

# WORKPLACE AIR QUALITY AND NOISE LEVELS MONITORING REPORT

FOR

## JFE MERANTI MYANMAR CO., LTD

Lot No BC- 1, Thilawa Special Economic Zone, Zone B, Thanlyin Township, Yangon  
Region, Myanmar.



Proponent:



**JFE MERANTI MYANMAR CO., LTD**

**Lot No BC- 1, Thilawa Special Economic Zone, Zone B,  
Thanlyin Township, Yangon Region, Myanmar.**

Prepared by:



**Green Myanmar Environmental Services Co., Ltd.**

**No. (115), Kanaung Min Thar Gyi Road,  
Hlaing Thar Yar Industrial Zone (1),  
Hlaing Thar Yar Township, Yangon, Myanmar**

**Tel: 09- 897978296**

**Email: [gmescompany@gmail.com](mailto:gmescompany@gmail.com) , [info@gmes-mm.com](mailto:info@gmes-mm.com)**



December, 2020

**DOCUMENT CERTIFICATION**

This **Environmental Monitoring Report** was conducted by Green Myanmar Environmental Services Co., Ltd. The undersigned certify that the monitoring data for the production area and factory premises stated in this report are correct.

**Green Myanmar Environmental Services Co., Ltd.**

**Signature** : \_\_\_\_\_  
**Name** : \_\_\_\_\_  
**Designation** : \_\_\_\_\_  
**Date** : \_\_\_\_\_



## **Workplace Air Quality and Noise Levels Monitoring Report**

(This report is issued subject to the terms & conditions set out below.)

Assessment performed: **June 23<sup>th</sup>, 2020, August 18<sup>th</sup>, 2020  
& November 26<sup>th</sup>, 2020**

Prepared by: **Green Myanmar Environmental Services Co., Ltd.  
No. (115), Kanaung Min Thar Gyi Road,  
Hlaing Thar Yar Industrial Zone (1),  
Hlaing Thar Yar Township, Yangon, Myanmar  
Tel: 09- 897978296  
Email: gmescompany@gmail.com, info@gmes-mm.com**

Prepared for: **JFE MERANTI MYANMAR CO., LTD  
Lot BC-1, Thilawa Special Economic Zone, Zone B, Yangon  
Region, Myanmar.**

---

### **Terms & conditions:**

1. The Report is prepared for the sole use of the Client and is prepared based upon the item submitted, the services required by the Client and the conditions under which the Services are performed by GMES. The Report is not intended to be representative of similar or equivalent Services on similar or equivalent items. The Report does not constitute an endorsement by GMES of the item.
2. GMES agrees to use reasonable diligence in the performance of the Services but no warranties are given and none may be implied directly or indirectly relating to the Services, the Report or the facilities of GMES.
3. The Report may not be used in any publicity material without the written consent of GMES.
4. The Report may not be reproduced in part or in full unless approval in writing has been given by GMES.



**TABLE OF CONTENT**

DOCUMENT CERTIFICATION.....	i
TABLE OF CONTENT .....	iii
LIST OF TABLES .....	iv
LIST OF FIGURES .....	v
LIST OF APPENDICES.....	vi
LIST OF ABBREVIATIONS.....	vii
CHAPTER (1): INTRODUCTION .....	1
1.1 Scope .....	1
1.2 Purpose.....	1
CHAPTER (2): METHOD OF MEASUREMENT.....	2
2.1 Preliminary Site Inspection .....	2
2.2 Selection of Sampling Point.....	2
2.3 Particulate Matter Measurement .....	4
2.4 Gases Measurement.....	5
2.5 Noise Level Measurement.....	7
CHAPTER (3): GUIDELINE AND STANDARD.....	9
3.1 Guideline of Air Emission.....	9
3.2 American Conference of Government Industrial Hygienists (ACGIH) Guideline-2005 .....	9
3.3 Acceptable VOC Levels.....	9
3.4 Noise Exposure Guidelines .....	9
3.5 National Environmental Guideline for Metal, Plastic and Rubber Products Manufacturing.....	10
CHAPTER (4): MEASUREMENT RESULTS.....	11
4.1 Workplace Air Quality Measurement Results .....	11
4.2 Workplace Noise Levels Measurement Results.....	13
4.3 Stack Emission Measurement .....	20
4.3.1 Stack Fule Gaes Emission Measurement Results .....	21
4.3.2 Stack Volatile Organic Compound (VOC) Emission Monitoring Results .....	21
CHAPTER (5): FINDINGS AND DISCUSSIONS .....	23
CHAPTER (6): CONCLUSION AND RECOMMENDATION.....	24



**LIST OF TABLES**

Table 2.1 Air Quality and Noise Level Measurement Point.....	2
Table 3.1 Air Quality General Guideline.....	9
Table 3.2 ACGIH Guideline (2005) .....	9
Table 3.3 Acceptable VOC Levels in the Air for Human Health .....	9
Table 3.4 OHS Noise Exposure Limits for the Work Environment (Noise Exposures in dBA) .....	9
Table 3.5 Air Emission levels.....	10
Table 4.1 Workplace Air Quality Measurement Results Inside CPL Building.....	11
Table 4.3 Workplace Sound Level Measurement Results inside CPL (8 hour).....	13
Table 4.4 Workplace Sound Level Measurement Results inside Factory Compound (1 hour) .....	13



**LIST OF FIGURES**

Figure 2.1 Workplace Air Quality & Noise Measurement Points .....	3
Figure 2.2 Photos of Equipment for Workplace Air Quality Measurement.....	5
Figure 2.3 Particulate Matters Measurement.....	5
Figure 2.4 Photos of Equipment for Workplace Gases Measurement.....	6
Figure 2.5 Gases Measurement.....	7
Figure 2.6 Photos of Equipment for Noise Level Measurement .....	8
Figure 2.7 Noise Measurement.....	8
Figure 4.1 Workplace Air Quality and Noise Measurement Record Photo .....	11
Figure 4.2 Comparison of Workplace Air Quality Measurement Results (1 hour) with National Environmental Quality (Emission) Guideline Value .....	12
Figure 4.3 Workplace Air Quality and Noise Measurement Record Photos.....	15
Figure 4.4 Comparison Graphs of Workplace Sound Level Measurement Results (8 hour) with OHS Guideline Value .....	16
Figure 4.5 Photo of RTO Stack Fule Gases and VOC Emission Measurement.....	22
Figure 4.6 Photos of Chemical Stack Fule Gases Emission Measurement .....	22



---

***Workplace Air Quality and Noise Levels Monitoring Report***  
***Prepared for: JFE MERANTI MYANMAR CO., LTD***

---

**LIST OF APPENDICES**

Appendix (1): Instruments Calibration Certificate .....	I
Appendix (2): Company Registration.....	VI
Appendix (3): Transitional Consultant Residtration of Organization.....	VII
Appendix (4): Noise Measuemnt Continuous Data Sheets.....	IX
Appendix (5): Workplace Air Quality Measurement Record (1 hr).....	X



**LIST OF ABBREVIATIONS**

GMES	Green Myanmar Environmental Services Co., Ltd.
mg/m <sup>3</sup>	milligram per cubic meter
mg/l	milligram per liter
NEQG	National Environmental Quality (Emission) Guideline (2015)
ppm	Parts per Million
PM	Particulate Matter
TVOC	Total Volatile Organic Compound
VOCs	Volatile Organic Compounds
ACGIH	American Conference of Governmental Industrial Hygienists
JMM	JFE MERANTI MYANMAR
CPL	Coil Painting Line
OHS	Occupational Health and Safety
NG	Not have Guideline
ECD	Environmental Conservation Department
MJTD	Myanmar-Japan Thilawa Development
TSMC	Thilawa SEZ Management Committee
AMP	Air Measurement Point
NMP	Noise Measurement Point



## **CHAPTER (1): INTRODUCTION**

### **1.1 Scope**

This report outlines the workplace air quality monitoring and noise level of JFE MERANTI MYANMAR CO., LTD.

### **1.2 Purpose**

The purpose of the Monitoring is to monitor the workplace air quality and noise level, and to compliance with the MJTD, TSMC, ECD guidelines. This report will be provided to proponent and employees to assist them in carrying out the project to avoid or minimize the impacts to both environment and workplace.



## CHAPTER (2): METHOD OF MEASUREMENT

### 2.1 Preliminary Site Inspection

Physical Inspections were done to determine the potential sources of pollution, the location of sampling access ports, accessibility and work platform requirements (including safety). Discussed with site personnel about plant operating conditions and plant safety requirements for testing equipment, testing personnel and determining the source of pollutant.

### 2.2 Selection of Sampling Point

We have had several discussions with the related person to define the potential emission sources and in line with the relevant standards and guideline. The short-term monitoring will be performed in accordance with Environmental Monitoring Plan. According to discussion and preliminary site inspection, measurements were done at potential emission sources during the operation hours. The locations of monitoring point are described in Table 1.1 and Figure 1.2.

Table 2.1 Air Quality and Noise Level Measurement Point

Workplace Air Quality Measurement Point (1 hour)				
No. of Point	Point	Description (Location)	Duration	Measuring Date
1	AMP-1	Outside of CPL coater prime room	1 hour	23 <sup>th</sup> June 2020
2	AMP-2	Near the CPL finish coater area		
Noise Level Measurement Point (8 hours)				
No. of Point	Point	Description (Location)	Duration	Measuring Date
1	NMP-1	Inside CPL Building	8 hour	23 <sup>th</sup> June 2020
2	NMP-2			
3	NMP-3			
4	NMP-4			
Noise Level Measurement Point (1 hours)				
No. of Point	Point	Description (Location)	Duration	Measuring Date
1	NMP-5	CPL Building Entry	1 hour	18 <sup>th</sup> August 2020
2	NMP-6	CPL Building Exist		18 <sup>th</sup> August 2020
3	NMP-7	Workshop		18 <sup>th</sup> August 2020
4	NMP-8	MCL Entry		23 <sup>th</sup> June 2020
5	NMP-9	MCL Exit		23 <sup>th</sup> June 2020
6	NMP-10	Near FCPT Building		18 <sup>th</sup> August 2020
7	NMP-11	Near FC Building		18 <sup>th</sup> August 2020
8	NMP-12	ROLL Shop		23 <sup>rd</sup> June 2020
9	NMP-13	CRC Building Exist		23 <sup>rd</sup> June 2020
10	NMP-14	CRC Building near the entry gate		23 <sup>rd</sup> June 2020
11	NMP-15	WWTP & DWP		23 <sup>rd</sup> June 2020

*Note:* AMP - Air Measurement Point,  
 NMP - Noise Measurement Point



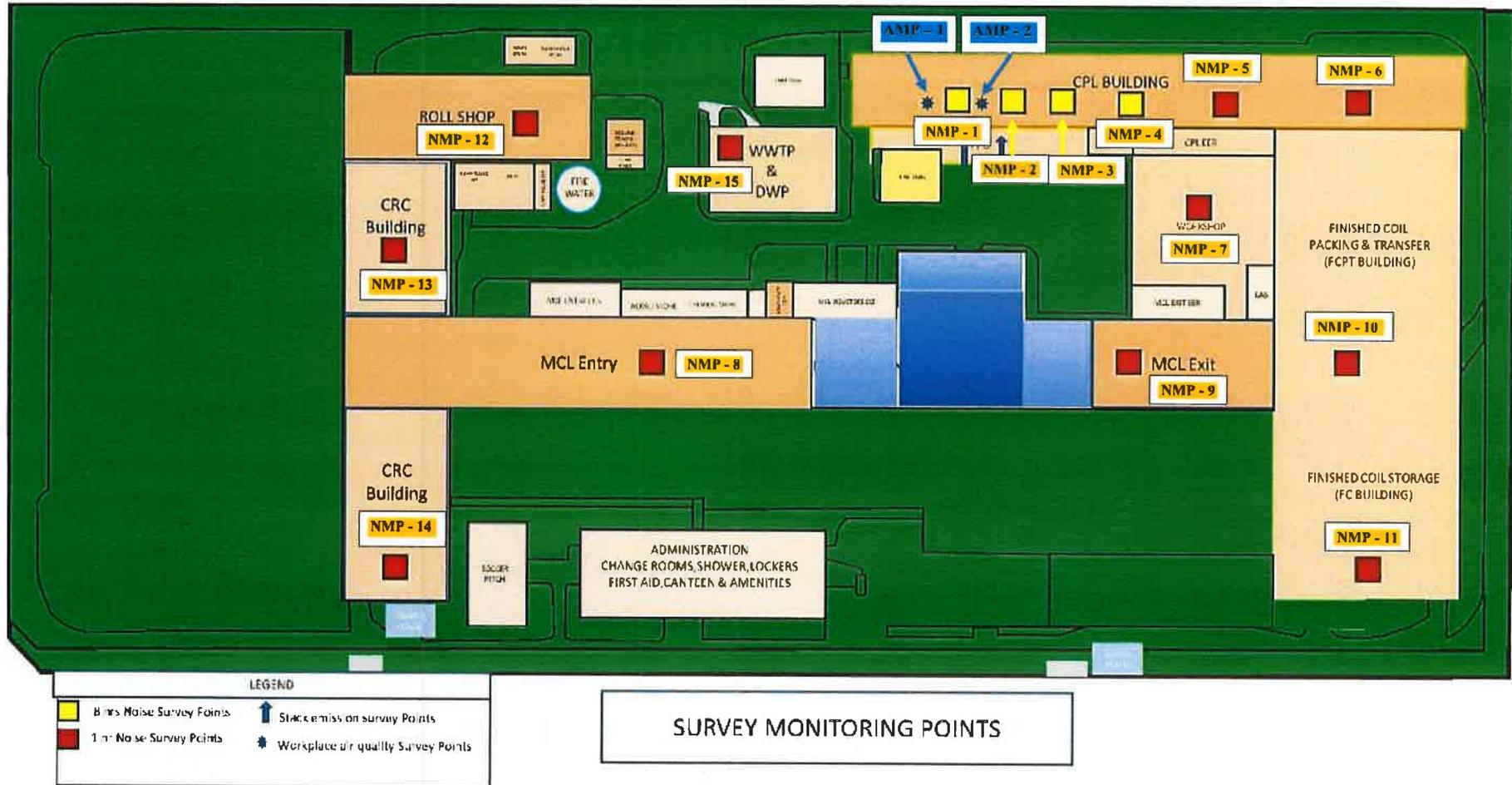


Figure 2.1 Workplace Air Quality & Noise Measurement Points



### 2.3 Particulate Matter Measurement

Measurement of particulate matter was conducted at two locations inside CPL for 1 hour each and the locations of the monitoring points (AMP 1 & 2) are mentioned in Figure 2.1.

Aeroqual’s portable indoor air quality monitors are used for air quality assessors and individuals alike to gather real-time information on the indoor environment. It can be configured with 28 different gas and particle sensors for a range of applications:

- Indoor air quality studies
- Personal exposure assessment
- New and green building certification
- Workplace health and safety
- Ventilation performance and compliance
- Process monitoring and control

It is portable particulate monitor for accurate and simultaneous measurement of PM10 and PM2.5 in ambient outdoor and indoor environments. The PM sensor head uses a laser and optical sensor to measure light scattered from particles passing through the laser beam. The optical sensor transforms scattered light into electrical signals which are processed to provide mass measurements. The sensor life-span is two years.

#### Sensor Properties and Accuracy

Portable monitor system specifications	
Measurement units	Gas: ppm or mg/m <sup>3</sup>   Humidity: %   Temperature °C or °F
Reading functions	Instant, minimum, maximum, average
Sensor head	Active fan sampling to ensure high accuracy measurements, interchangeable, replaceable
Sensor head calibration	Zero and span calibration
Temperature & humidity sensor	Range -40°C to 124°C (-40°F to 255°F); Range 0 to 100 % RH
Environmental operating conditions	Temperature: -5°C to 45°C   Humidity: 0 to 95% non-condensing
Display status indicators	Battery, sensor, standby
Power supply	12Vdc (power adaptor/charger supplied 100-250Vac)
Rechargeable battery	Lithium-ion 12Vdc 2700 mA.h
Enclosure material and rating	PC and ABS; IP20 and NEMA 1 equivalent
Size	(L x W x D) 195 x 122 x 54 (mm); 7¾ x 4¾ x 2¼ (in) (with sensor head)
Weight	<460g; <16oz (with sensor head and battery)
Approvals	Part 15 of FCC Rules; EN 50082-1: 1997; EN 50081-1: 1992
Analog output	0-5V
Clock function	Real time
Digital interface	RS-232 to USB
Data logging	Up to 8,188 records (2706 incl. Temp/RH)
PC data logging (Windows)	Software and data cable supplied. Link data to a specific location and monitor.

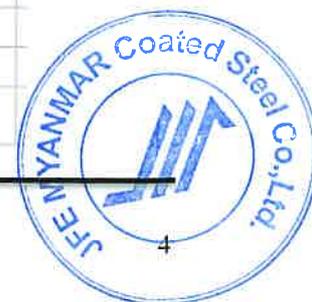




Figure 2.2 Photos of Equipment for Workplace Air Quality Measurement



Figure 2.3 Particulate Matters Measurement

## 2.4 Gases Measurement

Gases measurement for workplace air quality were done by MX6 iBrid portable air quality monitor for 1 hour near the CPL finish coater area and Outside of CPL coater prime room.

The MX6 iBrid ® is the most adaptable six-gas monitor. With hundreds of possible sensor combinations and a robust list of available configuration settings, the MX6 iBrid gas detector is ready to monitor Oxygen, toxic and combustible gas, and volatile organic compounds (VOCs). On site Calibration (Pump test& Zero Sensoring) were done by following Instrument User Manual before every single measurement. Biannually, instrument is calibrated by authorize factory calibration services.

The exchangeable sensor that we fixed in the portable monitor starts working to detect CO<sub>2</sub> level when the oxygen level is lower than 20%.

