

# ภาคผนวก ค-10

ความเข้มแสงสว่างในบริเวณการทำงาน



## Analysis / Test Report

**Client** : Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 2271063**

Date Received : Sep 22, 2022  
Date Reported : Sep 28, 2022  
Report Number : 2447731-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
1	Spot - Control Building : 2nd Floor : MCC Room หน้าตู้ 1								
	2271063-1	19 Sep 2022	Night time	1	350	-	200-300	-	Pass
2	Spot - Control Building : 2nd Floor : MCC Room หน้าตู้ 2								
	2271063-2	19 Sep 2022	Night time	1	344	-	200-300	-	Pass
3	Spot - Control Building : 2nd Floor : MCC Room หน้าตู้ 3								
	2271063-3	19 Sep 2022	Night time	1	339	-	200-300	-	Pass
4	Spot - Control Building : 2nd Floor : MCC Room หน้าตู้ 4								
	2271063-4	19 Sep 2022	Night time	1	346	-	200-300	-	Pass
5	Spot - Control Building : 2nd Floor : MCC Room หน้าตู้ 5								
	2271063-5	19 Sep 2022	Night time	1	348	-	200-300	-	Pass
6	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.1								
	2271063-6	19 Sep 2022	Day time	1	361	-	200-300	-	Pass
7	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.2								
	2271063-7	19 Sep 2022	Day time	1	366	-	200-300	-	Pass
8	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.3								
	2271063-8	19 Sep 2022	Day time	1	364	-	200-300	-	Pass
9	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.4								
	2271063-9	19 Sep 2022	Day time	1	362	-	200-300	-	Pass
10	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.5								
	2271063-10	19 Sep 2022	Day time	1	365	-	200-300	-	Pass
11	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.6								
	2271063-11	19 Sep 2022	Day time	1	363	-	200-300	-	Pass
	Area - Control Building : 2nd Floor : Stairs								
12.1	2271063-12	19 Sep 2022	Night time	1	122	123.0	50	100	Pass
12.2	2271063-13	19 Sep 2022	Night time	2	124				
12.3	2271063-14	19 Sep 2022	Night time	3	123				

**Measurement by** : Supot Salamteh Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot Salamteh  
Section Head

Approved by

Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

**Client** : Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 2271064**

Date Received : Sep 22, 2022  
Date Reported : Sep 28, 2022  
Report Number : 2447734-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Control Building : 3rd Floor : Stairs									
1.1	2271064-1	19 Sep 2022	Night time	1	133	131.3	50	100	Pass
1.2	2271064-2	19 Sep 2022	Night time	2	132				
1.3	2271064-3	19 Sep 2022	Night time	3	129				
Area - Control Building : 3rd Floor : Walkway									
2.1	2271064-4	19 Sep 2022	Day time	1	322	326.4	50	100	Pass
2.2	2271064-5	19 Sep 2022	Day time	2	324				
2.3	2271064-6	19 Sep 2022	Day time	3	326				
2.4	2271064-7	19 Sep 2022	Day time	4	330				
2.5	2271064-8	19 Sep 2022	Day time	5	321				
2.6	2271064-9	19 Sep 2022	Day time	6	320				
2.7	2271064-10	19 Sep 2022	Day time	7	328				
2.8	2271064-11	19 Sep 2022	Day time	8	333				
2.9	2271064-12	19 Sep 2022	Day time	9	334				
2.1	2271064-13	19 Sep 2022	Night time	1	246	245.4	50	100	Pass
2.2	2271064-14	19 Sep 2022	Night time	2	240				
2.3	2271064-15	19 Sep 2022	Night time	3	245				
2.4	2271064-16	19 Sep 2022	Night time	4	241				
2.5	2271064-17	19 Sep 2022	Night time	5	242				
2.6	2271064-18	19 Sep 2022	Night time	6	243				
2.7	2271064-19	19 Sep 2022	Night time	7	249				
2.8	2271064-20	19 Sep 2022	Night time	8	248				
2.9	2271064-21	19 Sep 2022	Night time	9	255				
Area - Control Building : 3rd Floor : Men Toilets									
3.1	2271064-22	19 Sep 2022	Day time	1	266	266.2	50	100	Pass
3.2	2271064-23	19 Sep 2022	Day time	2	267				
3.3	2271064-24	19 Sep 2022	Day time	3	264				
3.4	2271064-25	19 Sep 2022	Day time	4	269				
3.5	2271064-26	19 Sep 2022	Day time	5	268				
3.6	2271064-27	19 Sep 2022	Day time	6	263				
Area - Control Building : 3rd Floor : Women Toilets									
4.1	2271064-28	19 Sep 2022	Day time	1	269	264.7	50	100	Pass
4.2	2271064-29	19 Sep 2022	Day time	2	265				
4.3	2271064-30	19 Sep 2022	Day time	3	260				

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418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 2271064**

Date Received : Sep 22, 2022  
Date Reported : Sep 28, 2022  
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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
	Area - Control Building : 3rd Floor : Canteen and Pantry Room								
5.1	2271064-31	19 Sep 2022	Day time	1	332	330.3	150	300	Pass
5.2	2271064-32	19 Sep 2022	Day time	2	330				
5.3	2271064-33	19 Sep 2022	Day time	3	329				
	Area - Control Building : 3rd Floor : Operation Manager Table								
6.1	2271064-34	19 Sep 2022	Day time	1	770	770.0	400	500	Pass
6.1	2271064-35	19 Sep 2022	Night time	1	650	650.0	400	500	Pass
	Spot - Control Building : 3rd Floor : Control Room Desk 1								
7	2271064-36	19 Sep 2022	Night time	1	468	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Control Room Desk 2								
8	2271064-37	19 Sep 2022	Night time	1	470	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Control Room Desk 3								
9	2271064-38	19 Sep 2022	Night time	1	471	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Control Room Desk 4								
10	2271064-39	19 Sep 2022	Night time	1	466	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Control Room Desk 5								
11	2271064-40	19 Sep 2022	Night time	1	469	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : DSC Room Desk 1								
12	2271064-41	19 Sep 2022	Night time	1	468	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Photocopier								
13	2271064-42	19 Sep 2022	Day time	1	506	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Fax and Copy Room								
14	2271064-43	19 Sep 2022	Day time	1	556	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Computer No.1								
15	2271064-44	19 Sep 2022	Day time	1	496	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Computer No.2								
16	2271064-45	19 Sep 2022	Day time	1	499	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : โต๊ะทำงาน Operation Office 1								
17	2271064-46	19 Sep 2022	Night time	1	503	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : โต๊ะทำงาน Operation Office 2								
18	2271064-47	19 Sep 2022	Night time	1	500	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : CCTV Room Table								
19	2271064-48	19 Sep 2022	Day time	1	555	-	400-500	-	Pass

Technical Management

Supot Salamteh  
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418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 2271064**

