>1</sup>	1.417	Pass
		- Adjustment (DS - A)	15	mg/m <sup>3</sup>	<sup>1</sup>	0.5	Pass
		- Adjustment (DS - B)	15	mg/m <sup>3</sup>	<sup>1</sup>	0.583	Pass
		- PQA outgoing room	15	mg/m <sup>3</sup>		0.25	Pass
	Respirable dust	- Toner cartridge	5	mg/m <sup>3</sup>	<sup>1</sup>	0.533	Pass
		- DV	5	mg/m <sup>3</sup>	<sup>1</sup>	0.767	Pass
		-Toner sirius	5	mg/m <sup>3</sup>	<sup>1</sup>	0.367	Pass
		- DS Production Line A	5	mg/m <sup>3</sup>	<sup>1</sup>	0.167	Pass
		- DS Production Line B	5	mg/m <sup>3</sup>	<sup>1</sup>	0.133	Pass
		- DS Production Line High speed	5	mg/m <sup>3</sup>	<sup>1</sup>	0.233	Pass

Reference :

<sup>1</sup> OSHA Standard/ Notification of Department of Labor Protection and Welfare 2560 Re.Limit the concentration of hazardous chemicals.

# Environmental Impacts and Reduction Measures

## Compliance with Environment Regulations

### ➤ Atmosphere Emissions

Monitored by SMILE LABORATORY CO.,LTD., on Dec. 18 - 19, 2024

Item	Parameter	Sampling area	Standard Level			Results	Status
			Standard	Unit	Reference		
Workplace	Noise level (Leq 8 hours)	- CR4.5 (DS-A)	85	dB(A)	<sup>4</sup>	70.0	Pass
		-Process unit	85	dB(A)	<sup>4</sup>	75.0	Pass
		- Ultrasonic machine	85	dB(A)	<sup>4</sup>	72.0	Pass
Ambient	TSP	- Toner (Out of toner room)	0.33	mg/m <sup>3</sup>	<sup>3</sup>	0.195	Pass
		- DS Production Line B	0.33	mg/m <sup>3</sup>	<sup>3</sup>	0.178	Pass
	Noise level (Leq 24 hours)	- Compressor 1	70	dB(A)	<sup>5</sup>	58.8	Pass
		- Compressor 2	70	dB(A)	<sup>5</sup>	55.8	Pass
	Annoyance noise	- Compressor 1	10	-	<sup>5</sup>	9.7	Pass
		- Compressor 2	10	-	<sup>5</sup>	9.7	Pass
Stack	TSP	- Stack from toner	400	mg/m <sup>3</sup>	<sup>2</sup>	4.8	Pass
		- Stack from DV	400	mg/m <sup>3</sup>	<sup>2</sup>	4.2	Pass
		- Stack 2 <sup>nd</sup> auto room	400	mg/m <sup>3</sup>	<sup>2</sup>	5.7	Pass
		-1 <sup>st</sup> transfer DS Production Line B	400	mg/m <sup>3</sup>	<sup>2</sup>	3.5	Pass

#### Reference :

<sup>2</sup> Notification of the ministry of industry, B.E.2549 (2006)

<sup>3</sup> The Notification of National Environment Board No. 24, B.E.2547 on “The Ambient air quality standard”

<sup>4</sup> Notification of the Department of Labor Protection and Welfare, Noise level standard allowing employees to Make average income working period.

<sup>5</sup> Notification of the Ministry of Industry, B.E. 2548 (2005)

# Environmental Impacts and Reduction Measures

## Compliance with Environment Regulations

### ➤ Pollutant Loads of Public Water Areas

Monitored by GOSHU TECHNOSERVICE CO.,LTD

Parameter	Unit	Standard level	Results					
			May	July	September	November	January	March
<b>pH</b>	<b>-</b>	<b>5.5-9.0</b>	<b>7.1</b>	<b>7.1</b>	<b>6.6</b>	<b>7.2</b>	<b>6.4</b>	<b>6.9</b>
<b>T.D.S</b>	<b>mg/L</b>	<b>3000.00</b>	<b>476</b>	<b>371</b>	<b>362</b>	<b>355</b>	<b>514</b>	<b>456</b>
<b>SS</b>	<b>mg/L</b>	<b>50.00</b>	<b>12</b>	<b>17</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>15</b>
<b>COD</b>	<b>mg/L</b>	<b>120.00</b>	<b>55</b>	<b>40</b>	<b>&lt;30</b>	<b>43</b>	<b>44</b>	<b>42</b>
<b>BOD</b>	<b>mg/L</b>	<b>20.00</b>	<b>11</b>	<b>8</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>7</b>
<b>Oil &amp; Grease</b>	<b>mg/L</b>	<b>5.00</b>	<b>1.6</b>	<b>&lt;1.0</b>	<b>&lt;3.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>
<b>Pb</b>	<b>mg/L</b>	<b>0.20</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>
<b>TNK</b>	<b>mg/L</b>	<b>100.00</b>	<b>15.2</b>	<b>15.8</b>	<b>7.2</b>	<b>9.4</b>	<b>&lt;2.0</b>	<b>3.1</b>

#### Reference :

Notification of the Ministry of Natural Resources and Environment Re : Industrial effluent standard, Industrial Estate and Industrial zones And Notification of ministry of Industry Re: Industrial effluent standard B.E.2560 (2017).

## Environmental Social Contribution Activities

### ➤ Donate of orphan waste into fuel.



## Environmental Social Contribution Activities

### ➤ Donate of used calendar to Educational Technology for the Blind Center



## Environmental Social Contribution Activities

### ➤ Donate used bags send to Nakornchaisri hospital



The SHARP logo is rendered in a bold, red, sans-serif typeface. The background of the entire page is a light blue sky with faint, wispy white clouds. Scattered throughout the sky are several colorful, translucent spheres in shades of orange, green, blue, and pink, some of which have a slight gradient. In the upper right, a few green leaves are shown as if blowing in the wind.

# SHARP

Be Original.



**Sharp Manufacturing (Thailand) Co.,Ltd.**

**58 Moo3, Tambol Sampatuan, Amphur Nakornchaisri, Nakornpathom 73120**

**Tel : (66) 34 389 200-2, (66) 34 338 373-7**

**Managing Director, Mr. Ayumu Oda: [oda.ayumu@sharp.co.jp](mailto:oda.ayumu@sharp.co.jp)**

**ISO Manager, Ms.Tidarat Prodpromjariya : [tidarat@smtl.sharp-world.com](mailto:tidarat@smtl.sharp-world.com)**