**Workplace Air Quality and Noise Levels Monitoring Report**  
**Prepared for: JFE MERANTI MYANMAR CO., LTD**

**Sensor Properties and Accuracy**

Sensor Name Abbreviation (type)	Properties				Accuracy <sup>c</sup>				
	Measurement		Response time (nominal)		Calibration gas & concentration	At temperature of calibration	Over full measurement and temperature ranges		
	Range	Resolution	T50	T90			Accuracy (subrange)	Temperature range <sup>a</sup>	RH range <sup>a</sup>
<b>Oxygen</b>									
Oxygen O <sub>2</sub> (electrochemical)	0-30 % vol	0.10% vol	6 s	15 s	O <sub>2</sub> 20.9% vol	±0.8% vol (0-2.9 vol) ±0.5% vol (3.0-25.0 vol) ±0.8% vol (25.1-30.0 vol)	-20°C to 55°C (-4°F to 131°F)	5-95%	±0.8% vol
<b>Combustibles</b>									
Combustible LEL (catalytic)	0- 100% LEL	1% LEL	15 s	35 s	25% LEL Pentane or 50% LEL Methane	±5.0%	-20°C to 55°C (-4°F to 131°F)	15-95%	±15.0%
Combustible LEL (infrared)	0- 100% LEL	1% LEL	16 s	36 s	25% LEL Propane	±5.0%	-20°C to 50°C (-4°F to 122°F)	0-95%	±15.0%
<b>Sulfur Dioxide</b>									
SO <sub>2</sub> (electrochemical)	0 to 150 ppm	0.10 ppm	5 s	20 s	SO <sub>2</sub> 10 ppm	±6.0%	-20°C to 50°C (-4°F to 122°F)	15-90%	±15.0%
<b>PID</b>									
Volatile Organic Compounds (VOC) (10.6 eV photoionization)	0 to 2000 ppm	0.10 ppm	15 s	20 s	Isobutylene 100 ppm	±10.0% (0-800 ppm) ±13.0% (801-1000 ppm) ±23.0% (1001-2000 ppm)	-20°C to 50°C (-4°F to 122°F)	0-90%	±20.0%



Figure 2.4 Photos of Equipment for Workplace Gases Measurement



Figure 2.5 Gases Measurement

## 2.5 Noise Level Measurement

Noise level measurement was also done by the SOUND LEVEL METER. We measured 8 hours continuous inside the CPL building and 1 hour each for the selected location (NMP 5 -10) that we mentioned in figure 2.1.

The calibration is done by referencing with standard unit and also done by instrument supplier. Sound Level Meter was designed according to following standards:

- A. International electrician committee standard: IEC PUB 651 TYPE2
- B. US national standard: ANSI S1.4 TYPE2

### Sensor Properties and Accuracy

Measuring range:	30~130 dBA & 35~130 dBC
Accuracy:	±1.5 dB
Frequency response:	31.5Hz ~8.5KHz
Measuring level:	30~130, 40~90, 50~100, 60~110, 80~130
Sampling rate	2times/second
Microphone	1/2 inch polarization capacitance microphone



Figure 2.6 Photos of Equipment for Noise Level Measurement



Figure 2.7 Noise Measurement

## CHAPTER (3): GUIDELINE AND STANDARD

### 3.1 Guideline of Air Emission

Table 3.1 Air Quality General Guideline

Parameter	Averaging Period	Guideline Value ( $\mu\text{g}/\text{m}^3$ )
Nitrogen dioxide ( $\text{NO}_2$ )	1-year	40
	1-hour	200
Ozone ( $\text{O}_3$ )	8-hour daily maximum	100
Particulate matter $\text{PM}_{10}$	1-year	20
	24-hour	50
Particulate matter $\text{PM}_{2.5}$	1-year	10
	24-hour	25
Sulfur dioxide ( $\text{SO}_2$ )	24-hour	20
	10-minute	500

*Source: National Environmental Quality (Emission) Guidelines – General Application (Dec-2015)*

*Note: There is no national guideline standard for indoor air quality, so we will references some guideline for the assessment of this report.*

### 3.2 American Conference of Government Industrial Hygienists (ACGIH) Guideline-2005

Table 3.2 ACGIH Guideline (2005)

Parameter	TLV-TWA	TLV-STEL
Carbon Dioxide	5,000 ppm	30,000 ppm
Carbon Monoxide	25 ppm	-
Sulphur Dioxide	2 ppm	5 ppm
Nitrogen Dioxide	3 ppm	5 ppm

*Source: TLV-TWA and TLV-STEL data extracted from the 2005 Threshold Limit, copyright 2005 by the American Conference of Governmental Industrial Hygienists (ACGIH)*

TVL =Threshold Limit Value, STEL = Short term Exposure Limit, TWA = Time Weighted Average

### 3.3 Acceptable VOC Levels

Table 3.3 Acceptable VOC Levels in the Air for Human Health

TVOC Level $\text{mg}/\text{m}^3$	Level of Concern
Less than 0.3 $\text{mg}/\text{m}^3$	Low
0.3 to 0.5 $\text{mg}/\text{m}^3$	Acceptable
0.5 to 1 $\text{mg}/\text{m}^3$	Marginal
1 to 3 $\text{mg}/\text{m}^3$	High

*Source: tecamgroup.com*

### 3.4 Noise Exposure Guidelines

Table 3.4 OHS Noise Exposure Limits for the Work Environment (Noise Exposures in dBA)

Noise	Permissible exposure Noise (hours and minutes)
85	16 hrs
87	12 hrs 6 min

**Workplace Air Quality and Noise Levels Monitoring Report**

**Prepared for: JFE MERANTI MYANMAR CO., LTD**

90	8 hrs
93	5 hrs 18 min
96	3 hrs 30 min
99	2 hrs 18 min
102	1 hrs 30 min
105	1 hr
108	40 min
111	26 min
114	17 min
115	15 min
118	10 min
121	6.6 min
124	4 min
127	3 min
130	1 min

*Note: Exposures above or below the 90 dB limit have been "time weighted" to give what OSHA believes are equivalent risks to a 90 dB eight-hour exposure. [Source: Marsh (9)]*

### 3.5 National Environmental Guideline for Metal, Plastic and Rubber Products Manufacturing

Table 3.5 Air Emission levels

Parameter	Unit	Guideline Value
Ammonia	mg/Nm <sup>3</sup>	50
Hydrogen Chloride	mg/Nm <sup>3</sup>	10
Nitrogen oxide	mg/Nm <sup>3</sup>	350
Particulate matter PM <sub>10</sub> <sup>b</sup> (metal surface treatments)	mg/Nm <sup>3</sup>	5
Particulate matter PM <sub>10</sub> (plastic processing)	mg/Nm <sup>3</sup>	3
Total organic carbon (rubber vulcanization)	mg/Nm <sup>3</sup>	80
Volatile halogenated hydrocarbons (metal surface treatments)	mg/Nm <sup>3</sup>	20
Volatile organic compounds (metal and plastic coating)	mg/Nm <sup>3</sup>	100 (up to 15 tons/year solvent consumption)
		75 (more than 15 tons/year solvent consumption)
		50 (drying process)
Volatile organic compounds (rubber conversion)	mg/Nm <sup>3</sup>	20 <sup>c</sup>
Volatile organic compounds (surface cleaning)	mg/Nm <sup>3</sup>	20-75 <sup>d</sup>

<sup>a</sup> Milligrams per normal cubic meter at specified temperature and pressure

<sup>b</sup> Particulate matter 10 micrometers or less in diameter

<sup>c</sup> Facilities with solvent consumption greater than 15 tons/year

<sup>d</sup> 20 mg/Nm<sup>3</sup> for waste gases from surface cleaning using volatile organic compounds classified as carcinogenic, mutagenic or toxic to reproduction; 75 mg/Nm<sup>3</sup> for waste gases from other surface cleaning

*Note: mg/Nm<sup>3</sup> = mg/m<sup>3</sup> because temperature is same.*



## CHAPTER (4): MEASUREMENT RESULTS

### 4.1 Workplace Air Quality Measurement Results

The following table summarizes the workplace air quality measurement results and noise measurement done on June 23<sup>th</sup> 2020. at inside of the CPL building.

Table 4.1 Workplace Air Quality Measurement Results Inside CPL Building

Parameter	Unit	Durations	Outside of CPL coater prime room	Near the CPL finish coater area	Guideline Values	Guideline Name
PM 10	ug/m <sup>3</sup>	1 hr	28.7	13	50	NEQG
PM 2.5	ug/m <sup>3</sup>	1 hr	19.7	6.5	25	NEQG
VOC	mg/m <sup>3</sup>	1 hr	1	0.3	<ul style="list-style-type: none"> <li>• &lt; 0.3 mg/m<sup>3</sup> (low)</li> <li>• 0.3 to 0.5 mg/m<sup>3</sup> (Acceptable)</li> <li>• 0.5 to 1 mg/m<sup>3</sup> (Marginal)</li> <li>• 1 to 3 mg/m<sup>3</sup> (High)</li> </ul>	Acceptable VOC Levels in the Air for Human Health
CO	ppm	1 hr	0	0	5000	ACGIH
CO <sub>2</sub>	%	1 hr	O <sub>2</sub> > 20 %	O <sub>2</sub> > 20 %	-	NG
SO <sub>2</sub>	ppm	1 hr	0	0	2	ACGIH
NO <sub>2</sub>	ppm	1 hr	0.53	0	0.2	ACGIH
O <sub>2</sub>	%	1 hr	20.9	20.8	-	NG



Outside of CPL Coater Prime Room



Near the CPL finish coater area

Figure 4.1 Workplace Air Quality and Noise Measurement Record Photo

**Workplace Air Quality and Noise Levels Monitoring Report**

**Prepared for: JFE MERANTI MYANMAR CO., LTD**

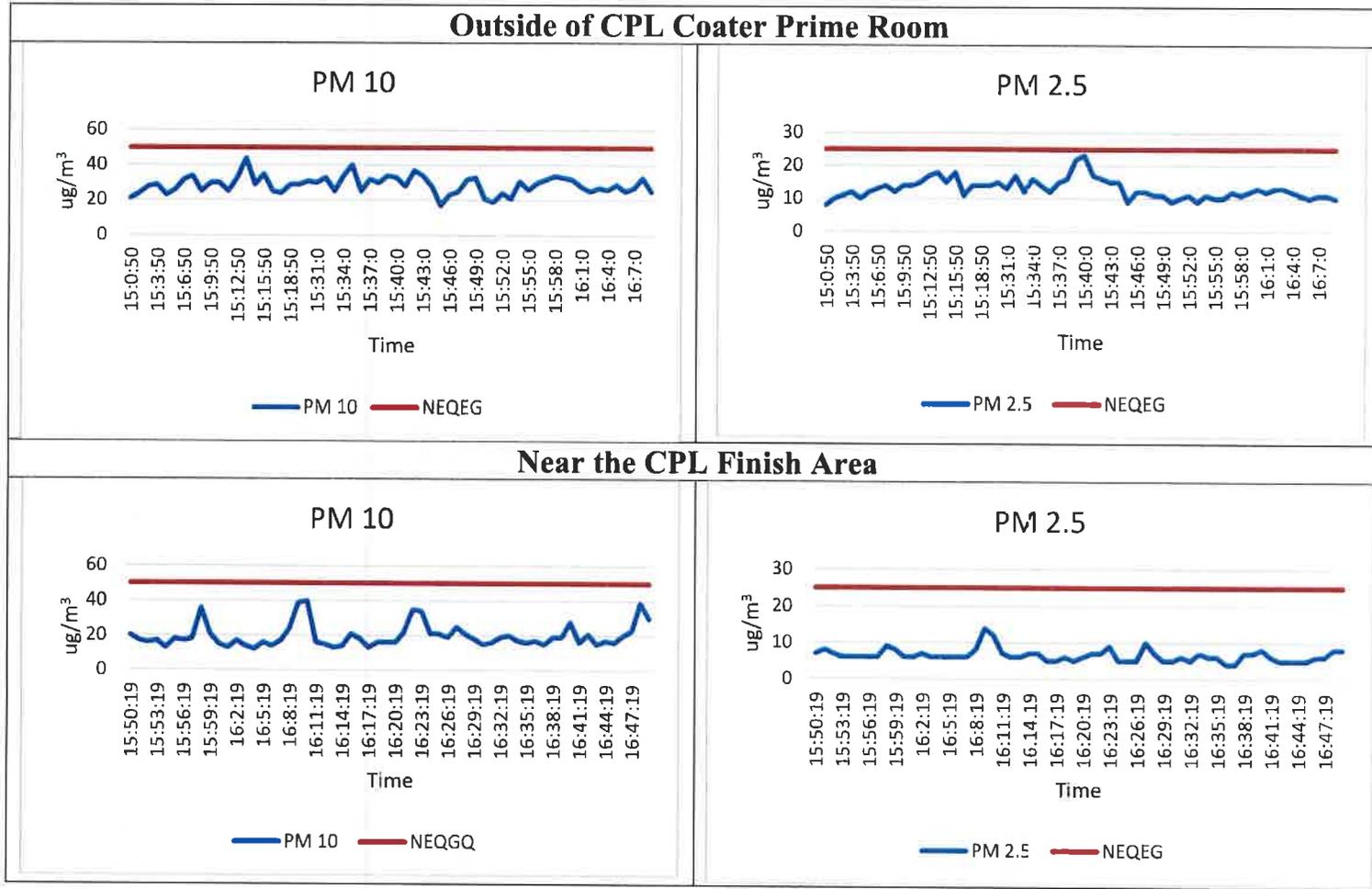


Figure 4.2 Comparison of Workplace Air Quality Measurement Results (1 hour) with National Environmental Quality (Emission) Guideline Value



## 4.2 Workplace Noise Levels Measurement Results

The noise levels were measured 1 hours and 8 hours for occupational health and safety assessment on workplace area. The Occupational Health and Safety Regulations 2017 (OHS Regulations) set a noise exposure standard for workplaces. (see table 3.4). If employees are exposed to noise that is above this standard, the workplace is too noisy. According to the result value, the level of noise at following described areas are within the acceptable limits.

The following table summarizes the noise measurement done on June 23<sup>th</sup> & August 18<sup>th</sup>, 2020 at inside of the buildings.

Table 4.2 Workplace Sound Level Measurement Results inside CPL (8 hour)

Measurement Point	Description of Location	Unit	Noise Level (L <sub>eq</sub> )			OHS Guideline (8 hr.)
			Avg	Max	Min	
CPL Building (NMP-1)	Inside CPL Building	dBA	85.39	89.00	70.70	90 dBA
CPL Building (NMP- 2)		dBA	78.67	90.70	63.70	90 dBA
CPL Building (Point 3)		dBA	64.90	90.50	49.50	90 dBA
CPL Building (NMP-4)		dBA	66.77	87.50	47.60	90 dBA

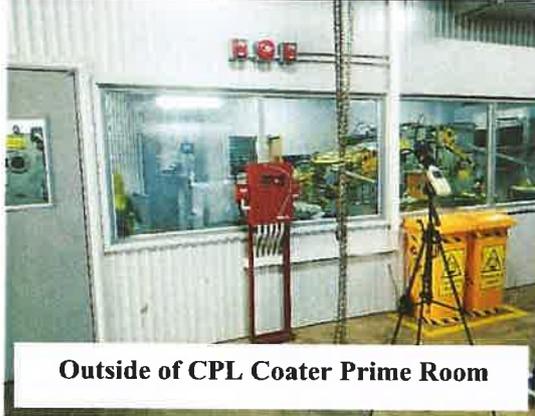
*Note: According to above Table 4.3 results, minimum values of the point (3) and (4) were lower than the point (1) and (2) because the line was stopped due to the Belt Wrapper Tension problem. JMM closed the burners also. However, the production condition of this area is almost same and there is no condition which can increase the noise level. Therefore, it can be concluded that there will be no significant different between the average noise level monitoring results of 1 hour and 8 hours.*

Table 4.3 Workplace Sound Level Measurement Results inside Factory Compound (1 hour)

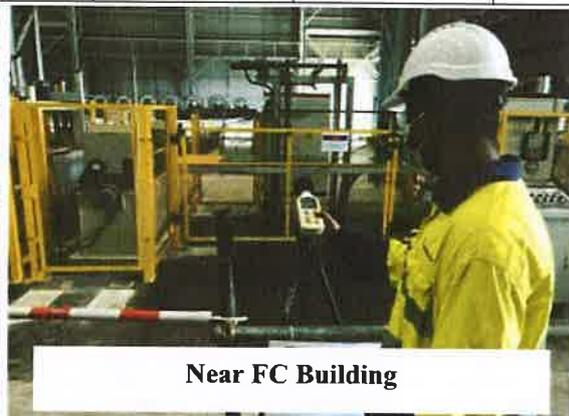
Measurement Point	Description of Location	Unit	Noise Level (L <sub>eq</sub> )			OHS Guideline (1 hr.)
			Avg	Max	Min	
NMP - 5	CPL Building Entry	dBA	77.10	89.60	72.10	105 dBA
NMP - 6	CPL Building Exist	dBA	76.29	88.70	67.30	105 dBA
NMP - 7	Workshop	dBA	65.77	81.50	56.10	105 dBA
NMP - 8	MCL Entry	dBA	62.10	80.70	51.00	105 dBA
NMP - 9	MCL Exit	dBA	55.41	66.00	49.70	105 dBA
NMP - 10	Near FCPT Building	dBA	63.78	76.80	51.60	105 dBA
NMP - 11	Near FC Building	dBA	55.13	75.90	40.30	105 dBA
NMP - 12	ROLL Shop	dBA	65.29	83.90	54.70	105 dBA
NMP - 13	CRC	dBA	60.17	71.50	53.70	105 dBA

**Workplace Air Quality and Noise Levels Monitoring Report**  
**Prepared for: JFE MERANTI MYANMAR CO., LTD**

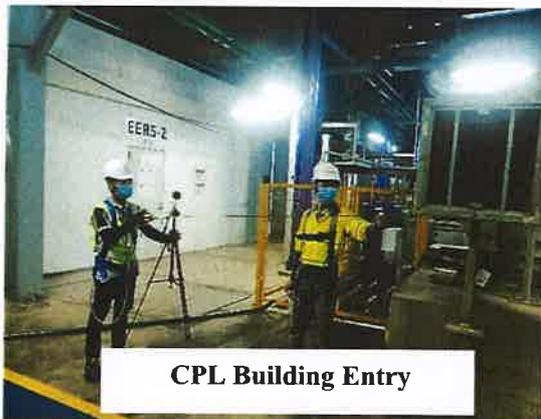
	Building Exist					
NMP - 14	CRC Building near the entry gate	dBA	61.26	76.20	56.40	105 dBA
NMP - 15	WWTP & DWP	dBA	62.45	74.9	53.4	105 dBA