Date Received : Sep 22, 2022  
Date Reported : Sep 28, 2022  
Report Number : 2447734-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
20	Spot - Control Building : 3rd Floor : Control (Table No.1)								
	2271064-49	19 Sep 2022	Day time	1	543	-	400-500	-	Pass
21	Spot - Control Building : 3rd Floor : Control (Table No.2)								
	2271064-50	19 Sep 2022	Day time	1	541	-	400-500	-	Pass
22	Spot - Control Building : 3rd Floor : Computer Control No.1								
	2271064-51	19 Sep 2022	Day time	1	549	-	400-500	-	Pass
23	Spot - Control Building : 3rd Floor : Computer Control No.2								
	2271064-52	19 Sep 2022	Day time	1	547	-	400-500	-	Pass
24	Spot - Control Building : 3rd Floor : Computer Control No.3								
	2271064-53	19 Sep 2022	Day time	1	544	-	400-500	-	Pass
25	Spot - Control Building : 3rd Floor : Computer Control No.4								
	2271064-54	19 Sep 2022	Day time	1	540	-	400-500	-	Pass
26	Spot - Control Building : 3rd Floor : Computer Control No.5								
	2271064-55	19 Sep 2022	Day time	1	545	-	400-500	-	Pass
27	Spot - Control Building : 3rd Floor : Computer Control No.6								
	2271064-56	19 Sep 2022	Day time	1	548	-	400-500	-	Pass
28	Spot - Control Building : 3rd Floor : Computer Control No.7								
	2271064-57	19 Sep 2022	Day time	1	546	-	400-500	-	Pass

**Measurement by** : Supot Salamteh Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

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418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 2271068**

Date Received : Sep 22, 2022  
Date Reported : Sep 28, 2022  
Report Number : 2447736-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot / Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Control Building : Ground Floor : Electrical Room									
1.1	2271068-1	19 Sep 2022	Night time	1	110	107.7	50	100	Pass
1.2	2271068-2	19 Sep 2022	Night time	2	108				
1.3	2271068-3	19 Sep 2022	Night time	3	107				
1.4	2271068-4	19 Sep 2022	Night time	4	105				
1.5	2271068-5	19 Sep 2022	Night time	5	109				
1.6	2271068-6	19 Sep 2022	Night time	6	106				
1.7	2271068-7	19 Sep 2022	Night time	7	105				
1.8	2271068-8	19 Sep 2022	Night time	8	111				
1.9	2271068-9	19 Sep 2022	Night time	9	108				
Area - Control Building : 1st Floor : Walkway									
2.1	2271068-10	19 Sep 2022	Night time	1	144	146.5	50	100	Pass
2.2	2271068-11	19 Sep 2022	Night time	2	148				
2.3	2271068-12	19 Sep 2022	Night time	3	146				
2.4	2271068-13	19 Sep 2022	Night time	4	145				
2.5	2271068-14	19 Sep 2022	Night time	5	149				
2.6	2271068-15	19 Sep 2022	Night time	6	147				
Area - Control Building : 1st Floor : Stairs									
3.1	2271068-16	19 Sep 2022	Night time	1	122	122.3	50	100	Pass
3.2	2271068-17	19 Sep 2022	Night time	2	124				
3.3	2271068-18	19 Sep 2022	Night time	3	121				

**Measurement by** : Supot Salamteh Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot Salamteh  
Section Head

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Wichan Choonharat  
Assistant Manager

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418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 2271069**

Date Received : Sep 22, 2022  
Date Reported : Sep 28, 2022  
Report Number : 2447738-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
1	Spot - Terminal & Switchyard Control Building : Terminal Control Room No.1								
	2271069-1	19 Sep 2022	Day time	1	412	-	300-400	-	Pass
2	Spot - Terminal & Switchyard Control Building : Terminal Control Room No.2								
	2271069-2	19 Sep 2022	Day time	1	410	-	300-400	-	Pass
3	Spot - Terminal & Switchyard Control Building : Battery Room No.1								
	2271069-3	19 Sep 2022	Day time	1	387	-	200-300	-	Pass
4	Spot - Terminal & Switchyard Control Building : Switchgear Room No.1								
	2271069-4	19 Sep 2022	Day time	1	415	-	300-400	-	Pass
5	Spot - Terminal & Switchyard Control Building : Switchgear Room No.2								
	2271069-5	19 Sep 2022	Day time	1	420	-	300-400	-	Pass
6	Spot - Terminal & Switchyard Control Building : Switchyard Control Room No.1								
	2271069-6	19 Sep 2022	Day time	1	433	-	300-400	-	Pass
7	Spot - Terminal & Switchyard Control Building : Switchyard Control Room No.2								
	2271069-7	19 Sep 2022	Day time	1	430	-	300-400	-	Pass
8	Spot - Terminal & Switchyard Control Building : Battery Room No.2								
	2271069-8	19 Sep 2022	Day time	1	358	-	200-300	-	Pass

**Measurement by** : Supot Salamteh Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

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**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117393**

Date Received : Nov 22, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500202-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot / Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
	Area - Administration Building : Canteen and Pantry Kitchen								
1.1	22117393-1	17 Nov 2022	Day time	1	759	740.5	150	300	Pass
1.2	22117393-2	17 Nov 2022	Day time	2	722				
	Area - Administration Building : Women Toilets								
2.1	22117393-3	17 Nov 2022	Day time	1	266	251.5	50	100	Pass
2.2	22117393-4	17 Nov 2022	Day time	2	208				
2.3	22117393-5	17 Nov 2022	Day time	3	260				
2.4	22117393-6	17 Nov 2022	Day time	4	271				
2.5	22117393-7	17 Nov 2022	Day time	5	250				
2.6	22117393-8	17 Nov 2022	Day time	6	254				
	Area - Administration Building : Men Toilets								
3.1	22117393-9	17 Nov 2022	Day time	1	316	275.3	50	100	Pass
3.2	22117393-10	17 Nov 2022	Day time	2	276				
3.3	22117393-11	17 Nov 2022	Day time	3	255				
3.4	22117393-12	17 Nov 2022	Day time	4	301				
3.5	22117393-13	17 Nov 2022	Day time	5	256				
3.6	22117393-14	17 Nov 2022	Day time	6	248				
	Area - Administration Building : Walkway in Front of Reception								
4.1	22117393-15	17 Nov 2022	Day time	1	456	456.0	50	100	Pass
4.2	22117393-16	17 Nov 2022	Day time	2	511				
4.3	22117393-17	17 Nov 2022	Day time	3	401				
	Spot - Administration Building : Admin Office Table								
5	22117393-18	17 Nov 2022	Day time	1	527	-	400-500	-	Pass
	Spot - Administration Building : Purchasing Officer Table								
6	22117393-19	17 Nov 2022	Day time	1	416	-	400-500	-	Pass
	Spot - Administration Building : Admin Manager Table								
7	22117393-20	17 Nov 2022	Day time	1	511	-	400-500	-	Pass
	Spot - Administration Building : Photocopier								
8	22117393-21	17 Nov 2022	Day time	1	421	-	300-400	-	Pass

