

ภาคผนวก ก
แบบบันทึกการทดสอบ RELATIVE ACCURACY



Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

DATE : 4 October 2022

Location : HRSO GAS TURBINE GENERATOR

Run No.	Time		O ₂			NO _x			SO ₂			Load (MWh)
	Start	Stop	RM	CEMS	Diff(d _i)	RM	CEMS	Diff(d _i)	RM	CEMS	Diff(d _i)	
			% by Vol			ppmvd @7%O ₂			ppmvd @7%O ₂			
1	11:00 AM	11:20 AM	13.63	13.79	-0.16	29.67	27.64	2.04	0.65	1.30	-0.65	1155.68
2	11:21 AM	11:41 AM	13.63	13.79	-0.17	30.32	28.24	2.08	0.68	1.29	-0.61	1155.68
3	11:42 AM	12:02 PM	13.62	13.79	-0.17	30.33	28.52	1.81	0.63	1.24	-0.61	1155.68
4	12:03 PM	12:23 PM	13.62	13.79	-0.17	30.40	28.57	1.83	0.52	1.20	-0.68	1155.68
5	12:40 PM	1:00 PM	13.60	13.78	-0.19	30.76	28.81	1.95	0.77	1.14	-0.37	1155.68
6	1:01 PM	1:21 PM	13.59	13.78	-0.19	30.81	28.89	1.92	0.85	1.13	-0.27	1155.68
7	1:22 PM	1:42 PM	13.58	13.78	-0.20	30.65	28.70	1.94	0.96	1.11	-0.14	1155.68
8	1:43 PM	2:03 PM	13.58	13.78	-0.20	30.67	28.87	1.80	0.89	1.09	-0.20	1155.68
9	2:15 PM	2:35 PM	13.60	13.79	-0.20	30.39	28.37	2.02	1.12	1.06	0.06	1155.68
10	2:36 PM	2:56 PM	13.61	13.80	-0.20	29.82	28.00	1.82	1.06	1.03	0.03	1155.68
11	2:57 PM	3:17 PM	13.57	13.77	-0.20	29.67	27.95	1.72	0.76	1.05	-0.30	1155.68
12	3:18 PM	3:38 PM	13.56	13.76	-0.20	29.46	28.04	1.42	0.75	1.06	-0.31	1155.68
Average			13.60	13.79	-0.19	30.25	28.38	1.86	0.80	1.14	-0.34	
Confidence Coefficient			-			0.11			0.16			
Relative Accuracy			0.19			6.53			5.01			
Performance Specification			+/-1%O ₂ ****			20%***			10%****			

** 20% of RM value

*** 10% of Emission Standard value (60 ppmvd@7%O₂ for NO_x, 10 ppmvd@7% O₂ for SO₂)

**** 1 % O₂

Signature

Site Operation

Field Department Manager

Thai Environmental Technic Limited 1/6 Soi Ramkhamhaeng 145 Khwaeng/Khet Saphan Sung Bangkok 10240 Thailand
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Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: HRSO GAS TURBINE GENERATOR Run Number: 1

Date: 4-Oct-22 Start Time: 11:00 End Time: 11:20

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.63	13.79	15.59	14.02	0.44	0.69
2nd minute	13.63	13.78	15.53	14.03	0.45	0.68
3rd minute	13.63	13.78	15.60	14.04	0.44	0.68
4th minute	13.62	13.78	15.65	13.97	0.46	0.68
5th minute	13.64	13.79	15.63	13.96	0.46	0.66
6th minute	13.63	13.78	15.61	13.98	0.45	0.67
7th minute	13.63	13.79	15.62	13.81	0.37	0.68
8th minute	13.64	13.79	15.58	13.99	0.30	0.68
9th minute	13.65	13.79	15.58	14.24	0.33	0.64
10th minute	13.64	13.79	15.60	13.98	0.39	0.66
11th minute	13.63	13.78	15.61	14.14	0.39	0.67
12th minute	13.63	13.78	15.66	14.40	0.36	0.66
13th minute	13.64	13.79	15.76	14.37	0.38	0.66
14th minute	13.64	13.79	15.75	14.38	0.39	0.65
15th minute	13.65	13.80	15.69	14.30	0.42	0.64
16th minute	13.65	13.78	15.68	14.29	0.40	0.65
17th minute	13.63	13.78	15.74	14.35	0.42	0.64
18th minute	13.63	13.80	15.92	14.25	0.37	0.65
19th minute	13.65	13.80	15.96	14.04	0.36	0.67
20th minute	13.63	13.80	15.87	14.13	0.43	0.66
21st minute	13.64	13.79	15.86	14.28	0.42	0.66
Average	13.64	13.79	15.69	14.14	0.40	0.66

Signature

Site Operator

Field Department Manager



Thai Environmental Technic Limited
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Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSB GAS TURBINE GENERATOR** Run Number: **2**