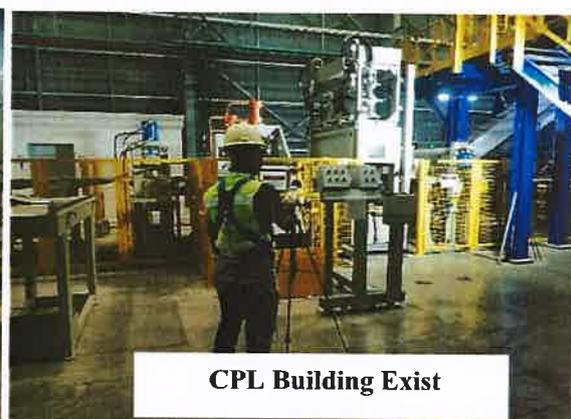
**Outside of CPL Coater Prime Room**



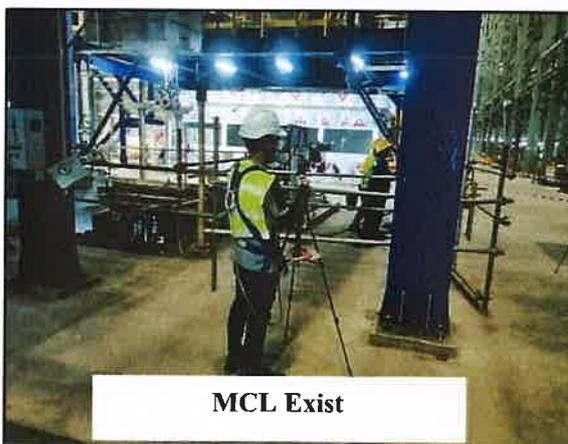
**Near FC Building**



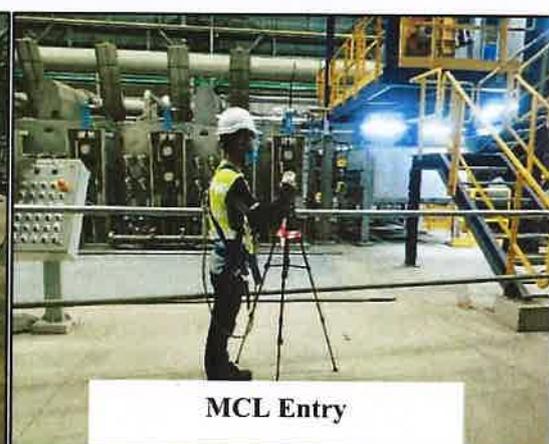
**CPL Building Entry**



**CPL Building Exist**



**MCL Exist**



**MCL Entry**

*Workplace Air Quality and Noise Levels Monitoring Report*  
*Prepared for: JFE MERANTI MYANMAR CO., LTD*

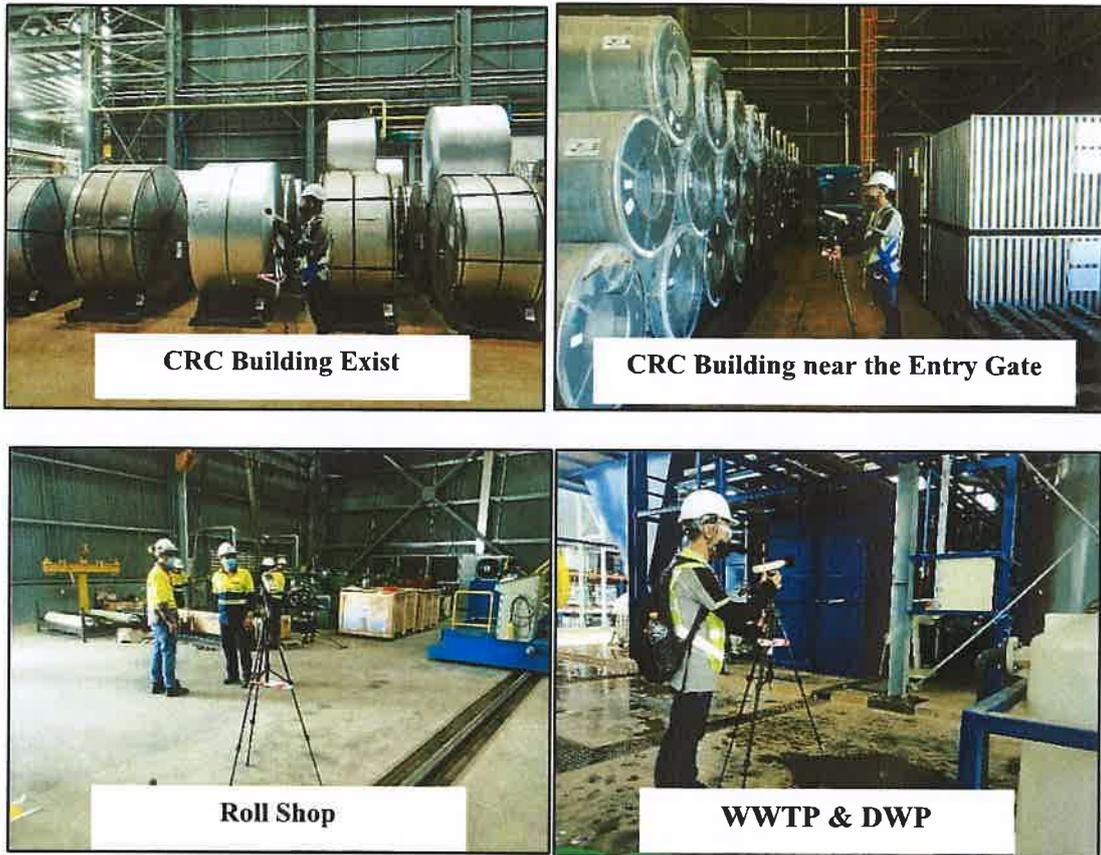


Figure 4.3 Workplace Air Quality and Noise Measurement Record Photos

**Workplace Air Quality and Noise Levels Monitoring Report**

**Prepared for: JFE MERANTI MYANMAR CO., LTD**

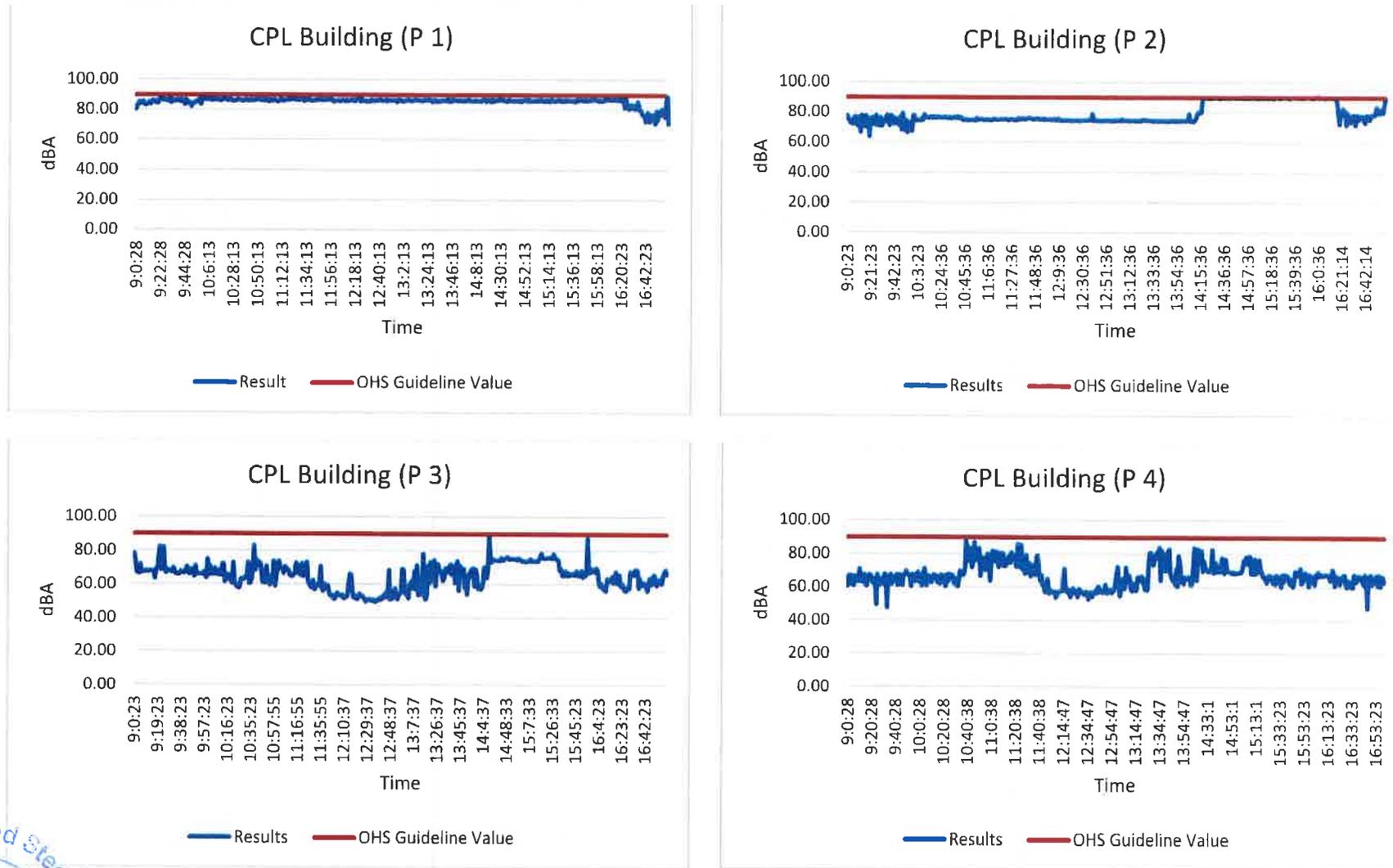
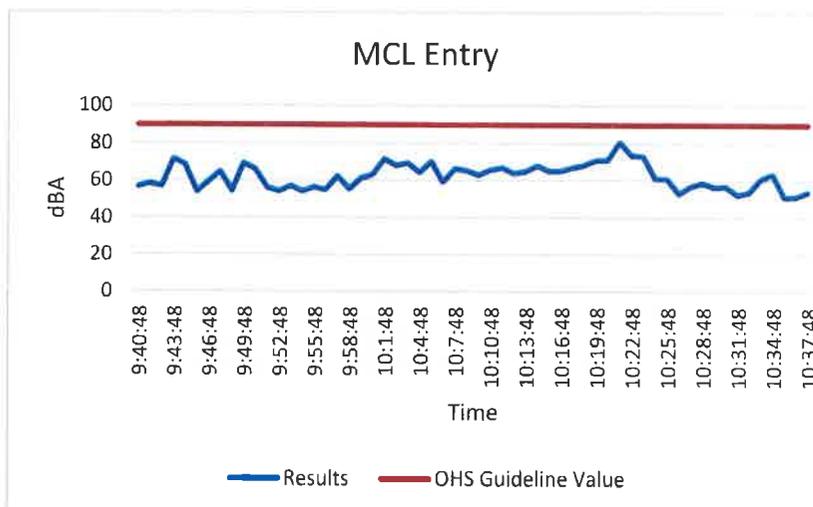
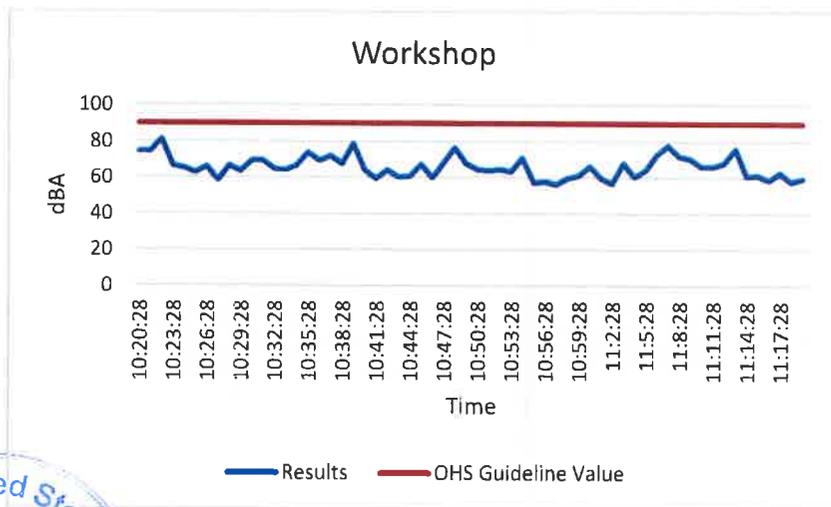
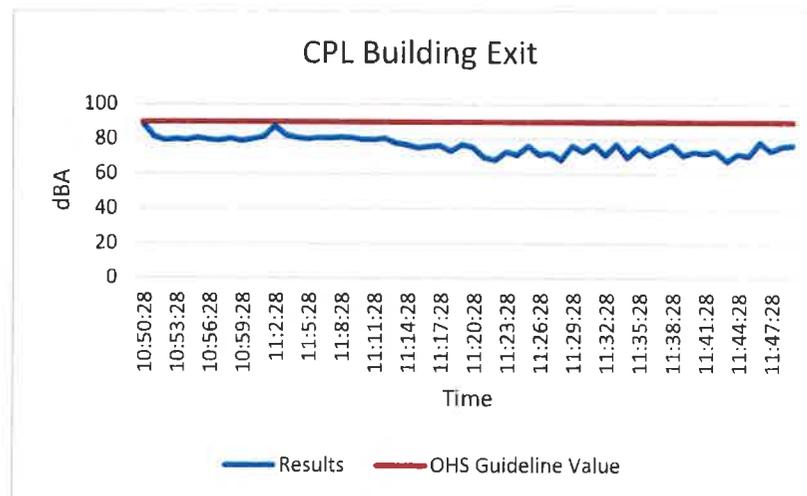
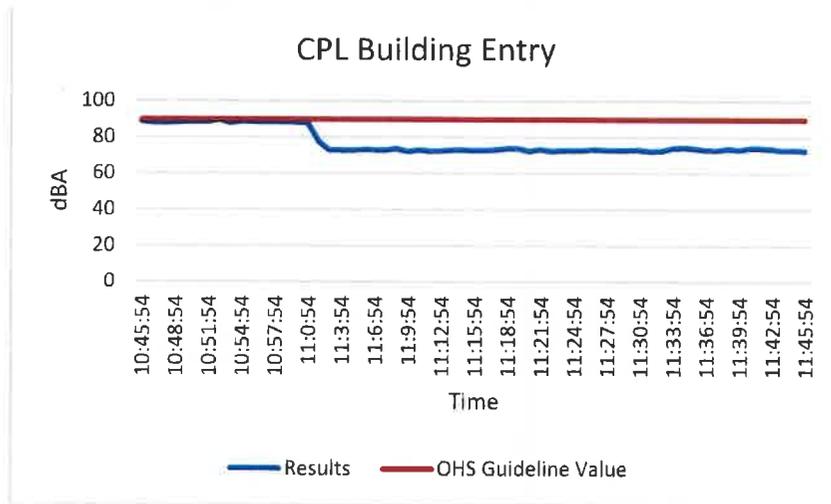


Figure 4.4 Comparison Graphs of Workplace Sound Level Measurement Results (8 hour) with OHS Guideline Value