Technical Management

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**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117393**

Date Received : Nov 22, 2022  
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Report Number : 2500202-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Administration Building : Master document Room									
9.1	22117393-22	17 Nov 2022	Day time	1	411	388.0	150	300	Pass
9.2	22117393-23	17 Nov 2022	Day time	2	422				
9.3	22117393-24	17 Nov 2022	Day time	3	381				
9.4	22117393-25	17 Nov 2022	Day time	4	362				
9.5	22117393-26	17 Nov 2022	Day time	5	402				
9.6	22117393-27	17 Nov 2022	Day time	6	350				
Area - Administration Building : Admin Walkway									
10.1	22117393-28	17 Nov 2022	Day time	1	125	220.9	50	100	Pass
10.2	22117393-29	17 Nov 2022	Day time	2	208				
10.3	22117393-30	17 Nov 2022	Day time	3	214				
10.4	22117393-31	17 Nov 2022	Day time	4	262				
10.5	22117393-32	17 Nov 2022	Day time	5	259				
10.6	22117393-33	17 Nov 2022	Day time	6	211				
10.7	22117393-34	17 Nov 2022	Day time	7	226				
10.8	22117393-35	17 Nov 2022	Day time	8	251				
10.9	22117393-36	17 Nov 2022	Day time	9	232				
Spot - Administration Building : Plant Manager Table									
12	22117393-37	17 Nov 2022	Day time	1	415	-	400-500	-	Pass
Spot - Administration Building : EHS Room Tabel 1									
13	22117393-38	17 Nov 2022	Day time	1	453	-	400-500	-	Pass
Area - Administration Building : Meeting Room 1									
14.1	22117393-39	17 Nov 2022	Day time	1	316	343.9	150	300	Pass
14.2	22117393-40	17 Nov 2022	Day time	2	322				
14.3	22117393-41	17 Nov 2022	Day time	3	358				
14.4	22117393-42	17 Nov 2022	Day time	4	318				
14.5	22117393-43	17 Nov 2022	Day time	5	378				
14.6	22117393-44	17 Nov 2022	Day time	6	341				
14.7	22117393-45	17 Nov 2022	Day time	7	351				
14.8	22117393-46	17 Nov 2022	Day time	8	324				
14.9	22117393-47	17 Nov 2022	Day time	9	358				
14.10	22117393-48	17 Nov 2022	Day time	10	379				
14.11	22117393-49	17 Nov 2022	Day time	11	350				
14.12	22117393-50	17 Nov 2022	Day time	12	332				

**Measurement by** : Norranon Tathongkham Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Technical Management**

Supot Salamteh  
Section Head

**Approved by**

Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

**Client** : Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่ 4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117393**

Date Received : Nov 22, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500202-1

Page 3 of 3

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Guideline :	Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)								

Technical Management

Supot Salamteh  
Section Head

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## Analysis / Test Report

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418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117398**

Date Received : Nov 20, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500216-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Control Building : Ground Floor : Electrical Room									
1.1	22117398-1	17 Nov 2022	Night time	1	111	140.1	50	100	Pass
1.2	22117398-2	17 Nov 2022	Night time	2	164				
1.3	22117398-3	17 Nov 2022	Night time	3	179				
1.4	22117398-4	17 Nov 2022	Night time	4	138				
1.5	22117398-5	17 Nov 2022	Night time	5	198				
1.6	22117398-6	17 Nov 2022	Night time	6	109				
1.7	22117398-7	17 Nov 2022	Night time	7	119				
1.8	22117398-8	17 Nov 2022	Night time	8	127				
1.9	22117398-9	17 Nov 2022	Night time	9	116				
Area - Control Building : 1st Floor : Walkway									
2.1	22117398-10	17 Nov 2022	Night time	1	270	253.0	50	100	Pass
2.2	22117398-11	17 Nov 2022	Night time	2	200				
2.3	22117398-12	17 Nov 2022	Night time	3	101				
2.4	22117398-13	17 Nov 2022	Night time	4	261				
2.5	22117398-14	17 Nov 2022	Night time	5	413				
2.6	22117398-15	17 Nov 2022	Night time	6	273				
Area - Control Building : 1st Floor : Stairs									
3.1	22117398-16	17 Nov 2022	Night time	1	217	260.7	50	100	Pass
3.2	22117398-17	17 Nov 2022	Night time	2	300				
3.3	22117398-18	17 Nov 2022	Night time	3	265				

**Measurement by** : Norranon Tathongkham Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot Salamteh  
Section Head

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## Analysis / Test Report

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418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117399**

Date Received : Nov 20, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500219-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
	Spot - Control Building : 2nd Floor : MCC Room หน้าตู้ 1								
1	22117399-1	17 Nov 2022	Night time	1	468	-	200-300	-	Pass
	Spot - Control Building : 2nd Floor : MCC Room หน้าตู้ 2								
2	22117399-2	17 Nov 2022	Night time	1	522	-	200-300	-	Pass
	Spot - Control Building : 2nd Floor : MCC Room หน้าตู้ 3								
3	22117399-3	17 Nov 2022	Night time	1	342	-	200-300	-	Pass
	Spot - Control Building : 2nd Floor : MCC Room หน้าตู้ 4								
4	22117399-4	17 Nov 2022	Night time	1	434	-	200-300	-	Pass
	Spot - Control Building : 2nd Floor : MCC Room หน้าตู้ 5								
5	22117399-5	17 Nov 2022	Night time	1	298	-	200-300	-	Pass
	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.1								
6	22117399-6	17 Nov 2022	Day time	1	411	-	200-300	-	Pass
	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.2								
7	22117399-7	17 Nov 2022	Day time	1	322	-	200-300	-	Pass
	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.3								
8	22117399-8	17 Nov 2022	Day time	1	298	-	200-300	-	Pass
	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.4								
9	22117399-9	17 Nov 2022	Day time	1	312	-	200-300	-	Pass
	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.5								
10	22117399-10	17 Nov 2022	Day time	1	401	-	200-300	-	Pass
	Spot - Control Building : 2nd Floor : Switchgear and Electrical : Room No.6								
11	22117399-11	17 Nov 2022	Day time	1	306	-	200-300	-	Pass
	Area - Control Building : 2nd Floor : Stairs								
12.1	22117399-12	17 Nov 2022	Night time	1	174	212.3	50	100	Pass
12.2	22117399-13	17 Nov 2022	Night time	2	122				
12.3	22117399-14	17 Nov 2022	Night time	3	341				

**Measurement by** : Norranon Tathongkham Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117400**

Date Received : Nov 20, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500223-1