Date: **4-Oct-22** Start Time: **11:21** End Time: **11:41**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.63	13.79	15.93	14.29	0.40	0.68
2nd minute	13.64	13.79	16.03	14.20	0.40	0.67
3rd minute	13.63	13.79	16.07	14.28	0.39	0.67
4th minute	13.64	13.80	16.08	14.26	0.39	0.67
5th minute	13.63	13.79	16.04	14.37	0.43	0.66
6th minute	13.64	13.79	16.04	14.51	0.41	0.66
7th minute	13.64	13.80	16.07	14.63	0.42	0.65
8th minute	13.64	13.80	16.07	14.63	0.43	0.64
9th minute	13.62	13.79	16.05	14.72	0.47	0.65
10th minute	13.63	13.80	16.06	14.48	0.43	0.66
11th minute	13.64	13.80	16.04	14.24	0.47	0.66
12th minute	13.63	13.78	15.97	14.41	0.51	0.67
13th minute	13.64	13.79	15.99	14.49	0.48	0.65
14th minute	13.63	13.80	16.07	14.32	0.49	0.64
15th minute	13.65	13.80	16.02	14.22	0.49	0.65
16th minute	13.63	13.79	15.96	14.45	0.35	0.67
17th minute	13.63	13.80	16.02	14.35	0.33	0.67
18th minute	13.66	13.80	16.01	14.26	0.34	0.66
19th minute	13.64	13.79	16.00	14.63	0.37	0.66
20th minute	13.62	13.79	16.01	14.80	0.37	0.66
21st minute	13.64	13.80	16.12	14.62	0.37	0.65
Average	13.64	13.79	16.03	14.44	0.42	0.66

Signature

ydu S.

Site Operator

Piyachai B

Field Department Manager



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Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSB GAS TURBINE GENERATOR** Run Number: **3**

Date: **4-Oct-22** Start Time: **11:42** End Time: **12:02**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.64	13.79	16.02	14.60	0.34	0.63
2nd minute	13.63	13.79	15.95	14.77	0.35	0.65
3rd minute	13.63	13.79	16.04	14.76	0.37	0.64
4th minute	13.65	13.81	16.10	14.43	0.38	0.64
5th minute	13.64	13.80	15.99	14.32	0.41	0.64
6th minute	13.63	13.80	15.91	14.43	0.40	0.64
7th minute	13.64	13.80	15.95	14.42	0.40	0.64
8th minute	13.63	13.79	16.00	14.48	0.42	0.65
9th minute	13.62	13.79	16.06	14.51	0.43	0.65
10th minute	13.63	13.79	16.12	14.49	0.41	0.65
11th minute	13.62	13.79	16.06	14.62	0.43	0.65
12th minute	13.62	13.79	16.03	14.72	0.42	0.63
13th minute	13.63	13.79	16.07	14.81	0.39	0.63
14th minute	13.64	13.80	16.11	14.79	0.41	0.62
15th minute	13.62	13.80	16.09	14.72	0.38	0.61
16th minute	13.64	13.79	16.02	14.56	0.35	0.62
17th minute	13.62	13.78	16.02	14.71	0.39	0.62
18th minute	13.63	13.78	16.10	14.65	0.41	0.62
19th minute	13.62	13.79	16.21	14.50	0.37	0.62
20th minute	13.64	13.79	16.14	14.47	0.36	0.63
21st minute	13.63	13.79	16.06	14.54	0.39	0.64
Average	13.63	13.79	16.05	14.59	0.39	0.63

Signature

ydu S.

Site Operator

Piyachai B

Field Department Manager



Thai Environmental Technic Limited
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Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRS G GAS TURBINE GENERATOR** Run Number: **4**
Date: **4-Oct-22** Start Time: **12:03** End Time: **12:23**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.63	13.79	16.07	14.48	0.37	0.64
2nd minute	13.63	13.80	16.12	14.42	0.36	0.64
3rd minute	13.64	13.79	16.08	14.51	0.35	0.64
4th minute	13.62	13.78	16.08	14.77	0.20	0.64
5th minute	13.62	13.78	16.16	14.89	0.34	0.61
6th minute	13.62	13.79	16.24	14.79	0.29	0.58
7th minute	13.64	13.80	16.17	14.69	0.36	0.59
8th minute	13.63	13.80	16.09	14.77	0.35	0.59
9th minute	13.64	13.80	16.06	14.62	0.42	0.60
10th minute	13.63	13.79	16.11	14.57	0.39	0.61
11th minute	13.62	13.79	16.11	14.52	0.32	0.60
12th minute	13.62	13.79	16.12	14.60	0.34	0.61
13th minute	13.63	13.79	16.14	14.54	0.36	0.62
14th minute	13.63	13.79	16.13	14.44	0.37	0.64
15th minute	13.64	13.80	16.09	14.31	0.30	0.62
16th minute	13.63	13.80	16.01	14.43	0.34	0.62
17th minute	13.62	13.79	15.97	14.59	0.32	0.61
18th minute	13.63	13.79	16.01	14.70	0.33	0.60
19th minute	13.64	13.80	16.04	14.62	0.26	0.61
20th minute	13.63	13.79	16.06	14.66	0.30	0.60
21st minute	13.61	13.79	16.01	14.83	0.34	0.60
Average	13.63	13.79	16.09	14.61	0.33	0.61

Signature

Ydun S.