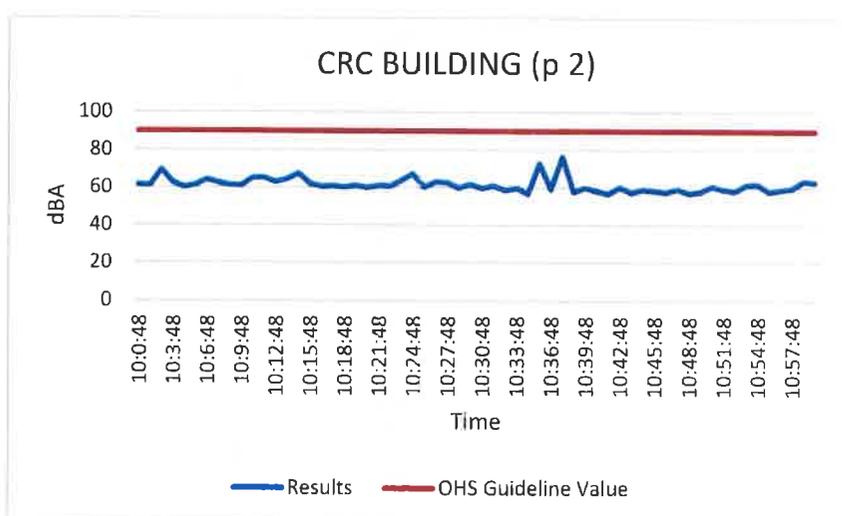
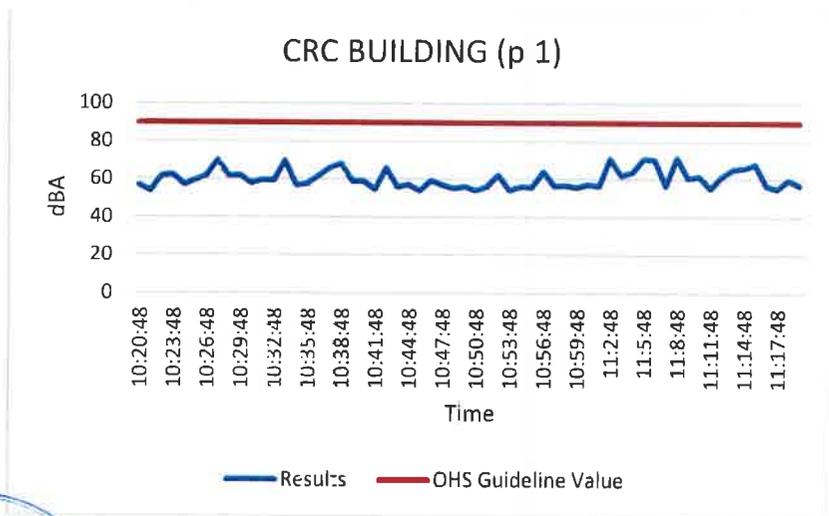
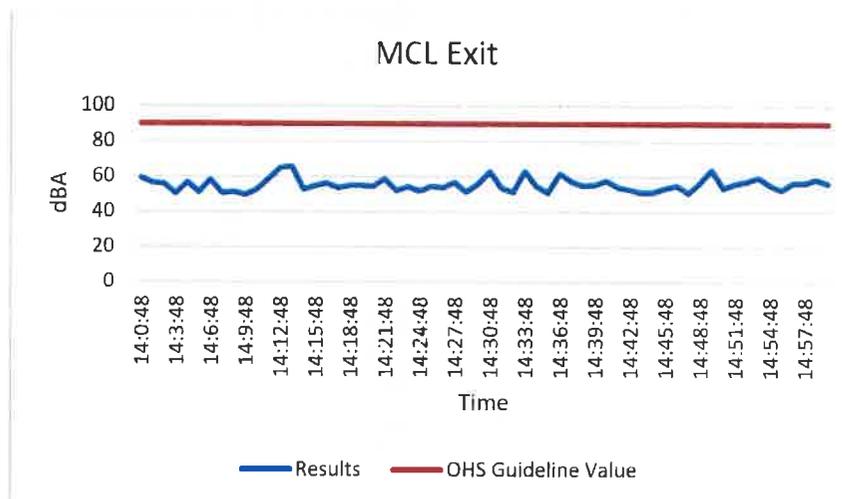
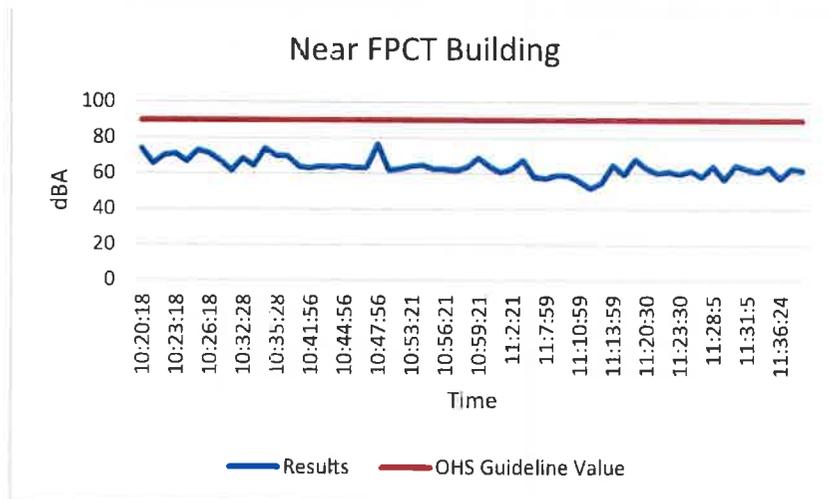
**Workplace Air Quality and Noise Levels Monitoring Report**

**Prepared for: JFE MERANTI MYANMAR CO., LTD**



**Workplace Air Quality and Noise Levels Monitoring Report**

**Prepared for: JFE MERANTI MYANMAR CO., LTD**



**Workplace Air Quality and Noise Levels Monitoring Report**

**Prepared for: JFE MERANTI MYANMAR CO., LTD**

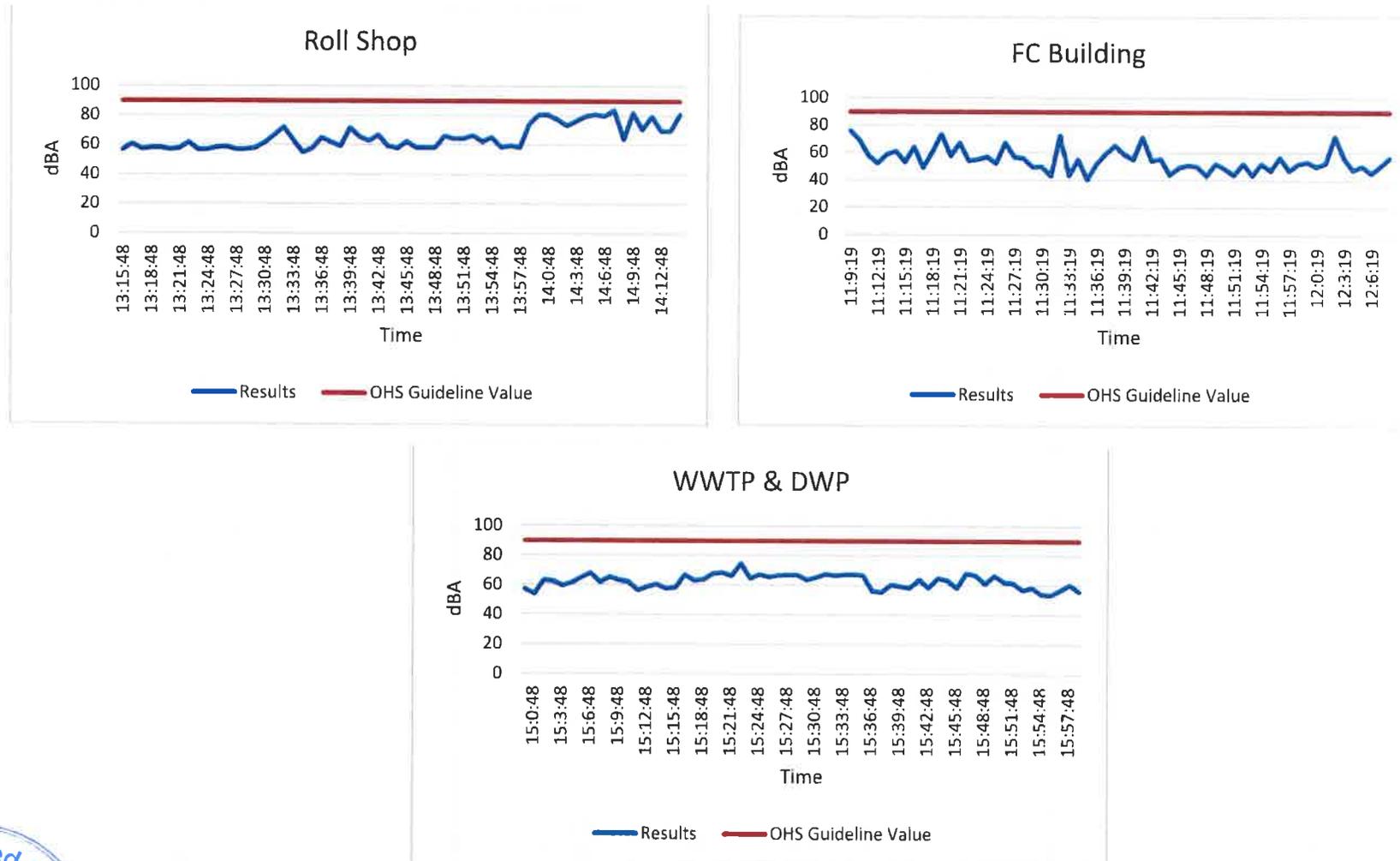


Figure 4.4 Comparison Graphs of Workplace Sound Level Measurement Results (1 hour) with OHS Guideline Value



### 4.3 Stack Emission Measurement

The results of stack emission measurement were compared to National Quality, article 2.3.7.4 Metal, Plastic and Rubber Products Manufacturing. This guideline applies to material processing operations common to industries engaged in the manufacture of metal, plastic, and rubber products.

#### **Air Emission Levels**

Parameter	Unit	Guideline Value
Ammonia	mg/Nm <sup>3a</sup>	50
Hydrogen chloride	mg/Nm <sup>3</sup>	10
Nitrogen oxides	mg/Nm <sup>3</sup>	350
Particulate matter PM <sub>10</sub> <sup>b</sup> (metal surface treatments)	mg/Nm <sup>3</sup>	5
Particulate matter PM <sub>10</sub> (plastic processing)	mg/Nm <sup>3</sup>	3
Total organic carbon (rubber vulcanization)	mg/Nm <sup>3</sup>	80
Volatilized halogenated hydrocarbons (metal surface treatments)	mg/Nm <sup>3</sup>	20
		100 (up to 15 tons/year solvent consumption)
Volatile organic compounds (metal and plastic coating)	mg/Nm <sup>3</sup>	75 (more than 15 tons/year solvent consumption)
		50 (drying processes)
Volatile organic compounds (rubber conversion)	mg/Nm <sup>3</sup>	20 <sup>c</sup>
Volatile organic compounds (surface cleaning)	mg/Nm <sup>3</sup>	20-75 <sup>d</sup>

<sup>a</sup> Milligrams per normal cubic meter at specified temperature and pressure

<sup>b</sup> Particulate matter 10 micrometers or less in diameter

<sup>c</sup> Facilities with solvent consumption greater than 15 tons/year

<sup>d</sup> 20 mg/Nm<sup>3</sup> for waste gases from surface cleaning using volatile organic compounds classified as carcinogenic, mutagenic or toxic to reproduction; 75 mg/Nm<sup>3</sup> for waste gases from other surface cleaning

**4.3.1 Stack Fule Gaes Emission Measurement Results**

**(1) RTO Stack Measurement Results**

**Type: RTO Stack**

Parameter	Unit	Results		NEQ(E)G Metal, Plastic and Rubber Products Manufacturing
		After 30 min	After 1 hour	
O <sub>2</sub>	mol%	20.2	20.34	-
CO	mg/m <sup>3</sup>	33	36	-
CO <sub>2</sub>	mol%	O <sub>2</sub> > 20	O <sub>2</sub> > 20	-
NO <sub>2</sub>	mg/m <sup>3</sup>	8	6	350
SO <sub>2</sub>	mg/m <sup>3</sup>	3	4	-

**(2) Chemical Stack Measurement Results**

**Type: Chemical Stack**

Parameter	Unit	Results		NEQ(E)G Metal, Plastic and Rubber Products Manufacturing
		After 30 min	After 1 hour	
O <sub>2</sub>	mol%	20.3	20.1	-
CO	mg/m <sup>3</sup>	9	7	-
CO <sub>2</sub>	mol%	O <sub>2</sub> > 20	O <sub>2</sub> > 20	-
NO <sub>2</sub>	mg/m <sup>3</sup>	5	3	350
SO <sub>2</sub>	mg/m <sup>3</sup>	0	0	-

**4.3.2 Stack Volatile Organic Compound (VOC) Emission Monitoring Results**

**(1) RTO Stack Measurement Results**

**Type: RTO Stack**

Parameter	Unit	Results		NEQ(E)G Metal, Plastic and Rubber Products Manufacturing
		After 30 min	After 1 hour	
Volatile Organic Compound (VOC)	mg/m <sup>3</sup>	46.2	48.2	75



Figure 4.5 Photo of RTO Stack Fule Gases and VOC Emission Measurement



Figure 4.6 Photos of Chemical Stack Fule Gases Emission Measurement

## **CHAPTER (5): FINDINGS AND DISCUSSIONS**

The findings of particle matter at both places (outside the CPL coater prime room and near the CPL finish coater area) are within the guideline value, according to the above mentioned data. Carbon Monoxide and Sulphur Dioxide have no detection value. The sensor can detect CO concentrations ranging from 0- 4000 parts per million (ppm) and SO<sub>2</sub> concentrations ranging from 0-150 parts per million (ppm).

The results show that O<sub>2</sub> levels are higher than 20%. It indicates that the CO<sub>2</sub> measurement apparatus begins to detect CO<sub>2</sub> when the oxygen level falls below 20% of the volume. This isn't to say that there isn't any CO<sub>2</sub> in this location.

According to ACGIH-2005 guidelines, the time-weighted threshold limit value for nitrogen dioxide is 3 ppm, whereas the result value outside of the CPL coater prime chamber is 0.53 ppm and near the CPL finish coater area is 0 ppm. (Non Detected)

When the noise measurement findings were compared to the 1 hour and 8 hour OSH standards, the results were within the permissible range. The Occupational Health and Safety Regulations 2017 (OHS Regulations) set a noise exposure standard of 90 decibels for an 8-hour shift and 105 decibels for a one-hour shift.

The VOC from stack emissions measurement result is also within the allowed range.

## **CHAPTER (6): CONCLUSION AND RECOMMENDATION**

The findings given in this study will aid the project's proponent and workers in avoiding or minimizing environmental problems. Despite the fact that the measurement's results were within permitted limits, constant monitoring is a crucial part of establishing an efficient environmental management plan.



Appendix (1): Instruments Calibration Certificate

Aeroqual Series 500

  
Aeroqual Limited  
460 Rosebank Road, Auckland 1026, New Zealand  
Phone: +649-623 3013 Fax: +64-9-623 3012  
www.aeroqual.com

**Calibration Certificate**

**Calibration Date:** 3 July 2020

**Model:** PM2.5 PM10 0-1.000 mg/m3

**Serial No:** 5003-5E5D-001

**Measurements**

	PM2.5 mg/m3	PM10 mg/m3
Reference Zero	0.000	0.000
AQL Sensor Zero	0.000	0.000
Reference Span	0.125	0.173
AQL Sensor Span	0.128	0.173

**Calibration Standard**

Standard	Manufacturer	Model	Serial number
Optical Particle Counter	Met One Instruments	9722-1	U11996
Test aerosol	ATI	0.54 µm latex microspheres	n/a

**QC Approval:** \_\_\_\_\_ **TY**

**Date:** \_\_\_\_\_ **3-Jul-20**



**Workplace Air Quality and Noise Levels Monitoring Report**  
**Prepared for: JFE MERANTI MYANMAR CO., LTD**

**MX-6**

## Calibration Certificate



Instrument SN: 1807109-001  
Calibration Date: 3/4/2020  
Part Number: MX6-0000R211  
Job Number: 180710  
Setup Date: 7/12/2018  
Setup Technician: TW  
Created By: iNet  
Battery: 3-cell Lithium Battery Pack

Sensor SN	Sensor Type	Gas Type	Span Gas	Span Reserve	Passed/Failed	Gas Alert	Alarm Low	Alarm High	Alarm ThA	Alarm STEL
1806060033	PID Sensor	Isobutylene	100.00	274.00%	Passed	0.00	100.00	200.00	100.00	200.00

Sensor SN	Sensor Type	Cal Date/Time	Cylinder ID	Cylinder Exp	Zero Cylinder Id	Zero Cylinder Exp
1806060033	PID Sensor	3/4/2020 12:56:48 PM (GMT+06:30)	1114354-105	4/29/2024	Fresh Air	N/A

Notes: Green Myanmar Environmental Services Co., Ltd. Next Calibration due date is September 2020. Contact number: 09- 401624520, 01-667159. Email: saikhinmyunt@pangolin.com.mm



**Sound Level Meter**



Head Office - SH- 85(4), Malika Housing, Yadarar Road, 14/ Bawamyint Quarter, Shingangyun Township, Yangon, Myanmar.  
Ph : 01-856 6717, 856 0135, 856 8732, 09 - 902 9872, Hot Line : 09 - 730 87709, 09 - 492 23964, 09-281 98607, 09 - 252 43734, 09 - 902 8735, Fax : 01 - 856 8717  
Branch Office - No.(13/7), Mya Sandar Road, Between 26 x 27 & 62 x 63 Street, Mandalay. Ph: 01-991 99009, 78 290 678 905

To

Green Myanmar Environmental Service

Calibration Date : 18/2/2019

**Service Certificate**

We here by certified that Sound Level Meter, GM 1356, S/N- CX : 1294184 is servicing  
by Amigos Service and Technical Support Department( Amigos International Co.,Ltd ).

**Ywet Nu Nge**  
**Senior Engineer(Incharge)**  
**Amigos International Co., Ltd**



**KANE 945 Plus**



www.kane.co.uk

Kane International Ltd  
Kane House, 11 Bessemer Road,  
Welwyn Garden City, Hertfordshire, AL7 1GF, UK  
UK: 0800 058 0800 Int: +44 (0) 1707 375650  
Fax: +44 (0) 1707 383277 Email: sales@kane.co.uk

## Certificate of Calibration

Issued by: Kane International Limited

Date of Issue: 18/11/2019

Certificate No: **T1233A**

**Ambient Conditions:**

Temperature: **21.9 °C**

Humidity: **46.0%R.H.**

Barometric Pressure: **1014.1 mbar**

**Customer:** Lee Hung Scientific Pte Ltd

**Description:** Kane945

**Serial No/Ident:** 094619400

**Our ref:** 332391-1-1

Equipment Traceability	Certificate No	Dated
CO Gas 980 ppm	1434855G	25/01/19
O <sub>2</sub> Gas 0.0%	1196099	24/07/18
O <sub>2</sub> Gas 10.04%	145377	05/01/18
NO Gas 977 ppm	19/032354	17/10/19
SO <sub>2</sub> Gas 1504 ppm	256006	15/01/18
Pressure DWT 15-1000 mbar	K16314	26/03/19
Thermocouple Simulator TS2	T1022A	14/06/19

**TEST METHOD**

**Gas:** The test gas from a certified cylinder is delivered via a nominal 5mbar regulator to the analyser with the analyser pump on.

**Pressure:** The applied pressure signal is generated by a dead-weight tester with measurements taken at increasing pressure.