Page 1 of 3

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Control Building : 3rd Floor : Stairs									
1.1	22117400-1	17 Nov 2022	Night time	1	179	448.3	50	100	Pass
1.2	22117400-2	17 Nov 2022	Night time	2	622				
1.3	22117400-3	17 Nov 2022	Night time	3	544				
Area - Control Building : 3rd Floor : Walkway									
2.1	22117400-4	17 Nov 2022	Day time	1	133	231.9	50	100	Pass
2.2	22117400-5	17 Nov 2022	Day time	2	227				
2.3	22117400-6	17 Nov 2022	Day time	3	119				
2.4	22117400-7	17 Nov 2022	Day time	4	429				
2.5	22117400-8	17 Nov 2022	Day time	5	463				
2.6	22117400-9	17 Nov 2022	Day time	6	100				
2.7	22117400-10	17 Nov 2022	Day time	7	154				
2.8	22117400-11	17 Nov 2022	Day time	8	208				
2.9	22117400-12	17 Nov 2022	Day time	9	254				
2.1	22117400-13	17 Nov 2022	Night time	1	129	277.9	50	100	Pass
2.2	22117400-14	17 Nov 2022	Night time	2	351				
2.3	22117400-15	17 Nov 2022	Night time	3	409				
2.4	22117400-16	17 Nov 2022	Night time	4	412				
2.5	22117400-17	17 Nov 2022	Night time	5	541				
2.6	22117400-18	17 Nov 2022	Night time	6	109				
2.7	22117400-19	17 Nov 2022	Night time	7	164				
2.8	22117400-20	17 Nov 2022	Night time	8	199				
2.9	22117400-21	17 Nov 2022	Night time	9	187				
Area - Control Building : 3rd Floor : Men Toilets									
3.1	22117400-22	17 Nov 2022	Day time	1	201	226.5	50	100	Pass
3.2	22117400-23	17 Nov 2022	Day time	2	156				
3.3	22117400-24	17 Nov 2022	Day time	3	299				
3.4	22117400-25	17 Nov 2022	Day time	4	252				
3.5	22117400-26	17 Nov 2022	Day time	5	237				
3.6	22117400-27	17 Nov 2022	Day time	6	214				
Area - Control Building : 3rd Floor : Women Toilets									
4.1	22117400-28	17 Nov 2022	Day time	1	182	199.7	50	100	Pass
4.2	22117400-29	17 Nov 2022	Day time	2	206				
4.3	22117400-30	17 Nov 2022	Day time	3	211				

Technical Management

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**P/O** : สัญญาเลขที่ 4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117400**

Date Received : Nov 20, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500223-1

Page 2 of 3

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
	Area - Control Building : 3rd Floor : Canteen and Pantry Room								
5.1	22117400-31	17 Nov 2022	Day time	1	407	599.7	150	300	Pass
5.2	22117400-32	17 Nov 2022	Day time	2	704				
5.3	22117400-33	17 Nov 2022	Day time	3	688				
	Spot - Control Building : 3rd Floor : Operation Manager Table								
6	22117400-34	17 Nov 2022	Day time	1	764	-	400-500	-	Pass
6	22117400-35	17 Nov 2022	Night time	1	811	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Control Room Desk 1								
7	22117400-36	17 Nov 2022	Night time	1	486	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Control Room Desk 2								
8	22117400-37	17 Nov 2022	Night time	1	407	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Control Room Desk 3								
9	22117400-38	17 Nov 2022	Night time	1	417	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Control Room Desk 4								
10	22117400-39	17 Nov 2022	Night time	1	468	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Control Room Desk 5								
11	22117400-40	17 Nov 2022	Night time	1	496	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : DSC Room Desk 1								
12	22117400-41	17 Nov 2022	Night time	1	411	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Photocopier								
13	22117400-42	17 Nov 2022	Day time	1	507	-	300-400	-	Pass
	Spot - Control Building : 3rd Floor : Fax and Copy								
14	22117400-43	17 Nov 2022	Day time	1	565	-	300-400	-	Pass
	Spot - Control Building : 3rd Floor : Computer No.1								
15	22117400-44	17 Nov 2022	Day time	1	469	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : Computer No.2								
16	22117400-45	17 Nov 2022	Day time	1	442	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : โต๊ะทำงาน Operation Office 1								
17	22117400-46	17 Nov 2022	Night time	1	402	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : โต๊ะทำงาน Operation Office 2								
18	22117400-47	17 Nov 2022	Night time	1	451	-	400-500	-	Pass
	Spot - Control Building : 3rd Floor : CCTV Room Table								
19	22117400-48	17 Nov 2022	Day time	1	401	-	400-500	-	Pass

Technical Management

Supot Salamteh  
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**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117400**

Date Received : Nov 20, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500223-1

Page 3 of 3

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
20	Spot - Control Building : 3rd Floor : Control (Table No.1)								
	22117400-49	17 Nov 2022	Day time	1	431	-	400-500	-	Pass
21	Spot - Control Building : 3rd Floor : Control (Table No.2)								
	22117400-50	17 Nov 2022	Day time	1	438	-	400-500	-	Pass
22	Spot - Control Building : 3rd Floor : Computer Control No.1								
	22117400-51	17 Nov 2022	Day time	1	410	-	400-500	-	Pass
23	Spot - Control Building : 3rd Floor : Computer Control No.2								
	22117400-52	17 Nov 2022	Day time	1	415	-	400-500	-	Pass
24	Spot - Control Building : 3rd Floor : Computer Control No.3								
	22117400-53	17 Nov 2022	Day time	1	420	-	400-500	-	Pass
25	Spot - Control Building : 3rd Floor : Computer Control No.4								
	22117400-54	17 Nov 2022	Day time	1	431	-	400-500	-	Pass
26	Spot - Control Building : 3rd Floor : Computer Control No.5								
	22117400-55	17 Nov 2022	Day time	1	470	-	400-500	-	Pass
27	Spot - Control Building : 3rd Floor : Computer Control No.6								
	22117400-56	17 Nov 2022	Day time	1	429	-	400-500	-	Pass
28	Spot - Control Building : 3rd Floor : Computer Control No.7								
	22117400-57	17 Nov 2022	Day time	1	430	-	400-500	-	Pass

**Measurement by** : Norranon Tathongkham Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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## Analysis / Test Report

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418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117403**

Date Received : Nov 20, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500226-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
1	Spot - Terminal & Switchyard Control Building : Terminal Control Room No.1								
	22117403-1	17 Nov 2022	Day time	1	516	-	300-400	-	Pass
2	Spot - Terminal & Switchyard Control Building : Terminal Control Room No.2								
	22117403-2	17 Nov 2022	Day time	1	592	-	300-400	-	Pass
3	Spot - Terminal & Switchyard Control Building : Battery Room No.1								
	22117403-3	17 Nov 2022	Day time	1	294	-	200-300	-	Pass
4	Spot - Terminal & Switchyard Control Building : Switchgear Room No.1								
	22117403-4	17 Nov 2022	Day time	1	371	-	300-400	-	Pass
5	Spot - Terminal & Switchyard Control Building : Switchgear Room No.2								
	22117403-5	17 Nov 2022	Day time	1	310	-	300-400	-	Pass
6	Spot - Terminal & Switchyard Control Building : Switchyard Control Room No.1								
	22117403-6	17 Nov 2022	Day time	1	695	-	300-400	-	Pass
7	Spot - Terminal & Switchyard Control Building : Switchyard Control Room No.2								
	22117403-7	17 Nov 2022	Day time	1	428	-	300-400	-	Pass
8	Spot - Terminal & Switchyard Control Building : Battery Room No.2								
	22117403-8	17 Nov 2022	Day time	1	279	-	200-300	-	Pass