Site Operator

Piyachon B

Field Department Manager



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Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRS G GAS TURBINE GENERATOR** Run Number: **5**
Date: **4-Oct-22** Start Time: **12:40** End Time: **13:00**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.63	13.79	16.47	14.60	0.34	0.60
2nd minute	13.63	13.79	16.41	14.56	0.35	0.61
3rd minute	13.62	13.79	16.30	14.47	0.41	0.61
4th minute	13.60	13.78	16.26	14.60	0.42	0.60
5th minute	13.60	13.78	16.32	14.85	0.33	0.59
6th minute	13.62	13.79	16.40	14.80	0.36	0.58
7th minute	13.62	13.80	16.39	14.65	0.38	0.58
8th minute	13.63	13.80	16.24	14.67	0.42	0.57
9th minute	13.62	13.78	16.14	14.91	0.40	0.57
10th minute	13.59	13.77	16.21	14.98	0.48	0.58
11th minute	13.60	13.77	16.35	14.89	0.47	0.58
12th minute	13.61	13.78	16.46	14.83	0.51	0.58
13th minute	13.62	13.79	16.40	14.57	0.53	0.59
14th minute	13.62	13.79	16.33	14.47	0.59	0.60
15th minute	13.62	13.79	16.25	14.53	0.62	0.59
16th minute	13.59	13.77	16.24	14.74	0.70	0.58
17th minute	13.59	13.78	16.34	14.87	0.72	0.58
18th minute	13.60	13.78	16.40	14.88	0.62	0.57
19th minute	13.60	13.78	16.32	14.93	0.63	0.57
20th minute	13.60	13.78	16.27	14.93	0.68	0.57
21st minute	13.61	13.78	16.29	15.02	0.64	0.57
Average	13.61	13.78	16.32	14.75	0.50	0.58

Signature

Ydun S.

Site Operator

Piyachon B

Field Department Manager

**TET**

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Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSB GAS TURBINE GENERATOR** Run Number: **6**
Date: **4-Oct-22** Start Time: **13:01** End Time: **13:21**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.61	13.77	16.34	15.07	0.66	0.56
2nd minute	13.60	13.78	16.39	14.80	0.69	0.58
3rd minute	13.61	13.78	16.41	14.64	0.61	0.59
4th minute	13.60	13.78	16.28	14.73	0.57	0.59
5th minute	13.59	13.77	16.31	14.76	0.58	0.59
6th minute	13.62	13.78	16.40	14.66	0.44	0.60
7th minute	13.60	13.78	16.35	14.52	0.39	0.58
8th minute	13.62	13.78	16.30	14.69	0.40	0.58
9th minute	13.60	13.77	16.29	14.87	0.39	0.58
10th minute	13.58	13.77	16.34	15.09	0.52	0.57
11th minute	13.61	13.78	16.40	15.13	0.62	0.58
12th minute	13.62	13.79	16.41	14.89	0.59	0.58
13th minute	13.60	13.78	16.33	14.99	0.59	0.57
14th minute	13.60	13.77	16.34	14.96	0.60	0.57
15th minute	13.60	13.78	16.44	14.83	0.52	0.58
16th minute	13.60	13.78	16.44	14.63	0.50	0.58
17th minute	13.59	13.76	16.41	14.86	0.49	0.57
18th minute	13.59	13.77	16.45	14.80	0.57	0.56
19th minute	13.60	13.79	16.50	14.65	0.60	0.57
20th minute	13.61	13.79	16.38	14.64	0.57	0.58
21st minute	13.62	13.79	16.24	14.69	0.58	0.55
Average	13.60	13.78	16.37	14.80	0.55	0.58

Signature

[Signature]
Site Operator

[Signature]
Field Department Manager

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSB GAS TURBINE GENERATOR** Run Number: **7**
Date: **4-Oct-22** Start Time: **13:22** End Time: **13:42**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.61	13.78	16.16	14.97	0.53	0.55
2nd minute	13.59	13.77	16.26	15.13	0.53	0.56
3rd minute	13.59	13.78	16.42	15.01	0.47	0.56
4th minute	13.60	13.78	16.47	14.76	0.46	0.57
5th minute	13.60	13.79	16.37	14.59	0.55	0.56
6th minute	13.61	13.78	16.24	14.56	0.65	0.57
7th minute	13.59	13.78	16.22	14.65	0.61	0.58
8th minute	13.60	13.78	16.32	14.62	0.66	0.57
9th minute	13.60	13.79	16.31	14.50	0.71	0.57
10th minute	13.61	13.79	16.26	14.49	0.62	0.58
11th minute	13.59	13.78	16.21	14.66	0.72	0.58
12th minute	13.59	13.77	16.25	15.03	0.68	0.58
13th minute	13.59	13.78	16.36	15.08	0.63	0.55
14th minute	13.62	13.79	16.36	14.83	0.65	0.54
15th minute	13.61	13.79	16.24	14.73	0.96	0.54
16th minute	13.60	13.79	16.20	14.51	0.68	0.56
17th minute	13.59	13.77	16.21	14.52	0.59	0.56
18th minute	13.60	13.77	16.30	14.61	0.60	0.58
19th minute	13.59	13.78	16.34	14.52	0.37	0.59
20th minute	13.61	13.79	16.31	14.39	0.45	0.59
21st minute	13.60	13.78	16.22	14.55	0.58	0.57
Average	13.60	13.78	16.29	14.70	0.60	0.57