**Temperature:** The test signal is a voltage generated from a thermocouple simulator with values taken from the International Thermocouple Reference Tables, BS EN 60584-1:1996.





www.kane.co.uk

Kane International Ltd  
Kane House, 11 Bossumer Road,  
Welwyn Garden City, Hertfordshire, AL7 1GF, UK  
UK: 0800 069 0800 Int: +44 (0) 1707 375550  
Fax: +44 (0) 1707 393277 Email: sales@kane.co.uk

## Certificate of Calibration

Issued by: Kane International Limited

Certificate No: T1233A

Applied Gas Value		Instrument Reading
CO	0 ppm	0 ppm
	980 ppm	981 ppm
O <sub>2</sub>	0 %	0.0 %
	10.0 %	10.0 %
NO	0 ppm	0 ppm
	977 ppm	976 ppm
SO <sub>2</sub>	0 ppm	0 ppm
	1504 ppm	1501 ppm
Applied Pressure Value		Instrument Reading
P1	0 mbar	0.00 mbar
	100 mbar	100.0 mbar
Applied Temperature Value		Instrument Reading
Flue (T1)	0 °C	0.2 °C
	100 °C	100.3 °C
	500 °C	500.3 °C

Uncertainties assigned to the above measurements are:

Gas:  $\pm 2\%$  of reading +2 LSD. Pressure:  $\pm 0.05\%$  of reading +1 LSD. Temperature:  $\pm 1^\circ\text{C}$ .

Signature: \_\_\_\_\_

Date: 19/11/2019



Appendix (2): Company Registration



ကုမ္ပဏီမှတ်ပုံတင်လက်မှတ်  
Certificate of Incorporation

စိမ်းလန်းမြန်မာ ပတ်ဝန်းကျင်ဆိုင်ရာ ဝန်ဆောင်မှု ကုမ္ပဏီလီမိတက်  
GREEN MYANMAR ENVIRONMENTAL SERVICES COMPANY LIMITED  
Company Registration No. 110299931

မြန်မာနိုင်ငံကုမ္ပဏီများအက်ဥပဒေ ၁၉၁၄ ခုနှစ် အရ  
စိမ်းလန်းမြန်မာ ပတ်ဝန်းကျင်ဆိုင်ရာ ဝန်ဆောင်မှု ကုမ္ပဏီလီမိတက်  
အား ၂၀၁၂ ခုနှစ် အောက်တိုဘာလ ၃ ရက်နေ့တွင်  
အစုရှယ်ယာအားဖြင့် တာဝန်ကန့်သတ်ထား သည့် အများနှင့်မသက်ဆိုင်သောကုမ္ပဏီ  
အဖြစ် ဖွဲ့စည်းမှတ်ပုံတင်ခွင့် ပြုလိုက်သည်။

This is to certify that  
GREEN MYANMAR ENVIRONMENTAL SERVICES COMPANY LIMITED  
was incorporated under the Myanmar Companies Act 1914 on 3 October  
2012 as a Private Company Limited by Shares.

ကုမ္ပဏီမှတ်ပုံတင်အရာရှိ  
Registrar of Companies

ရင်းနှီးမြုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန  
Directorate of Investment and Company Administration



Former Registration No. 2744/2012-2013



### Appendix (3): Transitional Consultant Residtration of Organization



**REPUBLIC OF THE UNION OF MYANMAR**  
**Ministry of Natural Resources and Environmental Conservation**  
 CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION  
 (ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)



No.           0006           Date           11.3.2018

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the organization under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အပိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယ်စာတစ်ခုနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို အဖွဲ့အစည်းအား ထုတ်ပေးလိုက်သည်။)

(a) Name of Organization (အဖွဲ့အစည်းအမည်)	Green Myanmar Environmental Services Co., Ltd.
(b) Name of the representative in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏ အမည်)	Engr. U Sein Thaug Oo
(c) Citizenship of the representative in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏ နိုင်ငံသား)	Myanmar
(d) Identity Card /Passport Number of the representative person in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏ မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်)	12/ Ma Ya Ka (N) 082871
(e) Address of organization (ဆက်သွယ်ရန်လိပ်စာ)	115, Kanaung Min Thargyi Road, Hlaing Thar Yar Industrial City, Zone (1), Hlaing Thar Yar Township, Yangon. <a href="mailto:gmescompany@gmail.com">gmescompany@gmail.com</a> . 09 5122448
(f) Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Organization
(g) Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018

**EXTENSION**  
 သက်တမ်းတိုးပွင့်ခြင်း

The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019)  
 ဤလက်မှတ်အား (၁-၄-၂၀၁၈) မှစ၍ (၃၁.၃.၂၀၁၉) မှတ်ပုံတင်ထိ တစ်နှစ်အထိ တိုးပွင့်သည်။

Soe Naing  
 14.3.2018  
 For Director General  
 (Soe Naing, Director)  
 Environmental Conservation Department



**Director General**  
 Environmental Conservation Department  
 Ministry of Natural Resources and Environmental Conservation



*Workplace Air Quality and Noise Levels Monitoring Report*  
*Prepared for: JFE MERANTI MYANMAR CO., LTD*

**Areas of Expertise Permitted**  
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Air Pollution Control
2. Facilitation of meeting
3. Meteorology, Modeling for Air Quality
4. Risk Assessment and Hazard Management
5. Socio-Economy
6. Water Pollution Control
7. Waste Management
8. Chemical Engineering Plant Design
9. Chemical Engineering Process Design
10. Chemical Engineering, Laboratory Analysis for water and waste water
11. Environmental Management
12. Industrial Management



**Appendix (4): Noise Measurement Continuous Data Sheets**



CPL Building (P 1)	
Time	Result
9:0:28	80.20
9:1:28	82.70
9:2:28	83.90
9:3:28	85.00
9:4:28	83.60
9:5:28	84.40
9:6:28	85.20
9:7:28	85.10
9:8:28	82.90
9:9:28	83.15
9:10:28	83.40
9:11:28	84.00
9:12:28	85.00
9:13:28	83.50
9:14:28	84.30
9:15:28	85.90
9:16:28	85.70
9:17:28	84.90
9:18:28	84.40
9:19:28	85.80
9:20:28	84.20
9:21:28	86.10
9:22:28	87.30
9:23:28	86.50
9:24:28	86.80
9:25:28	85.90
9:26:28	86.60
9:27:28	86.10
9:28:28	85.80
9:29:28	85.50
9:30:28	85.60
9:31:28	88.40
9:32:28	84.40
9:33:28	86.30
9:34:28	85.40
9:35:28	86.30
9:36:28	85.30
9:37:28	85.90
9:38:28	86.40
9:39:28	85.80
9:40:28	85.00
9:41:28	86.50

CPL Building (P 1)	
Time	Result
9:42:28	85.40
9:43:28	85.20
9:44:28	83.10
9:45:28	86.40
9:46:28	85.70
9:47:28	83.90
9:48:28	84.50
9:49:28	84.50
9:50:28	82.10
9:51:28	83.80
9:52:28	83.70
9:53:28	84.40
9:54:28	85.50
9:55:28	85.10
9:56:28	84.80
9:57:28	86.70
9:58:28	84.40
9:59:28	83.50
10:0:13	88.90
10:1:13	87.50
10:2:13	86.70
10:3:13	86.80
10:4:13	86.50
10:5:13	86.40
10:6:13	87.20
10:7:13	87.10
10:8:13	86.40
10:9:13	86.00
10:10:13	86.90
10:11:13	86.40
10:12:13	86.60
10:13:13	86.30
10:14:13	86.30
10:15:13	86.70
10:16:13	85.80
10:17:13	86.00
10:18:13	86.50
10:19:13	87.50
10:20:13	86.50
10:21:13	86.80
10:22:13	86.60
10:23:13	86.00

CPL Building (P 1)	
Time	Result
10:24:13	86.50
10:25:13	86.60
10:26:13	86.80
10:27:13	85.70
10:28:13	85.60
10:29:13	85.90
10:30:13	85.80
10:31:13	86.30
10:32:13	86.60
10:33:13	86.30
10:34:13	86.30
10:35:13	86.10
10:36:13	86.10
10:37:13	85.60
10:38:13	86.30
10:39:13	86.20
10:40:13	86.60
10:41:13	86.00
10:42:13	85.80
10:43:13	86.10
10:44:13	86.60
10:45:13	86.00
10:46:13	86.00
10:47:13	86.30
10:48:13	86.30
10:49:13	86.20
10:50:13	86.80
10:51:13	86.50
10:52:13	86.90
10:53:13	86.10
10:54:13	86.00
10:55:13	86.60
10:56:13	86.60
10:57:13	85.80
10:58:13	86.60
10:59:13	86.70
11:0:13	85.50
11:1:13	85.80
11:2:13	86.70
11:3:13	86.30
11:4:13	85.80
11:5:13	86.60



CPL Building (P 1)	
Time	Result
11:6:13	86.20
11:7:13	86.00
11:8:13	85.10
11:9:13	85.80
11:10:13	86.30
11:11:13	87.00
11:12:13	86.40
11:13:13	85.50
11:14:13	86.30
11:15:13	86.10
11:16:13	86.30
11:17:13	86.80
11:18:13	86.30
11:19:13	86.80
11:20:13	86.80
11:21:13	86.50
11:22:13	87.20
11:23:13	86.70
11:24:13	86.90
11:25:13	86.50
11:26:13	86.20
11:27:13	86.10
11:28:13	86.80
11:29:13	86.70
11:30:13	86.40
11:31:13	86.50
11:32:13	85.60
11:33:13	86.80
11:34:13	86.70
11:35:13	86.20
11:36:13	86.80
11:37:13	86.30
11:38:13	86.10
11:39:13	85.80
11:40:13	85.70
11:41:13	85.90
11:42:13	86.00
11:43:13	86.60
11:44:13	85.90
11:45:13	86.50
11:46:13	86.70
11:47:13	86.50

CPL Building (P 1)	
Time	Result
11:48:13	86.20
11:49:13	86.50
11:50:13	86.10
11:51:13	86.10
11:52:13	86.90
11:53:13	86.40
11:54:13	86.60
11:55:13	86.40
11:56:13	86.60
11:57:13	86.70
11:58:13	85.70
11:59:13	85.20
12:0:13	86.00
12:1:13	85.70
12:2:13	86.00
12:3:13	86.10
12:4:13	85.60
12:5:13	85.50
12:6:13	86.30
12:7:13	86.10
12:8:13	86.20
12:9:13	85.50
12:10:13	86.40
12:11:13	85.60
12:12:13	85.70
12:13:13	85.80
12:14:13	86.10
12:15:13	86.40
12:16:13	86.20
12:17:13	86.00
12:18:13	85.60
12:19:13	86.30
12:20:13	86.80
12:21:13	86.70
12:22:13	87.10
12:23:13	85.50
12:24:13	87.00
12:25:13	85.80
12:26:13	85.80
12:27:13	85.80
12:28:13	85.40
12:29:13	85.80

CPL Building (P 1)	
Time	Result
12:30:13	85.40
12:31:13	85.60
12:32:13	85.40
12:33:13	86.40
12:34:13	85.90
12:35:13	85.70
12:36:13	85.60
12:37:13	86.20
12:38:13	85.90
12:39:13	85.80
12:40:13	86.20
12:41:13	86.60
12:42:13	85.70
12:43:13	86.00
12:44:13	85.80
12:45:13	85.90
12:46:13	86.50
12:47:13	85.40
12:48:13	86.20
12:49:13	85.90
12:50:13	86.00
12:51:13	86.10
12:52:13	85.70
12:53:13	86.30
12:54:13	85.90
12:55:13	85.70
12:56:13	84.90
12:57:13	86.40
12:58:13	85.80
12:59:13	86.20
13:0:13	85.80
13:1:13	85.50
13:2:13	85.70
13:3:13	85.50
13:4:13	86.10
13:5:13	85.90
13:6:13	86.20
13:7:13	86.40
13:8:13	86.00
13:9:13	85.60
13:10:13	85.90
13:11:13	85.70



CPL Building (P 1)	
Time	Result
13:12:13	86.40
13:13:13	86.40
13:14:13	85.90
13:15:13	86.20
13:16:13	86.00
13:17:13	86.10
13:18:13	85.70
13:19:13	85.70
13:20:13	85.60
13:21:13	86.40
13:22:13	85.90
13:23:13	86.30
13:24:13	86.00
13:25:13	86.30
13:26:13	86.40
13:27:13	85.90
13:28:13	84.90
13:29:13	86.10
13:30:13	85.80
13:31:13	86.30
13:32:13	85.00
13:33:13	85.70
13:34:13	85.50
13:35:13	85.30
13:36:13	86.00
13:37:13	85.70
13:38:13	85.90
13:39:13	85.60
13:40:13	86.10
13:41:13	85.80
13:42:13	86.80
13:43:13	85.50
13:44:13	86.30
13:45:13	85.40
13:46:13	85.80
13:47:13	86.60
13:48:13	85.90
13:49:13	85.90
13:50:13	86.10
13:51:13	85.70
13:52:13	85.70
13:53:13	85.90

CPL Building (P 1)	
Time	Result
13:54:13	86.00
13:55:13	85.50
13:56:13	86.00
13:57:13	85.90
13:58:13	85.40
13:59:13	85.90
14:0:13	86.40
14:1:13	86.30
14:2:13	86.10
14:3:13	85.40
14:4:13	85.50
14:5:13	85.80
14:6:13	85.50
14:7:13	86.10
14:8:13	85.70
14:9:13	85.60
14:10:13	85.90
14:11:13	85.50
14:12:13	85.40
14:13:13	85.70
14:14:13	86.30
14:15:13	86.60
14:16:13	86.40
14:17:13	85.30
14:18:13	85.90
14:19:13	86.40
14:20:13	85.80
14:21:13	85.00
14:22:13	86.30
14:23:13	86.50
14:24:13	85.30
14:25:13	86.10
14:26:13	86.00
14:27:13	86.30
14:28:13	86.10
14:29:13	87.30
14:30:13	86.50
14:31:13	86.80
14:32:13	85.90
14:33:13	86.60
14:34:13	86.10
14:35:13	85.80

CPL Building (P 1)	
Time	Result
14:36:13	85.50
14:37:13	86.50
14:38:13	86.40
14:39:13	86.10
14:40:13	85.90
14:41:13	85.90
14:42:13	85.80
14:43:13	85.80
14:44:13	85.90
14:45:13	85.90
14:46:13	85.50
14:47:13	85.90
14:48:13	85.90
14:49:13	85.50
14:50:13	86.20
14:51:13	86.10
14:52:13	86.30
14:53:13	86.40
14:54:13	86.40
14:55:13	85.60
14:56:13	86.60
14:57:13	85.60
14:58:13	86.00
14:59:13	85.70
15:0:13	85.70
15:1:13	86.20
15:2:13	85.90
15:3:13	85.70
15:4:13	86.40
15:5:13	85.70
15:6:13	86.50
15:7:13	86.50
15:8:13	85.70
15:9:13	85.90
15:10:13	85.50
15:11:13	86.20
15:12:13	86.10
15:13:13	85.60
15:14:13	86.30
15:15:13	85.10
15:16:13	86.60
15:17:13	86.40



CPL Building (P 1)	
Time	Result
15:18:13	85.90
15:19:13	86.00
15:20:13	85.50
15:21:13	86.10
15:22:13	86.20
15:23:13	86.50
15:24:13	85.80
15:25:13	85.80
15:26:13	86.20
15:27:13	85.50
15:28:13	86.10
15:29:13	85.60
15:30:13	86.40
15:31:13	86.00
15:32:13	86.10
15:33:13	86.00
15:34:13	85.90
15:35:13	85.80
15:36:13	85.80
15:37:13	86.10
15:38:13	85.10
15:39:13	85.90
15:40:13	86.90
15:41:13	85.90
15:42:13	86.10
15:43:13	86.50
15:44:13	86.70
15:45:13	86.20
15:46:13	86.00
15:47:13	86.70
15:48:13	86.40
15:49:13	85.70
15:50:13	86.40
15:51:13	86.10
15:52:13	86.40

CPL Building (P 1)	
Time	Result
15:53:13	86.20
15:54:13	86.60
15:55:13	86.70
15:56:13	86.70
15:57:13	86.40
15:58:13	86.30
15:59:13	85.80
16:0:13	86.30
16:1:13	86.40
16:2:13	85.60
16:3:13	85.90
16:4:13	85.90
16:5:13	87.20
16:6:13	86.50
16:7:13	86.80
16:8:13	87.20
16:9:13	86.60
16:10:13	86.70
16:11:13	86.40
16:12:13	86.70
16:13:13	86.50
16:14:13	86.90
16:15:13	86.40
16:16:13	86.30
16:17:13	86.80
16:18:13	86.30
16:19:13	86.40
16:20:23	89.00
16:21:23	85.40
16:22:23	87.10
16:23:23	81.40
16:24:23	87.40
16:25:23	84.60
16:26:23	82.20
16:27:23	80.30

CPL Building (P 1)	
Time	Result
16:28:23	81.10
16:29:23	83.40
16:30:23	83.10
16:31:23	82.20
16:32:23	80.40
16:33:23	83.50
16:34:23	80.51
16:35:23	85.50
16:36:23	82.70
16:37:23	79.50
16:38:23	79.30
16:39:23	76.70
16:40:23	76.10
16:41:23	76.00
16:42:23	72.00
16:43:23	75.70
16:44:23	78.10
16:45:23	76.30
16:46:23	71.90
16:47:23	73.80
16:48:23	76.80
16:49:23	74.70
16:50:23	74.50
16:51:23	70.70
16:52:23	79.40
16:53:23	73.20
16:54:23	76.90
16:55:23	76.30
16:56:23	79.40
16:57:23	80.40
16:58:23	77.40
16:59:23	76.20
17:0:23	75.00



CPL Building (P 2)	
Time	Results
9:0:23	77.50
9:1:23	75.00
9:2:23	74.30
9:3:23	72.40
9:4:23	73.00
9:5:23	71.70
9:6:23	75.90
9:7:23	76.70
9:8:23	76.00
9:9:23	70.70
9:10:23	76.40
9:11:23	73.30
9:12:23	66.40
9:13:23	77.70
9:14:23	77.20
9:15:23	70.90
9:16:23	70.00
9:17:23	77.50
9:18:23	70.00
9:19:23	73.00
9:20:23	63.70
9:21:23	75.70
9:22:23	71.60
9:23:23	76.30
9:24:23	75.20
9:25:23	71.20
9:26:23	77.60
9:27:23	71.90
9:28:23	70.60
9:29:23	74.70
9:30:23	76.30
9:31:23	70.30
9:32:23	72.40
9:33:23	72.50
9:34:23	74.20
9:35:23	76.40
9:36:23	77.90
9:37:23	74.50
9:38:23	70.90
9:39:23	77.50
9:40:23	77.10
9:41:23	75.50