**Measurement by** : Norranon Tathongkham Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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## Analysis / Test Report

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**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117404**

Date Received : Nov 20, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500227-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
	Area - Warehouse and Workshop Building : 1st Floor : Reception Room								
1.1	22117404-1	17 Nov 2022	Day time	1	161	226.9	50	100	Pass
1.2	22117404-2	17 Nov 2022	Day time	2	164				
1.3	22117404-3	17 Nov 2022	Day time	3	152				
1.4	22117404-4	17 Nov 2022	Day time	4	182				
1.5	22117404-5	17 Nov 2022	Day time	5	320				
1.6	22117404-6	17 Nov 2022	Day time	6	314				
1.7	22117404-7	17 Nov 2022	Day time	7	212				
1.8	22117404-8	17 Nov 2022	Day time	8	155				
1.9	22117404-9	17 Nov 2022	Day time	9	382				
	Area - Warehouse and Workshop Building : 1st Floor : Warehouse Canteen and Pantry								
2.1	22117404-10	17 Nov 2022	Day time	1	341	326.0	150	300	Pass
2.2	22117404-11	17 Nov 2022	Day time	2	322				
2.3	22117404-12	17 Nov 2022	Day time	3	315				
	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.1								
3	22117404-13	17 Nov 2022	Day time	1	526	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.2								
4	22117404-14	17 Nov 2022	Day time	1	564	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.3								
5	22117404-15	17 Nov 2022	Day time	1	519	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.4								
6	22117404-16	17 Nov 2022	Day time	1	505	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.5								
7	22117404-17	17 Nov 2022	Day time	1	476	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.6								
8	22117404-18	17 Nov 2022	Day time	1	587	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.7								
9	22117404-19	17 Nov 2022	Day time	1	549	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.8								
10	22117404-20	17 Nov 2022	Day time	1	504	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.9								
11	22117404-21	17 Nov 2022	Day time	1	547	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.10								
12	22117404-22	17 Nov 2022	Day time	1	518	-	400-500	-	Pass

Technical Management

Supot Salamteh  
Section Head

Approved by

Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

**Client** : Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117404**

Date Received : Nov 20, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500227-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
13	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.11								
	22117404-23	17 Nov 2022	Day time	1	540	-	400-500	-	Pass
14	Spot - Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.12								
	22117404-24	17 Nov 2022	Day time	1	524	-	400-500	-	Pass
15	Spot - Warehouse and Workshop Building : 1st Floor : Photocopier								
	22117404-25	17 Nov 2022	Day time	1	414	-	300-400	-	Pass
16	Spot - Warehouse and Workshop Building : 1st Floor : Maintenance Manager Table								
	22117404-26	17 Nov 2022	Day time	1	610	-	400-500	-	Pass
17.1	Area - Warehouse and Workshop Building : 1st Floor : Meeting Room								
	22117404-27	17 Nov 2022	Day time	1	310	332.6	150	300	Pass
17.2	22117404-28	17 Nov 2022	Day time	2	311				
17.3	22117404-29	17 Nov 2022	Day time	3	350				
17.4	22117404-30	17 Nov 2022	Day time	4	352				
17.5	22117404-31	17 Nov 2022	Day time	5	347				
17.6	22117404-32	17 Nov 2022	Day time	6	319				
17.7	22117404-33	17 Nov 2022	Day time	7	328				
17.8	22117404-34	17 Nov 2022	Day time	8	344				

**Measurement by** : Norranon Tathongkham Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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## Analysis / Test Report

**Client** : Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117405**

Date Received : Nov 20, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500230-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Warehouse and Workshop Building : Ground Floor : Warehouse Room									
1.1	22117405-1	17 Nov 2022	Day time	1	912	516.2	100	200	Pass
1.2	22117405-2	17 Nov 2022	Day time	2	422				
1.3	22117405-3	17 Nov 2022	Day time	3	443				
1.4	22117405-4	17 Nov 2022	Day time	4	558				
1.5	22117405-5	17 Nov 2022	Day time	5	535				
1.6	22117405-6	17 Nov 2022	Day time	6	466				
1.7	22117405-7	17 Nov 2022	Day time	7	549				
1.8	22117405-8	17 Nov 2022	Day time	8	413				
1.9	22117405-9	17 Nov 2022	Day time	9	468				
1.10	22117405-10	17 Nov 2022	Day time	10	563				
1.11	22117405-11	17 Nov 2022	Day time	11	452				
1.12	22117405-12	17 Nov 2022	Day time	12	478				
1.13	22117405-13	17 Nov 2022	Day time	13	567				
1.14	22117405-14	17 Nov 2022	Day time	14	554				
1.15	22117405-15	17 Nov 2022	Day time	15	462				
1.16	22117405-16	17 Nov 2022	Day time	16	437				
1.17	22117405-17	17 Nov 2022	Day time	17	438				
1.18	22117405-18	17 Nov 2022	Day time	18	525				
Area - Warehouse and Workshop Building : Ground Floor : Walkway									
2.1	22117405-19	17 Nov 2022	Day time	1	144	223.4	50	100	Pass
2.2	22117405-20	17 Nov 2022	Day time	2	163				
2.3	22117405-21	17 Nov 2022	Day time	3	254				
2.4	22117405-22	17 Nov 2022	Day time	4	249				
2.5	22117405-23	17 Nov 2022	Day time	5	281				
2.6	22117405-24	17 Nov 2022	Day time	6	294				
2.7	22117405-25	17 Nov 2022	Day time	7	283				
2.8	22117405-26	17 Nov 2022	Day time	8	155				
2.9	22117405-27	17 Nov 2022	Day time	9	188				