Signature

[Signature]
Site Operator

[Signature]
Field Department Manager

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS TURBINE GENERATOR** Run Number: **8**
Date: **4-Oct-22** Start Time: **13:43** End Time: **14:03**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.58	13.78	16.27	14.72	0.60	0.58
2nd minute	13.61	13.78	16.38	14.88	0.67	0.58
3rd minute	13.61	13.78	16.36	14.86	0.63	0.56
4th minute	13.60	13.78	16.25	14.87	0.64	0.55
5th minute	13.60	13.77	16.27	14.99	0.73	0.54
6th minute	13.60	13.78	16.30	14.89	0.66	0.55
7th minute	13.59	13.78	16.29	14.72	0.63	0.54
8th minute	13.60	13.78	16.28	14.59	0.65	0.54
9th minute	13.60	13.78	16.24	14.58	0.73	0.57
10th minute	13.60	13.77	16.22	14.69	0.60	0.57
11th minute	13.58	13.77	16.30	14.76	0.59	0.57
12th minute	13.59	13.77	16.42	14.77	0.49	0.59
13th minute	13.59	13.77	16.43	14.90	0.66	0.59
14th minute	13.59	13.78	16.39	14.78	0.57	0.58
15th minute	13.59	13.78	16.34	14.82	0.56	0.57
16th minute	13.59	13.76	16.28	15.05	0.47	0.55
17th minute	13.59	13.78	16.33	15.18	0.48	0.53
18th minute	13.61	13.79	16.36	14.87	0.32	0.53
19th minute	13.61	13.78	16.27	14.71	0.37	0.56
20th minute	13.60	13.78	16.21	14.60	0.39	0.54
21st minute	13.61	13.79	16.25	14.47	0.51	0.55
Average	13.60	13.78	16.31	14.80	0.57	0.56

Signature

ydu S.
Site Operator

Piyachon B
Field Department Manager



Thai Environmental Technic Limited
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Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS TURBINE GENERATOR** Run Number: **9**
Date: **4-Oct-22** Start Time: **14:15** End Time: **14:35**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.60	13.79	15.97	14.37	0.57	0.56
2nd minute	13.61	13.79	15.97	14.36	0.57	0.56
3rd minute	13.61	13.78	16.00	14.37	0.55	0.55
4th minute	13.60	13.78	16.06	14.52	0.62	0.56
5th minute	13.61	13.79	16.19	14.45	0.60	0.55
6th minute	13.63	13.80	16.16	14.32	0.66	0.54
7th minute	13.61	13.78	16.03	14.58	0.52	0.54
8th minute	13.58	13.77	16.07	14.80	0.58	0.55
9th minute	13.60	13.78	16.16	14.77	0.62	0.54
10th minute	13.61	13.78	16.17	14.77	0.68	0.53
11th minute	13.60	13.79	16.11	14.87	0.64	0.54
12th minute	13.61	13.80	16.08	14.59	0.77	0.54
13th minute	13.61	13.79	16.04	14.51	0.79	0.53
14th minute	13.59	13.77	16.00	14.59	0.70	0.54
15th minute	13.60	13.78	16.12	14.57	0.58	0.55
16th minute	13.61	13.79	16.19	14.37	0.81	0.54
17th minute	13.61	13.80	16.14	14.41	0.88	0.54
18th minute	13.66	13.82	16.05	14.30	0.90	0.55
19th minute	13.64	13.82	15.97	14.26	0.99	0.53
20th minute	13.62	13.81	15.91	14.38	0.84	0.53
21st minute	13.64	13.82	15.92	14.47	0.81	0.53
Average	13.61	13.79	16.06	14.51	0.70	0.54

Signature

ydu S.
Site Operator

Piyachon B
Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS TURBINE GENERATOR** Run Number: **10**
Date: **4-Oct-22** Start Time: **14:36** End Time: **14:56**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.63	13.82	15.92	14.46	0.87	0.53
2nd minute	13.65	13.82	15.84	14.44	0.62	0.52
3rd minute	13.63	13.80	15.77	14.60	0.49	0.52
4th minute	13.61	13.79	15.79	14.67	0.57	0.52
5th minute	13.62	13.81	15.92	14.60	1.01	0.51
6th minute	13.63	13.82	15.96	14.28	1.15	0.52
7th minute	13.63	13.81	15.83	14.17	0.94	0.53
8th minute	13.64	13.81	15.74	14.17	0.65	0.52
9th minute	13.63	13.81	15.73	14.22	0.62	0.53
10th minute	13.63	13.82	15.75	14.09	0.43	0.53
11th minute	13.63	13.81	15.70	14.05	0.27	0.52
12th minute	13.63	13.80	15.62	14.23	0.36	0.52
13th minute	13.62	13.81	15.71	14.09	0.70	0.53
14th minute	13.65	13.82	15.69	13.92	0.58	0.55
15th minute	13.62	13.80	15.55	14.11	0.38	0.53
16th minute	13.62	13.80	15.56	14.20	0.42	0.54
17th minute	13.63	13.80	15.64	14.04	0.73	0.54
18th minute	13.60	13.78	15.59	14.27	0.69	0.53
19th minute	13.59	13.78	15.65	14.46	0.66	0.52
20th minute	13.59	13.78	15.77	14.54	0.96	0.51
21st minute	13.60	13.78	15.81	14.58	0.85	0.52
Average	13.62	13.80	15.74	14.29	0.66	0.53