CPL Building (P 2)	
Time	Results
9:42:23	71.90
9:43:23	75.90
9:44:23	73.70
9:45:23	71.90
9:46:23	75.30
9:47:23	70.60
9:48:23	76.90
9:49:23	67.90
9:50:23	79.20
9:51:23	71.70
9:52:23	67.40
9:53:23	74.30
9:54:23	66.30
9:55:23	67.50
9:56:23	69.70
9:57:23	73.40
9:58:23	67.10
9:59:23	77.50
10:0:23	77.50
10:1:23	74.30
10:2:23	74.00
10:3:23	74.70
10:4:23	74.30
10:5:23	74.60
10:6:23	74.20
10:7:23	75.80
10:8:23	74.60
10:9:36	78.10
10:10:36	76.70
10:11:36	76.50
10:12:36	76.10
10:13:36	76.00
10:14:36	76.50
10:15:36	76.50
10:16:36	75.80
10:17:36	76.60
10:18:36	76.30
10:19:36	76.80
10:20:36	76.00
10:21:36	76.60
10:22:36	76.60
10:23:36	76.10

CPL Building (P 2)	
Time	Results
10:24:36	76.10
10:25:36	76.10
10:26:36	76.10
10:27:36	76.40
10:28:36	76.50
10:29:36	76.30
10:30:36	76.00
10:31:36	76.00
10:32:36	76.40
10:33:36	75.60
10:34:36	76.00
10:35:36	76.40
10:36:36	76.20
10:37:36	75.90
10:38:36	76.30
10:39:36	76.90
10:40:36	75.80
10:41:36	75.90
10:42:36	76.30
10:43:36	75.00
10:44:36	74.40
10:45:36	74.70
10:46:36	74.70
10:47:36	75.00
10:48:36	74.30
10:49:36	74.50
10:50:36	74.70
10:51:36	74.50
10:52:36	74.60
10:53:36	74.70
10:54:36	74.60
10:55:36	74.30
10:56:36	76.00
10:57:36	74.80
10:58:36	74.70
10:59:36	75.20
11:0:36	75.00
11:1:36	75.10
11:2:36	74.60
11:3:36	74.70
11:4:36	74.00
11:5:36	75.00



CPL Building (P 2)	
Time	Results
11:6:36	74.50
11:7:36	74.60
11:8:36	74.80
11:9:36	74.60
11:10:36	74.80
11:11:36	75.00
11:12:36	75.40
11:13:36	74.70
11:14:36	74.70
11:15:36	74.70
11:16:36	74.80
11:17:36	74.80
11:18:36	75.20
11:19:36	74.90
11:20:36	75.00
11:21:36	75.20
11:22:36	75.10
11:23:36	74.80
11:24:36	74.70
11:25:36	74.50
11:26:36	75.00
11:27:36	75.30
11:28:36	74.90
11:29:36	74.60
11:30:36	74.60
11:31:36	74.70
11:32:36	74.60
11:33:36	75.90
11:34:36	74.90
11:35:36	75.10
11:36:36	75.20
11:37:36	75.70
11:38:36	75.40
11:39:36	75.00
11:40:36	75.20
11:41:36	75.70
11:42:36	75.90
11:43:36	75.80
11:44:36	75.60
11:45:36	75.50
11:46:36	74.90
11:47:36	75.10

CPL Building (P 2)	
Time	Results
11:48:36	75.30
11:49:36	75.40
11:50:36	75.60
11:51:36	75.50
11:52:36	74.90
11:53:36	75.20
11:54:36	74.80
11:55:36	74.80
11:56:36	75.50
11:57:36	74.70
11:58:36	75.10
11:59:36	74.80
12:0:36	74.80
12:1:36	74.80
12:2:36	75.10
12:3:36	74.70
12:4:36	74.70
12:5:36	75.30
12:6:36	74.90
12:7:36	74.50
12:8:36	75.30
12:9:36	75.50
12:10:36	74.40
12:11:36	74.30
12:12:36	74.60
12:13:36	74.20
12:14:36	74.30
12:15:36	74.60
12:16:36	74.40
12:17:36	74.40
12:18:36	74.50
12:19:36	74.20
12:20:36	74.20
12:21:36	74.20
12:22:36	74.30
12:23:36	74.10
12:24:36	74.40
12:25:36	74.40
12:26:36	74.40
12:27:36	74.20
12:28:36	73.90
12:29:36	74.50

CPL Building (P 2)	
Time	Results
12:30:36	74.10
12:31:36	74.30
12:32:36	74.30
12:33:36	74.50
12:34:36	74.30
12:35:36	74.60
12:36:36	74.70
12:37:36	74.50
12:38:36	75.00
12:39:36	78.70
12:40:36	74.20
12:41:36	74.30
12:42:36	74.60
12:43:36	74.60
12:44:36	74.10
12:45:36	74.10
12:46:36	74.00
12:47:36	74.00
12:48:36	74.40
12:49:36	74.20
12:50:36	74.10
12:51:36	74.20
12:52:36	74.30
12:53:36	74.30
12:54:36	74.10
12:55:36	74.00
12:56:36	74.00
12:57:36	74.30
12:58:36	74.00
12:59:36	74.70
13:0:36	74.10
13:1:36	74.10
13:2:36	74.30
13:3:36	74.40
13:4:36	74.00
13:5:36	75.10
13:6:36	74.10
13:7:36	74.20
13:8:36	74.30
13:9:36	74.30
13:10:36	74.30
13:11:36	74.00



CPL Building (P 2)	
Time	Results
13:12:36	74.10
13:13:36	74.00
13:14:36	74.10
13:15:36	74.10
13:16:36	74.30
13:17:36	74.00
13:18:36	74.10
13:19:36	73.90
13:20:36	73.90
13:21:36	74.10
13:22:36	74.20
13:23:36	74.00
13:24:36	74.80
13:25:36	74.60
13:26:36	74.50
13:27:36	74.60
13:28:36	74.40
13:29:36	74.60
13:30:36	74.20
13:31:36	74.20
13:32:36	74.20
13:33:36	73.60
13:34:36	74.30
13:35:36	74.10
13:36:36	74.00
13:37:36	73.80
13:38:36	73.80
13:39:36	74.00
13:40:36	74.10
13:41:36	73.90
13:42:36	73.80
13:43:36	73.80
13:44:36	73.90
13:45:36	73.70
13:46:36	73.70
13:47:36	73.80
13:48:36	74.00
13:49:36	74.10
13:50:36	74.00
13:51:36	74.00
13:52:36	73.90
13:53:36	73.80

CPL Building (P 2)	
Time	Results
13:54:36	74.30
13:55:36	73.60
13:56:36	73.90
13:57:36	73.80
13:58:36	74.50
13:59:36	74.00
14:0:36	74.10
14:1:36	74.00
14:2:36	73.80
14:3:36	74.00
14:4:36	73.90
14:5:36	78.50
14:6:36	73.80
14:7:36	73.80
14:8:36	74.10
14:9:36	73.60
14:10:36	74.20
14:11:36	75.20
14:12:36	77.50
14:13:36	79.70
14:14:36	79.70
14:15:36	79.40
14:16:36	79.80
14:17:36	89.40
14:18:36	89.60
14:19:36	89.60
14:20:36	89.70
14:21:36	89.20
14:22:36	89.80
14:23:36	89.50
14:24:36	89.20
14:25:36	89.50
14:26:36	89.40
14:27:36	89.60
14:28:36	89.40
14:29:36	89.80
14:30:36	89.60
14:31:36	89.70
14:32:36	89.00
14:33:36	89.50
14:34:36	89.60
14:35:36	89.60

CPL Building (P 2)	
Time	Results
14:36:36	89.50
14:37:36	89.80
14:38:36	89.30
14:39:36	89.40
14:40:36	89.20
14:41:36	89.50
14:42:36	89.50
14:43:36	89.60
14:44:36	90.10
14:45:36	89.80
14:46:36	89.80
14:47:36	89.50
14:48:36	89.40
14:49:36	89.50
14:50:36	89.30
14:51:36	89.60
14:52:36	89.30
14:53:36	89.80
14:54:36	89.30
14:55:36	89.40
14:56:36	89.70
14:57:36	89.50
14:58:36	89.30
14:59:36	89.40
15:0:36	89.50
15:1:36	89.60
15:2:36	89.30
15:3:36	89.60
15:4:36	89.30
15:5:36	89.40
15:6:36	89.30
15:7:36	89.20
15:8:36	90.00
15:9:36	89.50
15:10:36	89.40
15:11:36	89.50
15:12:36	89.80
15:13:36	89.30
15:14:36	89.80
15:15:36	89.30
15:16:36	89.50
15:17:36	89.70



CPL Building (P 2)	
Time	Results
15:18:36	89.40
15:19:36	89.80
15:20:36	89.00
15:21:36	89.60
15:22:36	89.70
15:23:36	89.90
15:24:36	90.10
15:25:36	89.20
15:26:36	89.40
15:27:36	89.80
15:28:36	89.80
15:29:36	90.00
15:30:36	89.80
15:31:36	89.90
15:32:36	89.90
15:33:36	89.50
15:34:36	89.20
15:35:36	89.30
15:36:36	89.60
15:37:36	89.80
15:38:36	89.80
15:39:36	89.90
15:40:36	89.80
15:41:36	89.80
15:42:36	89.60
15:43:36	90.00
15:44:36	89.80
15:45:36	90.00
15:46:36	89.50
15:47:36	90.10
15:48:36	89.90
15:49:36	89.80
15:50:36	90.00
15:51:36	90.10
15:52:36	90.40

CPL Building (P 2)	
Time	Results
15:53:36	89.80
15:54:36	89.60
15:55:36	89.70
15:56:36	89.50
15:57:36	90.30
15:58:36	89.90
15:59:36	90.10
16:0:36	90.70
16:1:36	89.70
16:2:36	89.90
16:3:36	90.00
16:4:36	89.90
16:5:36	89.70
16:6:36	89.40
16:7:36	89.60
16:8:36	89.90
16:9:36	90.00
16:10:36	89.80
16:11:36	89.90
16:12:36	89.50
16:13:36	90.10
16:14:36	89.70
16:15:36	90.10
16:16:36	90.00
16:17:14	85.70
16:18:14	79.10
16:19:14	72.10
16:20:14	77.80
16:21:14	79.90
16:22:14	82.70
16:23:14	78.00
16:24:14	80.80
16:25:14	71.40
16:26:14	79.70
16:27:14	77.20

CPL Building (P 2)	
Time	Results
16:28:14	77.40
16:29:14	73.20
16:30:14	74.70
16:31:14	77.80
16:32:14	77.70
16:33:14	71.30
16:34:14	77.70
16:35:14	77.90
16:36:14	74.70
16:37:14	77.10
16:38:14	77.20
16:39:14	77.20
16:40:14	77.10
16:41:14	74.20
16:42:14	72.80
16:43:14	77.70
16:44:14	77.90
16:45:14	77.20
16:46:14	74.80
16:47:14	77.80
16:48:14	77.80
16:49:14	78.00
16:50:14	77.90
16:51:14	78.00
16:52:14	83.30
16:53:14	82.20
16:54:14	79.70
16:55:14	79.10
16:56:14	81.70
16:57:14	80.20
16:58:14	79.40
16:59:14	83.30
17:0:14	88.60



CPL Building (P 3)	
Time	Results
9:0:23	78.20
9:1:23	73.80
9:2:23	66.70
9:3:23	66.70
9:4:23	66.10
9:5:23	71.70
9:6:23	66.70
9:7:23	67.30
9:8:23	67.20
9:9:23	67.30
9:10:23	67.80
9:11:23	67.30
9:12:23	67.30
9:13:23	67.80
9:14:23	67.70
9:15:23	67.60
9:16:23	67.10
9:17:23	63.10
9:18:23	69.30
9:19:23	68.90
9:20:23	75.80
9:21:23	82.30
9:22:23	68.40
9:23:23	68.50
9:24:23	82.00
9:25:23	69.70
9:26:23	66.40
9:27:23	68.70
9:28:23	67.60
9:29:23	67.80
9:30:23	67.30
9:31:23	67.00
9:32:23	69.60
9:33:23	67.60
9:34:23	65.80
9:35:23	65.90
9:36:23	65.60
9:37:23	65.70
9:38:23	67.60
9:39:23	66.60
9:40:23	66.60
9:41:23	66.50

CPL Building (P 3)	
Time	Results
9:42:23	67.20
9:43:23	70.40
9:44:23	68.30
9:45:23	65.80
9:46:23	66.10
9:47:23	68.80
9:48:23	68.10
9:49:23	64.40
9:50:23	70.90
9:51:23	65.60
9:52:23	66.00
9:53:23	65.90
9:54:23	65.90
9:55:23	65.50
9:56:23	66.10
9:57:23	67.30
9:58:23	64.90
9:59:23	63.60
10:0:23	75.00
10:1:23	65.40
10:2:23	70.70
10:3:23	65.70
10:4:23	65.60
10:5:23	66.10
10:6:23	69.40
10:7:23	65.50
10:8:23	68.30
10:9:23	65.30
10:10:23	66.50
10:11:23	65.20
10:12:23	72.30
10:13:23	72.00
10:14:23	61.30
10:15:23	66.20
10:16:23	64.60
10:17:23	65.70
10:18:23	62.40
10:19:23	63.30
10:20:23	60.60
10:21:23	72.90
10:22:23	60.00
10:23:23	60.00

CPL Building (P 3)	
Time	Results
10:24:23	58.40
10:25:23	57.60
10:26:23	58.00
10:27:23	62.90
10:28:23	63.30
10:29:23	62.90
10:30:23	62.80
10:31:23	64.70
10:32:23	64.00
10:33:23	73.10
10:34:23	60.50
10:35:23	60.80
10:36:23	63.20
10:37:23	69.60
10:38:44	83.30
10:39:44	68.40
10:43:55	74.60
10:44:55	71.00
10:45:55	73.30
10:46:55	72.20
10:47:55	66.70
10:48:55	61.10
10:49:55	66.60
10:50:55	60.80
10:51:55	70.70
10:52:55	61.70
10:53:55	61.70
10:54:55	59.40
10:55:55	65.20
10:56:55	61.80
10:57:55	73.80
10:58:55	58.90
10:59:55	65.50
11:0:55	69.40
11:1:55	73.80
11:2:55	70.10
11:3:55	69.30
11:4:55	68.60
11:5:55	66.50
11:6:55	70.40
11:7:55	69.60
11:8:55	68.60



CPL Building (P 3)	
Time	Results
11:9:55	68.30
11:10:55	65.40
11:11:55	65.10
11:12:55	64.60
11:13:55	66.10
11:14:55	65.90
11:15:55	72.70
11:16:55	71.50
11:17:55	67.50
11:18:55	65.90
11:19:55	65.40
11:20:55	72.50
11:21:55	64.50
11:22:55	71.00
11:23:55	66.40
11:24:55	73.20
11:25:55	61.10
11:26:55	60.30
11:27:55	58.50
11:28:55	57.90
11:29:55	62.40
11:30:55	56.90
11:31:55	57.50
11:32:55	59.80
11:33:55	59.40
11:34:55	59.20
11:35:55	70.70
11:36:55	58.10
11:37:55	56.00
11:38:55	60.40
11:39:55	57.20
11:40:55	57.90
11:41:55	59.40
11:42:55	55.30
11:59:37	53.10
12:0:37	53.50
12:1:37	53.10
12:2:37	51.10
12:3:37	51.20
12:4:37	54.60
12:5:37	54.90
12:6:37	53.60

CPL Building (P 3)	
Time	Results
12:7:37	53.80
12:8:37	52.80
12:9:37	53.80
12:10:37	51.60
12:11:37	52.40
12:12:37	52.10
12:13:37	53.30
12:14:37	59.40
12:15:37	66.10
12:16:37	65.60
12:17:37	55.70
12:18:37	52.00
12:19:37	53.20
12:20:37	51.70
12:21:37	51.10
12:22:37	52.50
12:23:37	54.30
12:24:37	53.30
12:25:37	53.10
12:26:37	52.30
12:27:37	51.30
12:28:37	49.70
12:29:37	50.50
12:30:37	50.80
12:31:37	51.20
12:32:37	50.40
12:33:37	50.10
12:34:37	51.00
12:35:37	50.40
12:36:37	49.50
12:37:37	50.10
12:38:37	51.30
12:39:37	50.60
12:40:37	52.10
12:41:37	51.00
12:42:37	51.90
12:43:37	53.70
12:44:37	52.10
12:45:37	55.60
12:46:37	52.70
12:47:37	68.60
12:48:37	50.80

CPL Building (P 3)	
Time	Results
12:49:37	55.80
12:50:37	51.40
12:51:37	53.90
12:52:37	57.50
12:53:37	52.80
12:54:37	51.10
12:55:37	54.30
12:56:37	54.10
12:57:37	56.30
12:58:37	69.10
12:59:37	68.70
13:0:37	54.80
13:1:37	54.20
13:2:37	53.80
13:3:37	51.70
13:4:37	60.30
13:5:37	60.20
13:6:37	62.40
13:7:37	57.30
13:8:37	67.90
13:9:37	56.90
13:10:37	71.30
13:11:37	53.60
13:12:37	53.60
13:13:37	57.70
13:14:37	57.50
13:15:37	78.00
13:16:37	53.30
13:17:37	50.90
13:18:37	53.80
13:19:37	71.10
13:20:37	60.30
13:21:37	73.20
13:22:37	67.60
13:23:37	62.30
13:24:37	74.50
13:25:37	58.80
13:26:37	68.80
13:27:37	72.10
13:28:37	67.30
13:29:37	68.10
13:30:37	66.20