Technical Management

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Section Head

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Assistant Manager

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## Analysis / Test Report

**Client** : Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117405**

Date Received : Nov 20, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500230-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
	Area - Warehouse and Workshop Building : Ground Floor : Electrical Room/Fitness Room								
3.1	22117405-28	17 Nov 2022	Day time	1	381	365.0	150	300	Pass
3.2	22117405-29	17 Nov 2022	Day time	2	345				
3.3	22117405-30	17 Nov 2022	Day time	3	346				
3.4	22117405-31	17 Nov 2022	Day time	4	368				
3.5	22117405-32	17 Nov 2022	Day time	5	376				
3.6	22117405-33	17 Nov 2022	Day time	6	374				
	Spot - Warehouse and Workshop Building : Ground Floor : C&I Cabinet								
4	22117405-34	17 Nov 2022	Day time	1	541	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : Ground Floor : C&I Table								
5	22117405-35	17 Nov 2022	Day time	1	524	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : Ground Floor : Instrument and Control								
6	22117405-36	17 Nov 2022	Day time	1	512	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : Ground Floor : Mechanical and Electrical #1								
7	22117405-37	17 Nov 2022	Day time	1	655	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : Ground Floor : Mechanical and Electrical #2								
8	22117405-38	17 Nov 2022	Day time	1	686	-	400-500	-	Pass
	Spot - Warehouse and Workshop Building : Ground Floor : Mechanical and Electrical #3								
9	22117405-39	17 Nov 2022	Day time	1	619	-	400-500	-	Pass

**Measurement by** : Norranon Tathongkham Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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## Analysis / Test Report

**Client** : Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O** : สัญญาเลขที่ 4600001511  
**Project Name** : Monitoring EIA  
**Project Location** : GNC

**Lot ID: 22117406**

Date Received : Nov 20, 2022  
Date Reported : Nov 23, 2022  
Report Number : 2500231-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
1	Spot - Water Treatment Control Building : Laboratory (หน้า Hood)								
	22117406-1	17 Nov 2022	Night time	1	523	-	300-400	-	Pass
2	Spot - Water Treatment Control Building : Laboratory (หน้า Spectrophotometer)								
	22117406-2	17 Nov 2022	Night time	1	502	-	400-500	-	Pass
3	Spot - Water Treatment Control Building : Laboratory (หน้าโต๊ะวัด pH)								
	22117406-3	17 Nov 2022	Night time	1	487	-	400-500	-	Pass
4.1	Area - Water Treatment Control Building : ทางเดินหน้าห้อง Laboratory								
	22117406-4	17 Nov 2022	Night time	1	107	109.8	25	50	Pass
4.2	22117406-5	17 Nov 2022	Night time	2	109				
4.3	22117406-6	17 Nov 2022	Night time	3	106				
4.4	22117406-7	17 Nov 2022	Night time	4	114				
4.5	22117406-8	17 Nov 2022	Night time	5	113				
4.6	22117406-9	17 Nov 2022	Night time	6	110				
4.7	22117406-10	17 Nov 2022	Night time	7	105				
4.8	22117406-11	17 Nov 2022	Night time	8	117				
4.9	22117406-12	17 Nov 2022	Night time	9	107				

**Measurement by** : Norranon Tathongkham Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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# ภาคผนวก ค-11

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การตรวจสอบความถูกต้องของระบบ CEMs ประจำปี พ.ศ. 2565



## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147476**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179727-1

Page 1 of 10

**Sample Number** 21147476-2  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.3	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.9	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	14.7	m/s
Type of Fuel	Natural Gas		Moisture	8.16	%	Flow Rate (Actual O2)	328496	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	11:30 AM - 12:30 PM	mg/m <sup>3</sup>	-	0.5	<0.5	30	60	US EPA, Method 5	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

*Saranya C.*  
Saranya Chalermthamrong  
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Approved by

*Kanok Korn Anek*  
Kanok Korn Anek  
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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147476**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179727-1

Page 2 of 10

**Sample Number** 21147476-2  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.3	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.9	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	14.7	m/s
Type of Fuel	Natural Gas		Moisture	8.16	%	Flow Rate (Actual O2)	328496	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	11:30 AM - 12:30 PM	g/s	-	-	<0.046	1.7	-	Calculated	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Sampled By :** Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.

**Technical Management**

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## Analysis / Test Report

TESTING  
No.0009

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418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147476**  
Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179727-1

Page 3 of 10

**Sample Number** 21147476-3  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.7	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	114	°C	Gas Velocity	14.7	m/s
Type of Fuel	Natural Gas		Moisture	7.87	%	Flow Rate (Actual O2)	329255	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	12:35 PM - 01:35 PM	mg/m <sup>3</sup>	-	0.5	<0.5	30	60	US EPA, Method 5	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147476**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179727-1

Page 4 of 10

**Sample Number** 21147476-3  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.7	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	114	°C	Gas Velocity	14.7	m/s
Type of Fuel	Natural Gas		Moisture	7.87	%	Flow Rate (Actual O2)	329255	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	12:35 PM - 01:35 PM	g/s	-	-	<0.046	1.7	-	Calculated	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Sampled By :** Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.

**Technical Management**

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**Approved by**

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147476**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179727-1

Page 5 of 10

**Sample Number** 21147476-4  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.3	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.9	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	14.7	m/s
Type of Fuel	Natural Gas		Moisture	7.98	%	Flow Rate (Actual O2)	329026	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	01:40 PM - 02:40 PM	mg/m <sup>3</sup>	-	0.5	<0.5	30	60	US EPA, Method 5	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

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Approved by

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147476**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179727-1

Page 6 of 10

**Sample Number** 21147476-4  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.3	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.9	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	14.7	m/s
Type of Fuel	Natural Gas		Moisture	7.98	%	Flow Rate (Actual O2)	329026	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	01:40 PM - 02:40 PM	g/s	-	-	<0.046	1.7	-	Calculated	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Sampled By :** Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.

**Technical Management**

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147476**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179727-1

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**Sample Number** 21147476-5  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	112	°C	Gas Velocity	14.7	m/s
Type of Fuel	Natural Gas		Moisture	8.19	%	Flow Rate (Actual O2)	328751	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	02:45 PM - 03:45 PM	mg/m <sup>3</sup>	-	0.5	<0.5	30	60	US EPA, Method 5	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

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**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147476**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179727-1

Page 8 of 10

**Sample Number** 21147476-5  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	112	°C	Gas Velocity	14.7	m/s
Type of Fuel	Natural Gas		Moisture	8.19	%	Flow Rate (Actual O2)	328751	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	02:45 PM - 03:45 PM	g/s	-	-	<0.046	1.7	-	Calculated	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Sampled By :** Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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**Technical Management**

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**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147476**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179727-1

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**Sample Number** 21147476-6  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.3	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.9	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	14.7	m/s
Type of Fuel	Natural Gas		Moisture	8.31	%	Flow Rate (Actual O2)	328079	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	03:50 PM - 04:50 PM	mg/m <sup>3</sup>	-	0.5	<0.5	30	60	US EPA, Method 5	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
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**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147476**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179727-1

Page 10 of 10

**Sample Number** 21147476-6  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.3	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.9	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	14.7	m/s
Type of Fuel	Natural Gas		Moisture	8.31	%	Flow Rate (Actual O2)	328079	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	03:50 PM - 04:50 PM	g/s	-	-	<0.046	1.7	-	Calculated	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Sampled By :** Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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## Analysis / Test Report