Signature

yden S.
Site Operator

Piyachon B

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS TURBINE GENERATOR** Run Number: **11**
Date: **4-Oct-22** Start Time: **14:57** End Time: **15:17**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.62	13.79	15.82	14.44	0.57	0.52
2nd minute	13.58	13.77	15.75	14.41	0.72	0.53
3rd minute	13.56	13.75	15.79	14.66	0.49	0.53
4th minute	13.58	13.77	15.96	14.52	0.01	0.52
5th minute	13.60	13.78	15.99	14.28	0.49	0.54
6th minute	13.59	13.78	15.87	14.27	0.04	0.55
7th minute	13.59	13.77	15.74	14.21	0.13	0.54
8th minute	13.59	13.77	15.73	14.24	0.28	0.52
9th minute	13.61	13.78	15.72	14.12	0.10	0.51
10th minute	13.61	13.79	15.66	14.00	0.89	0.53
11th minute	13.60	13.79	15.57	13.97	0.84	0.55
12th minute	13.59	13.78	15.57	14.00	0.94	0.56
13th minute	13.59	13.78	15.56	14.09	0.89	0.56
14th minute	13.59	13.77	15.65	14.27	1.10	0.57
15th minute	13.59	13.78	15.72	14.24	0.68	0.56
16th minute	13.60	13.78	15.69	14.23	0.67	0.56
17th minute	13.59	13.76	15.60	14.55	0.43	0.55
18th minute	13.58	13.77	15.65	14.66	0.64	0.54
19th minute	13.59	13.77	15.75	14.70	0.40	0.54
20th minute	13.58	13.76	15.79	14.57	0.14	0.52
21st minute	13.58	13.76	15.78	14.46	0.19	0.53
Average	13.59	13.77	15.73	14.33	0.51	0.54

Signature

yden S.
Site Operator

Piyachon B

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS TURBINE GENERATOR** Run Number: **12**

Date: **4-Oct-22** Start Time: **15:18** End Time: **15:38**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	13.58	13.77	15.74	14.28	0.43	0.53
2nd minute	13.59	13.77	15.65	14.17	0.29	0.53
3rd minute	13.58	13.76	15.53	14.24	0.01	0.53
4th minute	13.57	13.76	15.58	14.26	0.15	0.55
5th minute	13.57	13.75	15.63	14.35	0.22	0.54
6th minute	13.58	13.77	15.69	14.31	0.64	0.54
7th minute	13.60	13.78	15.64	14.02	0.48	0.55
8th minute	13.59	13.77	15.55	14.06	0.26	0.55
9th minute	13.57	13.76	15.52	14.31	0.18	0.55
10th minute	13.57	13.76	15.63	14.44	0.48	0.56
11th minute	13.58	13.77	15.71	14.28	0.38	0.56
12th minute	13.60	13.77	15.69	14.35	0.63	0.56
13th minute	13.58	13.77	15.57	14.39	0.89	0.56
14th minute	13.58	13.76	15.57	14.53	1.21	0.55
15th minute	13.56	13.76	15.57	14.74	0.81	0.53
16th minute	13.58	13.76	15.69	14.75	0.74	0.55
17th minute	13.57	13.76	15.73	14.72	1.22	0.55
18th minute	13.57	13.76	15.76	14.70	1.22	0.54
19th minute	13.57	13.76	15.78	14.50	0.25	0.54
20th minute	13.58	13.77	15.73	14.42	0.05	0.54
21st minute	13.58	13.77	15.65	14.40	0.06	0.55
Average	13.58	13.76	15.65	14.39	0.50	0.55

Signature

yden S.
Site Operator

Piyacha B
Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

DATE : 5 October 2022

Location : HRSR GAS ENGINE 1

Run No.	Time		O ₂		NO _x		SO ₂		Load (MW/h)
	Start	Stop	RM	CEMS	Diff(d)	ppmvd @7%O ₂	RM	CEMS	Diff(d)
1	11:00 AM	11:20 AM	11.60	11.67	-0.07	36.40	0.87	0.61	0.26
2	11:21 AM	11:41 AM	11.68	11.78	-0.09	40.10	0.77	0.78	-0.01
3	11:42 AM	12:02 PM	11.69	11.78	-0.10	39.33	0.53	0.73	-0.20
4	12:03 PM	12:23 PM	11.66	11.77	-0.12	40.80	0.18	0.68	-0.50
5	12:30 PM	12:50 PM	11.67	11.77	-0.10	40.10	0.57	0.67	-0.10
6	12:51 PM	1:11 PM	11.67	11.79	-0.12	38.89	1.02	0.67	0.35
7	1:12 PM	1:32 PM	11.67	11.79	-0.12	35.99	0.39	0.66	-0.27
8	1:33 PM	1:53 PM	11.65	11.78	-0.14	34.05	0.97	0.64	0.34
9	2:00 PM	2:20 PM	11.45	11.61	-0.16	34.51	1.00	0.66	0.34
10	2:21 PM	2:41 PM	11.59	11.73	-0.14	36.58	0.87	0.70	0.16
11	2:42 PM	3:02 PM	11.62	11.77	-0.14	35.08	0.72	0.71	0.01
12	3:03 PM	3:23 PM	11.61	11.74	-0.13	40.81	0.58	0.71	-0.12
Average			11.63	11.75	-0.12	37.72	0.71	0.68	0.02
Confidence Coefficient									0.17
Relative Accuracy									1.95
Performance Specification									10%***

** 20% of RM value

*** 10% of Emission Standard value (60 ppmvd@7%O₂ for NO_x, 10 ppmvd@7% O₂ for SO₂)

**** 1 % O₂

Signature

yden S.