CPL Building (P 3)	
Time	Results
13:31:37	62.10
13:32:37	63.90
13:33:37	69.40
13:34:37	69.70
13:35:37	67.10
13:36:37	68.30
13:37:37	71.80
13:38:37	65.90
13:39:37	71.20
13:40:37	68.60
13:41:37	60.70
13:42:37	70.50
13:43:37	73.90
13:44:37	56.30
13:45:37	71.00
13:46:37	70.30
13:47:37	65.40
13:48:37	69.20
13:49:37	57.90
13:50:37	58.30
13:51:37	54.00
13:52:37	66.00
13:53:37	64.10
13:54:37	68.80
13:55:37	68.50
13:56:37	69.60
13:57:37	58.90
13:58:37	68.80
13:59:37	63.90
14:0:37	57.30
14:1:37	59.90
14:2:37	57.00
14:3:37	57.90
14:4:37	60.90
14:5:37	70.30
14:6:37	69.80
14:7:37	63.80
14:8:37	68.30
14:34:33	90.50
14:35:33	74.20
14:36:33	73.00
14:37:33	75.10

CPL Building (P 3)	
Time	Results
14:38:33	74.60
14:39:33	74.50
14:40:33	74.60
14:41:33	74.20
14:42:33	74.20
14:43:33	74.20
14:44:33	75.90
14:45:33	74.50
14:46:33	74.70
14:47:33	75.40
14:48:33	76.10
14:49:33	76.50
14:50:33	75.30
14:51:33	74.90
14:52:33	75.20
14:53:33	75.50
14:54:33	75.10
14:55:33	75.10
14:56:33	75.10
14:57:33	74.70
14:58:33	75.90
14:59:33	75.10
15:0:33	74.90
15:1:33	73.90
15:2:33	74.20
15:3:33	73.90
15:4:33	73.50
15:5:33	73.90
15:6:33	73.90
15:7:33	73.90
15:8:33	75.30
15:9:33	73.80
15:10:33	73.80
15:11:33	74.10
15:12:33	73.90
15:13:33	74.00
15:14:33	73.70
15:15:33	74.70
15:16:33	76.90
15:17:33	78.60
15:18:33	75.80
15:19:33	75.50

CPL Building (P 3)	
Time	Results
15:20:33	75.50
15:21:33	75.50
15:22:33	75.70
15:23:33	76.20
15:24:33	75.70
15:25:33	76.00
15:26:33	75.50
15:27:33	78.30
15:28:33	76.10
15:29:33	75.30
15:30:33	75.30
15:31:33	74.80
15:32:23	68.60
15:33:23	69.60
15:34:23	65.60
15:35:23	65.10
15:36:23	67.60
15:37:23	68.30
15:38:23	65.40
15:39:23	67.00
15:40:23	65.40
15:41:23	66.00
15:42:23	66.60
15:43:23	66.10
15:44:23	65.90
15:45:23	65.70
15:46:23	68.20
15:47:23	65.90
15:48:23	65.00
15:49:23	66.40
15:50:23	68.40
15:51:23	64.20
15:52:23	65.30
15:53:23	65.00
15:54:23	66.20
15:55:23	87.40
15:56:23	67.40
15:57:23	67.10
15:58:23	69.60
15:59:23	68.70
16:0:23	67.70
16:1:23	67.60



CPL Building (P 3)	
Time	Results
16:2:23	70.00
16:3:23	69.00
16:4:23	61.70
16:5:23	59.10
16:6:23	60.90
16:7:23	58.90
16:8:23	57.20
16:9:23	57.00
16:10:23	56.30
16:11:23	63.60
16:12:23	63.10
16:13:23	62.30
16:14:23	63.10
16:15:23	64.90
16:16:23	61.10
16:17:23	63.10
16:18:23	67.70
16:19:23	61.20
16:20:23	60.50
16:21:23	65.90

CPL Building (P 3)	
Time	Results
16:22:23	60.10
16:23:23	58.80
16:24:23	60.30
16:25:23	57.00
16:26:23	56.30
16:27:23	56.50
16:28:23	58.50
16:29:23	57.70
16:30:23	67.70
16:31:23	66.30
16:32:23	66.20
16:33:23	65.90
16:34:23	69.00
16:35:23	65.90
16:36:23	68.70
16:37:23	58.10
16:38:23	63.90
16:39:23	59.70
16:40:23	59.90
16:41:23	61.30

CPL Building (P 3)	
Time	Results
16:42:23	61.20
16:43:23	59.00
16:44:23	56.20
16:45:23	60.00
16:46:23	63.80
16:47:23	60.00
16:48:23	60.40
16:49:23	65.70
16:50:23	65.70
16:51:23	60.50
16:52:23	59.50
16:53:23	62.50
16:54:23	63.30
16:55:23	62.50
16:56:23	60.60
16:57:23	65.20
16:58:23	67.00
16:59:23	68.90
17:0:23	66.10



CPL Building (P 4)	
Time	Results
9:0:28	60.30
9:1:28	66.70
9:2:28	66.20
9:3:28	66.70
9:4:28	61.10
9:5:28	60.70
9:6:28	66.30
9:7:28	66.30
9:8:28	63.00
9:9:28	62.90
9:10:28	70.70
9:11:28	63.20
9:12:28	67.30
9:13:28	62.60
9:14:28	67.40
9:15:28	61.60
9:16:28	60.40
9:17:28	64.30
9:18:28	67.20
9:19:28	67.00
9:20:28	66.40
9:21:28	62.20
9:22:28	64.70
9:23:28	64.60
9:24:28	49.30
9:25:28	67.40
9:26:28	62.70
9:27:28	61.10
9:28:28	64.90
9:29:28	63.60
9:30:28	61.70
9:31:28	67.70
9:32:28	66.30
9:33:28	47.60
9:34:28	63.70
9:35:28	66.60
9:36:28	67.60
9:37:28	61.70
9:38:28	64.90
9:39:28	63.20
9:40:28	66.20
9:41:28	67.30

CPL Building (P 4)	
Time	Results
9:42:28	61.00
9:43:28	67.40
9:44:28	63.10
9:45:28	67.00
9:46:28	61.00
9:47:28	66.70
9:48:28	67.00
9:49:28	69.70
9:50:28	67.40
9:51:28	66.60
9:52:28	66.30
9:53:28	60.30
9:54:28	67.60
9:55:28	66.70
9:56:28	63.00
9:57:28	67.70
9:58:28	67.90
9:59:28	69.00
10:0:28	62.70
10:1:28	64.30
10:2:28	60.60
10:3:28	67.70
10:4:28	71.10
10:5:28	66.30
10:6:28	60.60
10:7:28	66.00
10:8:28	66.60
10:9:28	64.70
10:10:28	62.70
10:11:28	66.00
10:12:28	67.20
10:13:28	66.30
10:14:28	66.70
10:15:28	62.60
10:16:28	66.10
10:17:28	61.90
10:18:28	67.30
10:19:28	66.30
10:20:28	62.60
10:21:28	66.60
10:22:28	60.20
10:23:28	67.40

CPL Building (P 4)	
Time	Results
10:24:28	63.20
10:25:28	67.70
10:26:28	66.10
10:27:28	67.20
10:28:28	66.40
10:29:28	62.10
10:30:28	64.70
10:31:28	64.70
10:32:28	60.20
10:33:28	64.00
10:34:28	69.60
10:35:28	66.70
10:36:28	69.00
10:37:28	67.10
10:38:28	71.40
10:39:38	87.50
10:40:38	75.00
10:41:38	84.30
10:42:38	82.40
10:43:38	83.00
10:44:38	71.70
10:45:38	75.90
10:46:38	86.70
10:47:38	76.00
10:48:38	80.80
10:49:38	76.40
10:50:38	83.30
10:51:38	66.40
10:52:38	77.70
10:53:38	77.20
10:54:38	70.90
10:55:38	70.00
10:56:38	77.50
10:57:38	80.00
10:58:38	73.00
10:59:38	63.80
11:0:38	75.70
11:1:38	81.60
11:2:38	76.30
11:3:38	75.20
11:4:38	81.20
11:5:38	78.60



CPL Building (P 4)	
Time	Results
11:6:38	71.90
11:7:38	80.60
11:8:38	74.80
11:9:38	76.30
11:10:38	80.30
11:11:38	72.40
11:12:38	72.50
11:13:38	74.20
11:14:38	76.40
11:15:38	78.90
11:16:38	74.50
11:17:38	80.90
11:18:38	78.50
11:19:38	78.10
11:20:38	75.50
11:21:38	71.90
11:22:38	85.90
11:23:38	83.70
11:24:38	71.90
11:25:38	85.30
11:26:38	70.60
11:27:38	76.90
11:28:38	67.90
11:29:38	79.20
11:30:38	71.80
11:31:38	68.40
11:32:38	74.30
11:33:38	66.30
11:34:38	67.50
11:35:38	69.80
11:36:38	73.40
11:37:38	67.10
11:38:38	78.50
11:39:38	78.90
11:40:38	67.20
11:41:38	63.40
11:42:38	67.10
11:43:38	61.40
11:44:38	60.80
11:45:38	56.90
11:46:38	57.90
12:1:47	64.90

CPL Building (P 4)	
Time	Results
12:2:47	56.20
12:3:47	58.30
12:4:47	57.70
12:5:47	56.70
12:6:47	56.70
12:7:47	57.20
12:8:47	53.60
12:9:47	56.30
12:10:47	57.20
12:11:47	57.10
12:12:47	57.60
12:13:47	57.40
12:14:47	58.30
12:15:47	71.10
12:16:47	60.30
12:17:47	57.20
12:18:47	58.50
12:19:47	55.50
12:20:47	54.10
12:21:47	56.30
12:22:47	59.40
12:23:47	57.80
12:24:47	56.20
12:25:47	56.40
12:26:47	54.10
12:27:47	59.00
12:28:47	57.70
12:29:47	57.20
12:30:47	56.70
12:31:47	55.60
12:32:47	56.60
12:33:47	57.20
12:34:47	56.70
12:35:47	52.50
12:36:47	55.30
12:37:47	56.90
12:38:47	54.30
12:39:47	56.40
12:40:47	56.30
12:41:47	58.10
12:42:47	56.50
12:43:47	60.60

CPL Building (P 4)	
Time	Results
12:44:47	57.10
12:45:47	57.80
12:46:47	58.00
12:47:47	56.60
12:48:47	57.40
12:49:47	61.50
12:50:47	56.50
12:51:47	56.70
12:52:47	58.10
12:53:47	58.60
12:54:47	56.70
12:55:47	56.90
12:56:47	57.90
12:57:47	61.40
12:58:47	66.60
12:59:47	72.20
13:0:47	63.40
13:1:47	54.70
13:2:47	57.60
13:3:47	64.90
13:4:47	61.90
13:5:47	59.00
13:6:47	71.70
13:7:47	65.70
13:8:47	62.60
13:9:47	66.80
13:10:47	59.20
13:11:47	57.60
13:12:47	62.30
13:13:47	58.20
13:14:47	58.00
13:15:47	58.10
13:16:47	66.00
13:17:47	64.10
13:18:47	64.30
13:19:47	66.40
13:20:47	62.30
13:21:47	65.00
13:22:47	58.50
13:23:47	59.40
13:24:47	58.30
13:25:47	74.70



CPL Building (P 4)	
Time	Results
13:26:47	80.80
13:27:47	80.80
13:28:47	77.30
13:29:47	73.20
13:30:47	76.40
13:31:47	79.80
13:32:47	80.90
13:33:47	79.80
13:34:47	83.90
13:35:47	63.90
13:36:47	82.10
13:37:47	70.60
13:38:47	79.60
13:39:47	69.70
13:40:47	69.60
13:41:47	80.90
13:42:47	83.00
13:43:47	68.60
13:44:47	66.00
13:45:47	63.80
13:46:47	65.10
13:47:47	61.80
13:48:47	70.90
13:49:47	60.50
13:50:47	78.70
13:51:47	74.60
13:52:47	63.30
13:53:47	63.10
13:54:47	62.00
13:55:47	66.00
13:56:47	64.70
13:57:47	65.70
13:58:47	65.90
13:59:47	65.90
14:0:47	61.30
14:1:47	61.70
14:2:47	70.90
14:3:47	83.80
14:4:47	69.70
14:5:47	64.10
14:6:47	83.00
14:7:47	81.00

CPL Building (P 4)	
Time	Results
14:8:47	79.20
14:28:1	82.10
14:29:1	69.50
14:30:1	75.80
14:31:1	71.40
14:32:1	71.20
14:33:1	69.40
14:34:1	69.50
14:35:1	69.50
14:36:1	69.80
14:37:1	82.70
14:38:1	68.50
14:39:1	68.90
14:40:1	74.60
14:41:1	69.20
14:42:1	69.30
14:43:1	69.60
14:44:1	69.10
14:45:1	77.60
14:46:1	70.90
14:47:1	68.30
14:48:1	76.70
14:49:1	69.50
14:50:1	69.60
14:51:1	69.10
14:52:1	68.80
14:53:1	68.40
14:54:1	69.40
14:55:1	68.30
14:56:1	68.50
14:57:1	68.70
14:58:1	68.60
14:59:1	68.80
15:0:1	68.50
15:1:1	69.10
15:2:1	72.00
15:3:1	76.30
15:4:1	75.90
15:5:1	78.20
15:6:1	73.90
15:7:1	74.80
15:8:1	78.70

CPL Building (P 4)	
Time	Results
15:9:1	68.10
15:10:1	69.10
15:11:1	68.00
15:12:1	77.10
15:13:1	68.10
15:14:1	69.20
15:15:1	70.00
15:16:1	76.60
15:17:1	68.80
15:18:1	69.50
15:19:23	66.00
15:20:23	66.60
15:21:23	64.70
15:22:23	62.70
15:23:23	66.00
15:24:23	67.20
15:25:23	66.30
15:26:23	66.70
15:27:23	62.60
15:28:23	66.10
15:29:23	61.90
15:30:23	67.30
15:31:23	66.30
15:32:23	62.60
15:33:23	66.60
15:34:23	60.20
15:35:23	67.40
15:36:23	63.20
15:37:23	67.70
15:38:23	66.10
15:39:23	67.20
15:40:23	66.40
15:41:23	62.10
15:42:23	64.70
15:43:23	64.70
15:44:23	60.20
15:45:23	64.00
15:46:23	69.60
15:47:23	66.70
15:48:23	69.00
15:49:23	67.10
15:50:23	71.40



CPL Building (P 4)	
Time	Results
15:51:23	62.40
15:52:23	62.90
15:53:23	66.30
15:54:23	69.00
15:55:23	64.90
15:56:23	67.70
15:57:23	60.60
15:58:23	67.70
15:59:23	62.90
16:0:23	64.70
16:1:23	66.70
16:2:23	61.60
16:3:23	67.70
16:4:23	66.30
16:5:23	69.30
16:6:23	66.60
16:7:23	67.60
16:8:23	67.60
16:9:23	66.70
16:10:23	67.40
16:11:23	67.70
16:12:23	67.20
16:13:23	67.60
16:14:23	66.60

CPL Building (P 4)	
Time	Results
16:15:23	64.00
16:16:23	66.20
16:17:23	70.70
16:18:23	67.30
16:19:23	61.00
16:20:23	66.70
16:21:23	66.60
16:22:23	63.60
16:23:23	61.90
16:24:23	66.10
16:25:23	64.70
16:26:23	67.30
16:27:23	67.60
16:28:23	61.90
16:29:23	60.10
16:30:23	64.20
16:31:23	61.90
16:32:23	60.30
16:33:23	63.70
16:34:23	60.00
16:35:23	67.70
16:36:23	66.70
16:37:23	63.30
16:38:23	66.70

CPL Building (P 4)	
Time	Results
16:39:23	66.90
16:40:23	66.70
16:41:23	64.90
16:42:23	63.60
16:43:23	61.70
16:44:23	67.70
16:45:23	66.30
16:46:23	47.60
16:47:23	63.70
16:48:23	66.60
16:49:23	67.60
16:50:23	61.70
16:51:23	64.90
16:52:23	63.20
16:53:23	66.20
16:54:23	67.30
16:55:23	61.00
16:56:23	67.40
16:57:23	60.70
16:58:23	66.30
16:59:23	66.30
17:0:23	63.00



CPL Building Entry	
Time	Results
10:45:54	88.6
10:46:54	88
10:47:54	87.9
10:48:54	88
10:49:54	88.3
10:50:54	88.4
10:51:54	88.3
10:52:54	89.6
10:53:54	87.9
10:54:54	88.5
10:55:54	88.5
10:56:54	88.1
10:57:54	88.4
10:58:54	88.2
10:59:54	88.2
11:0:54	87.9
11:1:54	77.5
11:2:54	72.8
11:3:54	72.8
11:4:54	72.6
11:5:54	73.1
11:6:54	73
11:7:54	72.7
11:8:54	73.7
11:9:54	72.1
11:10:54	72.9
11:11:54	72.3
11:12:54	72.4
11:13:54	72.8
11:14:54	73
11:15:54	72.6
11:16:54	72.6
11:17:54	73.1
11:18:54	73.6
11:19:54	73.9
11:20:54	72.2
11:21:54	73.3
11:22:54	72.3
11:23:54	72.7
11:24:54	72.6
11:25:54	72.7
11:26:54	73.3

CPL Building Entry	
Time	Results
11:27:54	72.7
11:28:54	72.8
11:29:54	73
11:30:54	72.9
11:31:54	72.3
11:32:54	72.6
11:33:54	74.1
11:34:54	74.3
11:35:54	73.8
11:36:54	73.1
11:37:54	72.7
11:38:54	73.8
11:39:54	73.2
11:40:54	74.1
11:41:54	74
11:42:54	73.7
11:43:54	72.8
11:44:54	73
11:45:54	72.6



CPL Building Exit	
Time	Results
10:50:28	88.7
10:51:28	81.4
10:52:28	79.4
10:53:28	80.1
10:54:28	79.5
10:55:28	80.9
10:56:28	79.6
10:57:28	79.1
10:58:28	80.5
10:59:28	78.9
11:0:28	80.1
11:1:28	81.3
11:2:28	87.2
11:3:28	82.5
11:4:28	80.9
11:5:28	80.1
11:6:28	80.9
11:7:28	80.7
11:8:28	81.1
11:9:28	80.8
11:10:28	79.7
11:11:28	79.6
11:12:28	80.6
11:13:28	77.7
11:14:28	76.7
11:15:28	75
11:16:28	75.9
11:17:28	76.3
11:18:28	73.2
11:19:28	76.9