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

**P/O :** สัญญาเลขที่ 4600001511

**Project Name :** Monitoring EIA

**Project Location :** GNC

**Lot ID: 21147476**

Date Received: May 25, 2022

Date Reported: Jun 28, 2022

Report Number: 2325888-1

Page 1 of 2

**Sample Number** 21147476-1  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Parameter** Relative Response Audit

### Relative Response Audit Test Report

No Sample	Date	Time		CEMS Values		RM Values (mg/m <sup>3</sup> )	Allowable Range		Criterion
		Start	Stop	(%Opacity)	(mg/m <sup>3</sup> )		Minimum	Maximum	
1	23-May-22	11:30	12:30	2.29	1.00	0.41	-6.00	8.00	Pass
2	23-May-22	12:35	13:35	2.08	0.91	0.00	-6.09	7.91	Pass
3	23-May-22	13:40	14:40	1.93	0.84	0.42	-6.16	7.84	Pass
4	23-May-22	14:45	15:45	1.86	0.80	0.00	-6.20	7.80	Pass
5	23-May-22	15:50	16:50	1.86	0.80	0.42	-6.20	7.80	Pass

Remark: -Relative Response Audit is refer to 40 CFR Part 60 Appendix B : Performance Specification 11 : Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Source (PS-11)  
- Correlation Equation of Linear curve  $Y = 0.4554X - 0.0419$   
-Emission limit 28 mg/m3 from Environmental Impact Assessment Report of Gulf NC Co.,Ltd.

**Technical Management**

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ว-204-ค-6113

**Approved by**

Sarayuth Jitranont  
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## Analysis / Test Report

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

**P/O :** สัญญาเลขที่ 4600001511

**Project Name :** Monitoring EIA

**Project Location :** GNC

**Lot ID: 21147476**

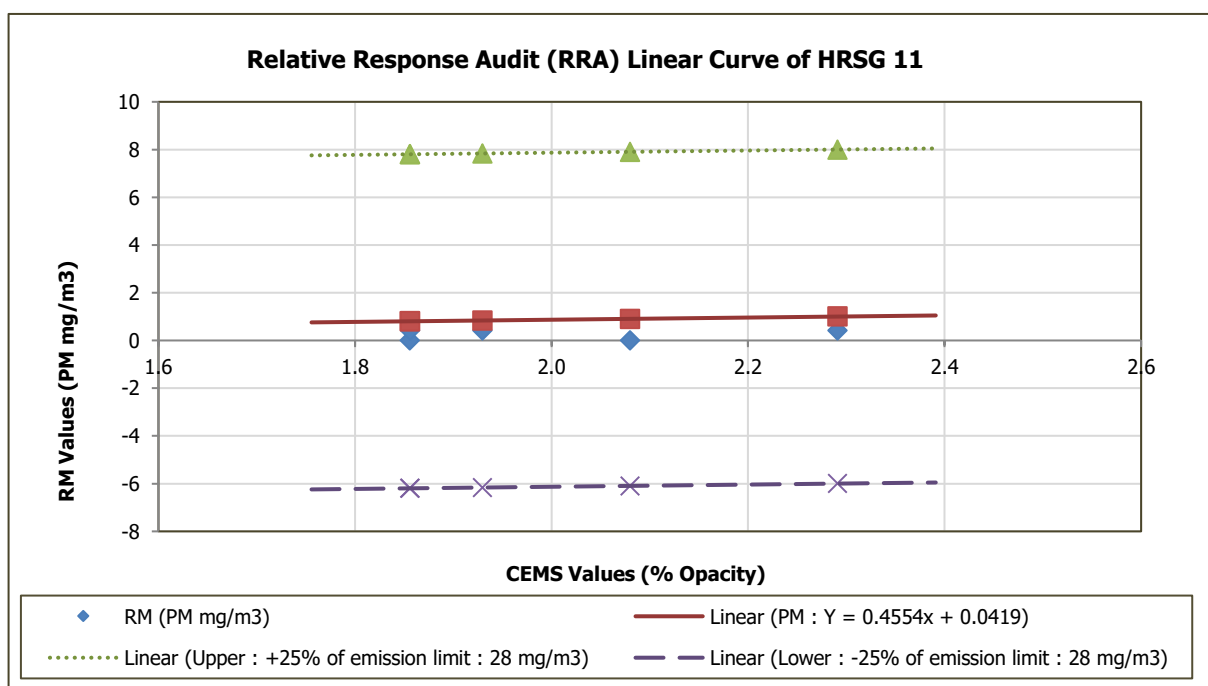
Date Received: May 25, 2022

Date Reported: Jun 28, 2022

Report Number: 2325888-1

Page 2 of 2

**Sample Number** 21147476-1  
**Sampled Date** May 23, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Parameter** Relative Response Audit



**Sampled By :** Thitipong Buadaeng

**Technical Management**

*Wichan Choonharat*

Wichan Choonharat  
Manager  
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**Approved by**

*Sarayuth Jittranont*

Sarayuth Jittranont  
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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147480**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179732-1

Page 1 of 10

**Sample Number** 21147480-2  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	14.3	m/s
Type of Fuel	Natural Gas		Moisture	7.42	%	Flow Rate (Actual O2)	324777	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	10:30 AM - 11:30 AM	mg/m <sup>3</sup>	-	0.5	<0.5	30	60	US EPA, Method 5	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
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**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147480**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179732-1

Page 2 of 10

**Sample Number** 21147480-2  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	14.3	m/s
Type of Fuel	Natural Gas		Moisture	7.42	%	Flow Rate (Actual O2)	324777	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	10:30 AM - 11:30 AM	g/s	-	-	<0.046	1.7	-	Calculated	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Sampled By :** Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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## Analysis / Test Report

TESTING  
No.0009

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**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147480**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179732-1

Page 3 of 10

**Sample Number** 21147480-3  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.9	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	14.3	m/s
Type of Fuel	Natural Gas		Moisture	7.66	%	Flow Rate (Actual O2)	323925	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	11:35 AM - 12:35 PM	mg/m <sup>3</sup>	-	0.5	<0.5	30	60	US EPA, Method 5	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

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Approved by

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147480**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179732-1

Page 4 of 10

**Sample Number** 21147480-3  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.9	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	14.3	m/s
Type of Fuel	Natural Gas		Moisture	7.66	%	Flow Rate (Actual O2)	323925	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	11:35 AM - 12:35 PM	g/s	-	-	<0.044	1.7	-	Calculated	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Sampled By :** Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147480**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179732-1

Page 5 of 10

**Sample Number** 21147480-4  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	14.3	m/s
Type of Fuel	Natural Gas		Moisture	7.67	%	Flow Rate (Actual O2)	323852	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	12:40 PM - 01:40 PM	mg/m <sup>3</sup>	-	0.5	<0.5	30	60	US EPA, Method 5	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147480**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179732-1

Page 6 of 10

**Sample Number** 21147480-4  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	14.3	m/s
Type of Fuel	Natural Gas		Moisture	7.67	%	Flow Rate (Actual O2)	323852	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	12:40 PM - 01:40 PM	g/s	-	-	<0.045	1.7	-	Calculated	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Sampled By :** Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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Technical Management