Site Operation

Piyacha B

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 1** Run Number: **1**

Date: **5-Oct-22** Start Time: **11:00** End Time: **11:20**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.75	11.61	20.37	18.95	0.36	0.41
2nd minute	11.64	11.61	25.20	18.95	0.42	0.41
3rd minute	11.70	11.61	27.18	18.95	0.45	0.41
4th minute	11.65	11.61	25.81	18.95	0.51	0.41
5th minute	11.62	11.61	27.63	18.95	0.57	0.41
6th minute	11.53	11.61	35.72	18.95	0.55	0.41
7th minute	11.50	11.67	20.34	26.47	0.51	0.37
8th minute	11.51	11.60	20.20	19.65	0.54	0.40
9th minute	11.49	11.64	20.77	19.78	0.50	0.39
10th minute	11.64	11.64	20.91	18.69	0.55	0.39
11th minute	11.53	11.68	20.46	22.02	0.61	0.41
12th minute	11.64	11.71	30.52	28.98	0.74	0.44
13th minute	11.61	11.71	25.90	28.36	0.75	0.43
14th minute	11.48	11.62	32.01	27.24	0.71	0.42
15th minute	11.68	11.67	33.79	30.10	0.71	0.44
16th minute	11.53	11.63	19.76	19.90	0.67	0.40
17th minute	11.62	11.69	18.22	18.26	0.54	0.39
18th minute	11.77	11.80	19.14	19.32	0.55	0.40
19th minute	11.68	11.77	22.30	21.46	0.58	0.40
20th minute	11.67	11.77	23.33	24.90	0.69	0.40
21st minute	11.71	11.77	24.88	27.88	0.81	0.41
Average	11.62	11.67	24.50	22.22	0.59	0.41

Signature

Site Operator

Piyachon B

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 1** Run Number: **2**

Date: **5-Oct-22** Start Time: **11:21** End Time: **11:41**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.70	11.78	27.72	29.07	0.72	0.47
2nd minute	11.78	11.79	28.20	28.04	0.77	0.50
3rd minute	11.66	11.77	27.61	28.18	0.79	0.51
4th minute	11.59	11.80	24.49	26.32	0.69	0.51
5th minute	11.77	11.77	27.80	26.65	0.70	0.52
6th minute	11.61	11.78	26.74	26.66	0.56	0.53
7th minute	11.81	11.78	28.50	27.01	0.44	0.52
8th minute	11.71	11.78	26.43	25.58	0.43	0.52
9th minute	11.71	11.77	25.97	21.94	0.47	0.51
10th minute	11.72	11.79	24.89	22.64	0.39	0.51
11th minute	11.72	11.78	25.12	26.13	0.45	0.52
12th minute	11.69	11.77	25.93	26.28	0.48	0.52
13th minute	11.72	11.79	26.29	26.71	0.45	0.52
14th minute	11.67	11.77	26.37	27.33	0.44	0.52
15th minute	11.69	11.77	27.01	27.64	0.44	0.52
16th minute	11.66	11.77	27.19	26.90	0.43	0.52
17th minute	11.70	11.77	27.07	27.29	0.37	0.52
18th minute	11.69	11.77	27.05	27.38	0.44	0.51
19th minute	11.69	11.77	27.21	27.76	0.46	0.52
20th minute	11.69	11.76	27.02	27.27	0.42	0.51
21st minute	11.65	11.75	27.07	27.80	0.47	0.51
Average	11.70	11.78	26.75	26.69	0.51	0.51

Signature

Site Operator

Piyachon B

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 1** Run Number: **3**
Date: **5-Oct-22** Start Time: **11:42** End Time: **12:02**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.72	11.79	27.01	27.56	0.44	0.51
2nd minute	11.69	11.77	26.92	26.68	0.39	0.50
3rd minute	11.68	11.76	26.65	27.41	0.45	0.51
4th minute	11.73	11.81	26.96	26.14	0.45	0.50
5th minute	11.69	11.80	25.94	24.55	0.38	0.49
6th minute	11.67	11.80	25.59	26.16	0.42	0.49
7th minute	11.69	11.80	25.22	25.06	0.36	0.49
8th minute	11.71	11.78	25.03	24.73	0.39	0.49
9th minute	11.81	11.79	24.64	25.07	0.37	0.49
10th minute	11.74	11.78	25.09	25.02	0.38	0.48
11th minute	11.79	11.79	25.88	26.15	0.46	0.48
12th minute	11.67	11.80	25.71	25.62	0.43	0.47
13th minute	11.69	11.78	26.08	26.17	0.39	0.46
14th minute	11.64	11.78	26.17	26.45	0.38	0.47
15th minute	11.70	11.77	26.00	26.62	0.32	0.46
16th minute	11.64	11.75	26.45	28.22	0.29	0.46
17th minute	11.63	11.78	26.97	27.89	0.19	0.47
18th minute	11.68	11.76	27.44	27.69	0.20	0.47
19th minute	11.71	11.79	27.34	27.02	0.24	0.47
20th minute	11.75	11.80	26.80	27.15	0.31	0.46
21st minute	11.66	11.79	26.84	28.37	0.32	0.46
Average	11.70	11.78	26.22	26.46	0.36	0.48