CPL Building Exit	
Time	Results
11:20:28	75.2
11:21:28	69.4
11:22:28	68
11:23:28	72.6
11:24:28	70.7
11:25:28	76.1
11:26:28	71
11:27:28	71.9
11:28:28	68
11:29:28	76.1
11:30:28	72.6
11:31:28	76.7
11:32:28	70.5
11:33:28	77.2
11:34:28	69.3
11:35:28	75.2
11:36:28	70.6
11:37:28	73.6
11:38:28	76.7
11:39:28	70.6
11:40:28	72.8
11:41:28	71.7
11:42:28	73.1
11:43:28	67.3
11:44:28	71.5
11:45:28	70.2
11:46:28	78.2
11:47:28	73.1
11:48:28	75.8
11:49:28	76.5



Workshop	
Time	Results
10:20:28	74.4
10:21:28	74.4
10:22:28	81.5
10:23:28	66.5
10:24:28	65.3
10:25:28	62.7
10:26:28	66.1
10:27:28	58.2
10:28:28	66.7
10:29:28	63.3
10:30:28	69.4
10:31:28	69.3
10:32:28	64.7
10:33:28	64.2
10:34:28	66.7
10:35:28	74
10:36:28	69.4
10:37:28	72.1
10:38:28	67.5
10:39:28	78.7
10:40:28	64.1
10:41:28	59.4
10:42:28	64.2
10:43:28	60.2
10:44:28	60.5
10:45:28	67.4
10:46:28	59.9
10:47:28	68
10:48:28	76.6
10:49:28	67.7

Workshop	
Time	Results
10:50:28	64.5
10:51:28	63.8
10:52:28	64.4
10:53:28	63.2
10:54:28	71
10:55:28	57
10:56:28	57.7
10:57:28	56.1
10:58:28	59.5
10:59:28	60.9
11:0:28	66.2
11:1:28	59.6
11:2:28	56.6
11:3:28	68
11:4:28	60.3
11:5:28	64.2
11:6:28	72.9
11:7:28	77.9
11:8:28	71.9
11:9:28	70.3
11:10:28	66.1
11:11:28	66.1
11:12:28	68
11:13:28	76
11:14:28	60.8
11:15:28	61.2
11:16:28	58.6
11:17:28	62.8
11:18:28	57.8
11:19:28	59.5



MCL Entry	
Time	Results
9:40:48	56.5
9:41:48	58.2
9:42:48	56.8
9:43:48	71.5
9:44:48	68.5
9:45:48	53.8
9:46:48	59.4
9:47:48	64.8
9:48:48	54.3
9:49:48	69.3
9:50:48	66
9:51:48	56.1
9:52:48	54.1
9:53:48	57
9:54:48	54.1
9:55:48	56.2
9:56:48	54.8
9:57:48	62.2
9:58:48	55.2
9:59:48	61.1
10:0:48	63.2
10:1:48	71.5
10:2:48	68.1
10:3:48	69.3
10:4:48	64.2
10:5:48	70.1
10:6:48	59
10:7:48	66.3
10:8:48	65.3

MCL Entry	
Time	Results
10:9:48	62.9
10:10:48	65.7
10:11:48	66.8
10:12:48	63.6
10:13:48	64.7
10:14:48	67.8
10:15:48	64.9
10:16:48	65
10:17:48	66.8
10:18:48	68.2
10:19:48	70.9
10:20:48	71
10:21:48	80.7
10:22:48	73.5
10:23:48	73.1
10:24:48	60.8
10:25:48	60.8
10:26:48	53
10:27:48	56.7
10:28:48	58.6
10:29:48	56.4
10:30:48	56.7
10:31:48	52.2
10:32:48	53.7
10:33:48	61
10:34:48	63.5
10:35:48	51
10:36:48	51.3
10:37:48	53.8



MCL Exit	
Time	Results
14:0:48	59.2
14:1:48	56.2
14:2:48	55.7
14:3:48	50.4
14:4:48	56.6
14:5:48	51.1
14:6:48	58.1
14:7:48	50.6
14:8:48	51.4
14:9:48	49.7
14:10:48	52.6
14:11:48	58.5
14:12:48	65
14:13:48	66
14:14:48	52.9
14:15:48	54.6
14:16:48	56.1
14:17:48	53.6
14:18:48	54.9
14:19:48	54.8
14:20:48	54.2
14:21:48	58.6
14:22:48	52.1
14:23:48	54.2
14:24:48	51.9
14:25:48	54.4
14:26:48	53.7
14:27:48	56.7
14:28:48	51.3
14:29:48	56

MCL Exit	
Time	Results
14:30:48	63.1
14:31:48	53.6
14:32:48	51.3
14:33:48	63.1
14:34:48	54.5
14:35:48	50.9
14:36:48	61.7
14:37:48	56.9
14:38:48	54.8
14:39:48	55.2
14:40:48	57.5
14:41:48	53.9
14:42:48	52.9
14:43:48	51.1
14:44:48	51.4
14:45:48	53.3
14:46:48	54.9
14:47:48	50.8
14:48:48	56.5
14:49:48	64.1
14:50:48	53.5
14:51:48	56
14:52:48	57.2
14:53:48	59.6
14:54:48	55.2
14:55:48	52.6
14:56:48	56.5
14:57:48	56.5
14:58:48	58.4
14:59:48	56.2



Near FCPT Building	
Time	Results
10:20:18	74.4
10:21:18	65.7
10:22:18	70.4
10:23:18	71.3
10:24:18	66.8
10:25:18	73.2
10:26:18	71.4
10:27:18	67.3
10:31:28	61.5
10:32:28	68.6
10:33:28	64.4
10:34:28	74.4
10:35:28	70.1
10:36:28	70.1
10:40:56	64.1
10:41:56	63
10:42:56	64.2
10:43:56	63.5
10:44:56	64.3
10:45:56	63.2
10:46:56	63.4
10:47:56	76.8
10:48:56	62
10:49:56	62.7
10:53:21	64.1
10:54:21	64.7
10:55:21	62.5
10:56:21	62.5
10:57:21	61.7
10:58:21	63.6

Near FCPT Building	
Time	Results
10:59:21	68.9
11:0:21	64
11:1:21	60.6
11:2:21	62.6
11:3:21	67.6
11:4:21	57.8
11:7:59	57.1
11:8:59	59
11:9:59	58.7
11:10:59	55.4
11:11:59	51.6
11:12:59	54.7
11:13:59	65
11:14:59	59.5
11:19:30	68.3
11:20:30	63.2
11:21:30	60.3
11:22:30	61.2
11:23:30	59.7
11:24:30	61.8
11:27:5	58.2
11:28:5	64.4
11:29:5	56.5
11:30:5	64.7
11:31:5	62.7
11:32:5	61.2
11:35:24	63.7
11:36:24	57.2
11:37:24	63.2
11:38:24	62.2



FC Building	
Time	Results
11:9:19	75.9
11:10:19	68.8
11:11:19	57.4
11:12:19	52.3
11:13:19	58.4
11:14:19	60.9
11:15:19	53
11:16:19	64.1
11:17:19	48.9
11:18:19	60.4
11:19:19	73.5
11:20:19	57.4
11:21:19	67
11:22:19	54.2
11:23:19	55.3
11:24:19	56.8
11:25:19	52.2
11:26:19	67.3
11:27:19	56.6
11:28:19	55.8
11:29:19	49.5
11:30:19	49.9
11:31:19	43
11:32:19	72.8
11:33:19	43.2
11:34:19	55.2
11:35:19	40.3
11:36:19	51.9
11:37:19	59.2
11:38:19	65.3

FC Building	
Time	Results
11:39:19	58.9
11:40:19	55.2
11:41:19	71.5
11:42:19	54.4
11:43:19	55.4
11:44:19	44
11:45:19	49.2
11:46:19	51.1
11:47:19	49.9
11:48:19	43.2
11:49:19	52.3
11:50:19	48.3
11:51:19	43.7
11:52:19	52.3
11:53:19	43.4
11:54:19	52.1
11:55:19	46.9
11:56:19	56.5
11:57:19	46.9
11:58:19	52.1
11:59:19	53.4
12:0:19	49.9
12:1:19	52.7
12:2:19	72.1
12:3:19	56.2
12:4:19	47.6
12:5:19	50.3
12:6:19	45.2
12:7:19	50.4
12:8:19	56.2



Roll Shop	
Time	Results
13:15:48	56.5
13:16:48	60.6
13:17:48	57.1
13:18:48	57.8
13:19:48	58
13:20:48	56.6
13:21:48	57.4
13:22:48	61.5
13:23:48	56.5
13:24:48	56.7
13:25:48	58.1
13:26:48	58.6
13:27:48	56.7
13:28:48	56.9
13:29:48	57.9
13:30:48	61.4
13:31:48	66.6
13:32:48	72.2
13:33:48	63.4
13:34:48	54.7
13:35:48	57.6
13:36:48	64.9
13:37:48	61.9
13:38:48	59
13:39:48	71.7
13:40:48	65.7
13:41:48	62.6
13:42:48	66.8
13:43:48	59.2
13:44:48	57.6

Roll Shop	
Time	Results
13:45:48	62.3
13:46:48	58.2
13:47:48	58
13:48:48	58.1
13:49:48	66
13:50:48	64.1
13:51:48	64.3
13:52:48	66.4
13:53:48	62.3
13:54:48	65
13:55:48	58.5
13:56:48	59.4
13:57:48	58.3
13:58:48	74.7
13:59:48	80.8
14:0:48	80.8
14:1:48	77.3
14:2:48	73.2
14:3:48	76.4
14:4:48	79.8
14:5:48	80.9
14:6:48	79.8
14:7:48	83.9
14:8:48	63.9
14:9:48	82.1
14:10:48	70.6
14:11:48	79.6
14:12:48	69.7
14:13:48	69.6
14:14:48	80.9



CRC Building Exit	
Time	Results
10:20:48	56.7
10:21:48	53.7
10:22:48	61.8
10:23:48	62.4
10:24:48	56.9
10:25:48	59.2
10:26:48	61.7
10:27:48	70.1
10:28:48	61.6
10:29:48	61.9
10:30:48	57.7
10:31:48	59.3
10:32:48	59.1
10:33:48	69.8
10:34:48	56.7
10:35:48	57.5
10:36:48	61.8
10:37:48	66
10:38:48	68.1
10:39:48	58.8
10:40:48	58.9
10:41:48	54.5
10:42:48	66
10:43:48	55.8
10:44:48	57
10:45:48	53.8
10:46:48	59.2
10:47:48	56.8
10:48:48	55.1
10:49:48	56.1

CRC Building Exit	
Time	Results
10:50:48	53.9
10:51:48	56.1
10:52:48	62.3
10:53:48	54.1
10:54:48	56
10:55:48	55.7
10:56:48	64.1
10:57:48	56.4
10:58:48	56.6
10:59:48	55.7
11:0:48	57.1
11:1:48	56.4
11:2:48	71
11:3:48	62.1
11:4:48	63.8
11:5:48	70.9
11:6:48	70.3
11:7:48	56.5
11:8:48	71.5
11:9:48	60.5
11:10:48	61.6
11:11:48	55.1
11:12:48	61.4
11:13:48	65.2
11:14:48	65.9
11:15:48	67.9
11:16:48	56.6
11:17:48	55
11:18:48	59.9
11:19:48	56.8



CRC Building Near the entry gate	
Time	Results
10:0:48	61.4
10:1:48	60.9
10:2:48	69.4
10:3:48	62.6
10:4:48	60.1
10:5:48	61.2
10:6:48	64.1
10:7:48	62.5
10:8:48	61.3
10:9:48	61
10:10:48	65
10:11:48	65.2
10:12:48	62.8
10:13:48	64.3
10:14:48	67.4
10:15:48	62
10:16:48	60.3
10:17:48	60.8
10:18:48	60.1
10:19:48	61
10:20:48	59.9
10:21:48	60.9
10:22:48	60.7
10:23:48	63.6
10:24:48	67.3
10:25:48	60.1
10:26:48	63
10:27:48	62.5
10:28:48	59.7
10:29:48	61.6

CRC Building Near the entry gate	
Time	Results
10:30:48	59.5
10:31:48	61
10:32:48	58.6
10:33:48	59.6
10:34:48	56.6
10:35:48	72.7
10:36:48	58.8
10:37:48	76.2
10:38:48	57.5
10:39:48	59.7
10:40:48	58
10:41:48	56.4
10:42:48	60
10:43:48	57.2
10:44:48	58.8
10:45:48	58.2
10:46:48	57.3
10:47:48	59
10:48:48	56.9
10:49:48	57.7
10:50:48	60.7
10:51:48	59
10:52:48	58.1
10:53:48	61.4
10:54:48	61.7
10:55:48	57.8
10:56:48	58.8
10:57:48	59.6
10:58:48	63.5
10:59:48	62.8



WWTP & DWP	
Time	Results
15:0:48	57.1
15:1:48	53.7
15:2:48	63.2
15:3:48	62.5
15:4:48	59.4
15:5:48	61.6
15:6:48	64.9
15:7:48	68
15:8:48	61.9
15:9:48	65.2
15:10:48	63.3
15:11:48	62.1
15:12:48	56.1
15:13:48	58.7
15:14:48	60.5
15:15:48	57.5
15:16:48	58.1
15:17:48	66.9
15:18:48	63.1
15:19:48	63.8
15:20:48	67.8
15:21:48	68.5
15:22:48	66.3
15:23:48	74.9
15:24:48	64.6
15:25:48	67.2
15:26:48	65.4
15:27:48	66.6
15:28:48	66.9
15:29:48	66.7

WWTP & DWP	
Time	Results
15:30:48	63.6
15:31:48	65.2
15:32:48	67.6
15:33:48	66.5
15:34:48	67.2
15:35:48	67.3
15:36:48	66.7
15:37:48	56.2
15:38:48	55.2
15:39:48	60.4
15:40:48	59.3
15:41:48	58.3
15:42:48	64.1
15:43:48	58.4
15:44:48	64.9
15:45:48	63.4
15:46:48	58.2
15:47:48	68.3
15:48:48	66.8
15:49:48	61.1
15:50:48	66.6
15:51:48	62.3
15:52:48	61.6
15:53:48	56.6
15:54:48	58.4
15:55:48	53.9
15:56:48	53.4
15:57:48	56.8
15:58:48	60.4
15:59:48	55.8



---

*Workplace Air Quality and Noise Levels Monitoring Report*  
*Prepared for: JFE MERANTI MYANMAR CO., LTD*

---

**Appendix (5): Workplace Air Quality Measurement Record (1 hr)**



Outside of CPL Prime Coater Room		
Time	PM 10	PM 2.5
15:0:50	21	8
15:1:50	24	10
15:2:50	28	11
15:3:50	29	12
15:4:50	23	10
15:5:50	26	12
15:6:50	32	13
15:7:50	34	14
15:8:50	25	12
15:9:50	30	14
15:10:50	30	14
15:11:50	25	15
15:12:50	33	17
15:13:50	44	18
15:14:50	29	15
15:15:50	35	18
15:16:50	25	11
15:17:50	24	14
15:18:50	29	14
15:19:50	29	14
15:20:50	31	15
15:31:0	30	13
15:32:0	33	17
15:33:0	25	12
15:34:0	34	16
15:35:0	40	14
15:36:0	25	12
15:37:0	32	15
15:38:0	30	16
15:39:0	34	22

Outside of CPL Prime Coater Room		
Time	PM 10	PM 2.5
15:40:0	33	23
15:41:0	28	17
15:42:0	37	16
15:43:0	34	15
15:44:0	28	15
15:45:0	17	9
15:46:0	23	12
15:47:0	25	12
15:48:0	32	11
15:49:0	33	11
15:50:0	21	9
15:51:0	19	10
15:52:0	24	11
15:53:0	21	9
15:54:0	31	11
15:55:0	26	10
15:56:0	30	10
15:57:0	32	12
15:58:0	34	11
15:59:0	33	12
16:0:0	32	13
16:1:0	28	12
16:2:0	25	13
16:3:0	27	13
16:4:0	26	12
16:5:0	29	11
16:6:0	25	10
16:7:0	27	11
16:8:0	33	11
16:9:0	25	10



Near the CPL finish coater area		
Time	PM 10	PM 2.5
15:50:19	20	7
15:51:19	17	8
15:52:19	16	7
15:53:19	17	6
15:54:19	13	6
15:55:19	18	6
15:56:19	17	6
15:57:19	18	6
15:58:19	36	9
15:59:19	21	8
16:0:19	15	6
16:1:19	13	6
16:2:19	17	7
16:3:19	14	6
16:4:19	12	6
16:5:19	16	6
16:6:19	14	6
16:7:19	17	6
16:8:19	24	8
16:9:19	39	14
16:10:19	40	12
16:11:19	16	7
16:12:19	15	6
16:13:19	13	6
16:14:19	14	7
16:15:19	21	7
16:16:19	18	5
16:17:19	13	5
16:18:19	16	6
16:19:19	16	5

Near the CPL finish coater area		
Time	PM 10	PM 2.5
16:20:19	16	6
16:21:19	22	7
16:22:19	35	7
16:23:19	34	9
16:24:19	21	5
16:25:19	21	5
16:26:19	19	5
16:27:19	25	10
16:28:19	21	7
16:29:19	18	5
16:30:19	15	5
16:31:19	16	6
16:32:19	19	5
16:33:19	20	7
16:34:19	17	6
16:35:19	16	6
16:36:19	17	4
16:37:19	15	4
16:38:19	19	7
16:39:19	19	7
16:40:19	28	8
16:41:19	16	6
16:42:19	21	5
16:43:19	15	5
16:44:19	17	5
16:45:19	16	5
16:46:19	20	6
16:47:19	23	6
16:48:19	39	8
16:49:19	30	8