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147480**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179732-1

Page 7 of 10

**Sample Number** 21147480-5  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	14.3	m/s
Type of Fuel	Natural Gas		Moisture	7.66	%	Flow Rate (Actual O2)	324096	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	01:45 PM - 02:45 PM	mg/m <sup>3</sup>	-	0.5	<0.5	30	60	US EPA, Method 5	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
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**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147480**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179732-1

Page 8 of 10

**Sample Number** 21147480-5  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	14.3	m/s
Type of Fuel	Natural Gas		Moisture	7.66	%	Flow Rate (Actual O2)	324096	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	01:45 PM - 02:45 PM	g/s	-	-	<0.045	1.7	-	Calculated	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Sampled By :** Thitipong Buadaeng

Remark :

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147480**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179732-1

Page 9 of 10

**Sample Number** 21147480-6  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	14.3	m/s
Type of Fuel	Natural Gas		Moisture	7.70	%	Flow Rate (Actual O2)	323966	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	02:50 PM - 03:50 PM	mg/m <sup>3</sup>	-	0.5	<0.5	30	60	US EPA, Method 5	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110  
**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147480**

Date Received : May 25, 2022  
Date Reported : Jun 07, 2022  
Report Number: 2179732-1

Page 10 of 10

**Sample Number** 21147480-6  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one amber plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	14.3	m/s
Type of Fuel	Natural Gas		Moisture	7.70	%	Flow Rate (Actual O2)	323966	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	02:50 PM - 03:50 PM	g/s	-	-	<0.045	1.7	-	Calculated	Bangkok

**Guideline :** Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Sampled By :** Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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## Analysis / Test Report

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**P/O :** สัญญาเลขที่ 4600001511  
**Project Name :** Monitoring EIA  
**Project Location :** GNC

**Lot ID: 21147480**

Date Received: May 25, 2022

Date Reported: Jun 28, 2022

Report Number: 2325887-1

Page 1 of 2

**Sample Number** 21147480-1  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Parameter** Relative Response Audit

### Relative Response Audit Test Report

No Sample	Date	Time		CEMS Values		RM Values (mg/m <sup>3</sup> )	Allowable Range		Criterion
		Start	Stop	(%Opacity)	(mg/m <sup>3</sup> )		Minimum	Maximum	
1	24-May-22	10:30	11:30	1.38	0.66	0.49	-6.34	7.66	Pass
2	24-May-22	11:35	12:35	1.45	0.68	0.29	-6.32	7.68	Pass
3	24-May-22	12:40	13:40	1.52	0.71	0.29	-6.29	7.71	Pass
4	24-May-22	13:45	14:45	1.48	0.70	0.39	-6.30	7.70	Pass
5	24-May-22	14:50	15:38	1.63	0.75	0.00	-6.25	7.75	Pass

Remark: -Relative Response Audit is refer to 40 CFR Part 60 Appendix B : Performance Specification 11 : Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Source (PS-11)  
- Correlation Equation of Linear curve  $Y = 0.3628X + 0.1576$   
-Emission limit 28 mg/m3 from Environmental Impact Assessment Report of Gulf NC Co.,Ltd.

**Technical Management**

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ว-204-ค-6113

**Approved by**

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## Analysis / Test Report

**Client :** Gulf NC Co., Ltd.  
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

**P/O :** สัญญาเลขที่ 4600001511

**Project Name :** Monitoring EIA

**Project Location :** GNC

**Lot ID: 21147480**

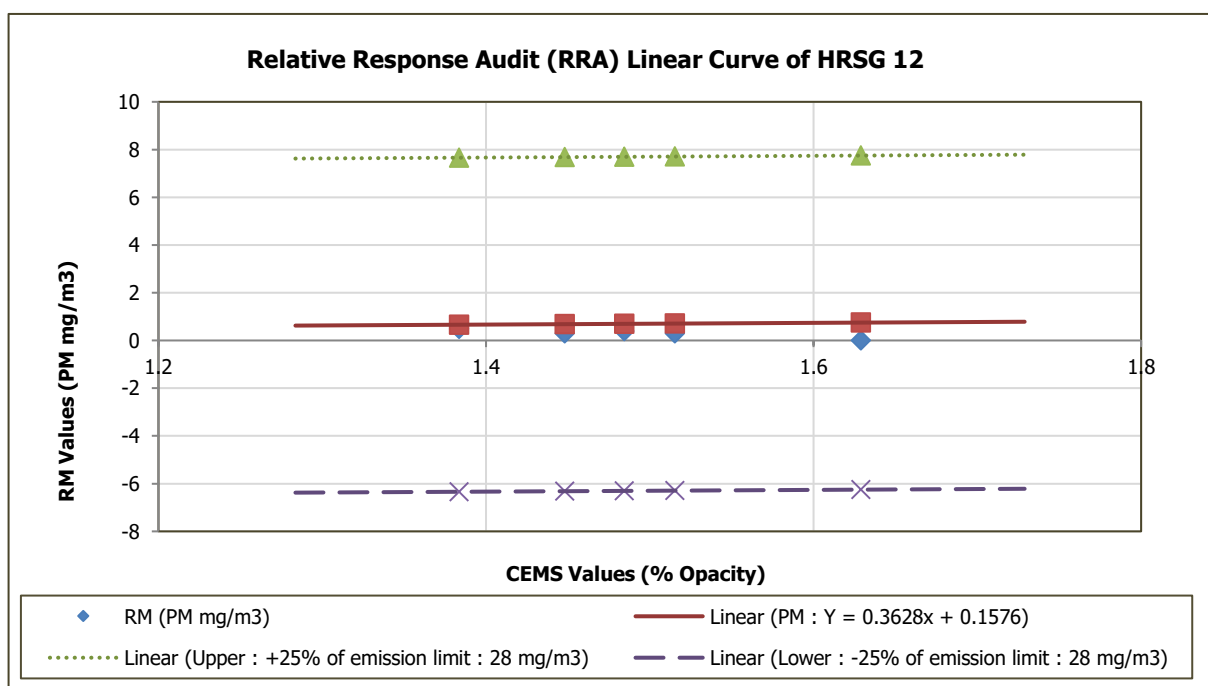
Date Received: May 25, 2022

Date Reported: Jun 28, 2022

Report Number: 2325887-1

Page 2 of 2

**Sample Number** 21147480-1  
**Sampled Date** May 24, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Parameter** Relative Response Audit



**Sampled By :** Thitipong Buadaeng

**Technical Management**

*Wichan Choonharat*

Wichan Choonharat

Manager

ทะเบียนเลขที่ ว-204-ค-6113

**Approved by**

*Sarayuth Jittranont*

Sarayuth Jittranont

Assistant General Manager

ทะเบียนเลขที่ ว-204-ค-4702

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