Signature

Site Operator

Piyachon B

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 1** Run Number: **4**
Date: **5-Oct-22** Start Time: **12:03** End Time: **12:23**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.59	11.79	27.28	28.07	0.26	0.46
2nd minute	11.66	11.78	28.92	28.24	0.30	0.46
3rd minute	11.64	11.80	28.72	27.60	0.24	0.46
4th minute	11.68	11.77	27.89	27.80	0.18	0.47
5th minute	11.76	11.77	27.22	28.26	0.12	0.46
6th minute	11.64	11.75	27.20	28.08	0.13	0.46
7th minute	11.68	11.78	27.70	27.59	0.25	0.45
8th minute	11.68	11.77	27.53	27.00	0.14	0.44
9th minute	11.68	11.77	27.17	28.86	0.17	0.46
10th minute	11.69	11.76	27.72	28.67	0.21	0.44
11th minute	11.66	11.77	28.00	28.14	0.15	0.44
12th minute	11.66	11.77	27.74	28.51	0.00	0.44
13th minute	11.69	11.76	27.78	28.91	0.08	0.44
14th minute	11.66	11.77	27.85	28.40	0.10	0.45
15th minute	11.68	11.76	27.94	28.09	0.01	0.44
16th minute	11.66	11.77	27.70	27.82	0.04	0.44
17th minute	11.70	11.78	24.19	23.06	0.02	0.42
18th minute	11.67	11.76	21.59	24.38	0.08	0.42
19th minute	11.63	11.74	28.06	28.93	0.05	0.44
20th minute	11.64	11.77	26.71	26.64	0.00	0.44
21st minute	11.70	11.79	28.22	26.55	0.04	0.44
Average	11.67	11.77	27.29	27.60	0.12	0.45

Signature

Site Operator

Piyachon B

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 1** Run Number: **5**
Date: **5-Oct-22** Start Time: **12:30** End Time: **12:50**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.66	11.75	27.22	28.66	0.40	0.45
2nd minute	11.79	11.77	27.57	27.66	0.36	0.44
3rd minute	11.54	11.76	27.12	28.14	0.37	0.45
4th minute	11.75	11.76	27.52	27.90	0.85	0.45
5th minute	11.59	11.77	28.27	28.85	0.27	0.44
6th minute	11.66	11.79	27.85	27.80	0.38	0.44
7th minute	11.75	11.77	27.29	25.38	0.15	0.43
8th minute	11.78	11.77	27.24	25.61	0.33	0.43
9th minute	11.76	11.79	27.95	27.05	0.42	0.43
10th minute	11.67	11.77	26.37	24.58	0.42	0.43
11th minute	11.77	11.75	24.59	26.52	0.20	0.44
12th minute	11.65	11.79	26.13	23.98	0.19	0.44
13th minute	11.71	11.76	17.88	18.38	0.56	0.42
14th minute	11.69	11.77	26.62	24.37	0.39	0.43
15th minute	11.66	11.75	25.45	28.04	0.21	0.44
16th minute	11.68	11.78	33.03	30.09	1.15	0.47
17th minute	11.65	11.76	27.85	27.55	0.29	0.46
18th minute	11.65	11.77	27.10	24.28	0.06	0.44
19th minute	11.72	11.78	25.94	24.58	0.41	0.44
20th minute	11.57	11.75	29.99	27.66	0.18	0.45
21st minute	11.64	11.76	24.18	25.58	0.53	0.44
Average	11.68	11.77	26.82	26.32	0.39	0.44

Signature

Yden S.
Site Operator

Piyachai B.

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 1** Run Number: **6**
Date: **5-Oct-22** Start Time: **12:51** End Time: **13:11**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.70	11.75	25.08	25.25	0.36	0.44
2nd minute	11.75	11.78	29.19	27.22	0.28	0.45
3rd minute	11.59	11.75	25.04	26.22	0.07	0.44
4th minute	11.63	11.76	28.49	27.94	0.33	0.45
5th minute	11.66	11.76	28.52	30.12	0.03	0.45
6th minute	11.73	11.82	24.97	26.36	1.43	0.43
7th minute	11.74	11.81	24.55	23.23	0.96	0.43
8th minute	11.69	11.82	23.84	24.96	1.14	0.44
9th minute	11.75	11.77	24.56	26.57	1.22	0.44
10th minute	11.72	11.80	30.05	27.80	1.60	0.45
11th minute	11.72	11.80	24.42	24.36	0.72	0.44
12th minute	11.59	11.81	25.27	23.85	0.87	0.44
13th minute	11.69	11.79	25.71	24.24	0.51	0.43
14th minute	11.72	11.80	26.20	24.38	0.33	0.43
15th minute	11.68	11.78	25.66	25.01	0.04	0.43
16th minute	11.69	11.78	25.23	24.85	0.43	0.43
17th minute	11.65	11.79	24.88	26.72	0.42	0.44
18th minute	11.69	11.81	25.79	26.76	0.73	0.44
19th minute	11.66	11.79	26.43	25.80	0.68	0.43
20th minute	11.70	11.80	26.55	26.48	1.43	0.44
21st minute	11.71	11.80	25.60	25.10	0.76	0.43
Average	11.69	11.79	26.00	25.87	0.68	0.44

Signature

Yden S.
Site Operator

Piyachai B.

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 1** Run Number: **7**
Date: **5-Oct-22** Start Time: **13:12** End Time: **13:32**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.69	11.80	25.33	25.71	0.29	0.44
2nd minute	11.67	11.79	25.07	25.21	0.40	0.44
3rd minute	11.66	11.78	25.01	26.28	0.56	0.44
4th minute	11.60	11.80	25.24	24.93	0.16	0.43
5th minute	11.79	11.81	24.82	24.09	0.20	0.43
6th minute	11.72	11.80	23.57	22.57	0.49	0.42
7th minute	11.60	11.80	23.34	24.49	0.07	0.44
8th minute	11.62	11.79	23.09	24.94	0.22	0.44
9th minute	11.82	11.80	28.64	27.46	0.49	0.45
10th minute	11.68	11.79	24.71	21.39	0.05	0.42
11th minute	11.67	11.79	20.84	21.27	0.32	0.41
12th minute	11.69	11.78	22.67	23.91	0.12	0.43
13th minute	11.78	11.79	23.96	26.57	0.28	0.43
14th minute	11.73	11.79	27.99	24.60	0.14	0.44
15th minute	11.64	11.79	22.05	21.78	0.04	0.42
16th minute	11.70	11.77	23.32	23.68	0.36	0.42
17th minute	11.66	11.79	28.15	25.06	0.25	0.43
18th minute	11.60	11.77	25.41	25.16	0.52	0.44
19th minute	11.70	11.80	20.00	20.91	0.29	0.43
20th minute	11.63	11.78	19.60	20.30	0.08	0.42
21st minute	11.74	11.79	22.67	21.46	0.30	0.42
Average	11.68	11.79	24.07	23.89	0.27	0.43

Signature

Yden S.
Site Operator

Piyachai B.

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 1** Run Number: **8**
Date: **5-Oct-22** Start Time: **13:33** End Time: **13:53**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.73	11.79	26.30	23.40	0.14	0.42
2nd minute	11.67	11.78	22.07	21.95	0.05	0.40
3rd minute	11.59	11.78	20.15	19.66	0.41	0.41
4th minute	11.62	11.78	19.76	22.90	0.77	0.42
5th minute	11.66	11.77	27.09	26.69	0.64	0.44
6th minute	11.64	11.78	26.09	27.50	0.57	0.44
7th minute	11.66	11.77	27.34	27.86	0.77	0.45
8th minute	11.67	11.77	26.55	26.63	0.47	0.44
9th minute	11.69	11.78	27.91	29.41	0.38	0.45
10th minute	11.65	11.78	28.22	26.39	0.28	0.45
11th minute	11.68	11.78	22.48	20.66	0.27	0.42
12th minute	11.68	11.79	14.92	14.06	0.87	0.39
13th minute	11.65	11.78	14.10	14.43	1.32	0.39
14th minute	11.66	11.78	15.57	18.24	0.95	0.40
15th minute	11.68	11.81	27.69	26.50	0.08	0.43
16th minute	11.69	11.80	29.34	31.72	0.36	0.44
17th minute	11.75	11.81	30.77	30.27	0.00	0.44
18th minute	11.54	11.76	22.92	21.61	0.29	0.40
19th minute	11.69	11.81	15.58	14.68	1.68	0.38
20th minute	11.68	11.80	14.84	14.89	1.92	0.38
21st minute	11.66	11.78	19.58	18.43	1.59	0.39
Average	11.67	11.78	22.82	22.76	0.66	0.42

Signature

Yden S.
Site Operator

Piyachai B.

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 1** Run Number: **9**
Date: **5-Oct-22** Start Time: **14:00** End Time: **14:20**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.62	11.79	17.40	17.47	0.85	0.39
2nd minute	11.60	11.67	27.13	30.20	0.07	0.43
3rd minute	11.54	11.62	37.98	40.53	1.46	0.48
4th minute	11.47	11.60	39.48	31.80	1.36	0.46
5th minute	11.48	11.62	18.56	20.07	0.05	0.43
6th minute	11.48	11.61	16.81	17.12	0.82	0.41
7th minute	11.45	11.59	16.86	16.09	1.01	0.40
8th minute	11.51	11.60	17.18	17.87	1.00	0.41
9th minute	11.46	11.59	17.82	18.76	0.65	0.42
10th minute	11.42	11.60	19.29	21.95	0.62	0.43
11th minute	11.46	11.61	24.27	30.73	0.36	0.46
12th minute	11.47	11.60	29.22	27.79	0.01	0.45
13th minute	11.47	11.61	21.03	20.35	0.75	0.42
14th minute	11.48	11.60	19.96	18.56	0.93	0.42
15th minute	11.43	11.59	19.38	21.12	0.76	0.43
16th minute	11.51	11.61	24.21	23.83	0.85	0.44
17th minute	11.43	11.59	29.92	31.17	0.54	0.47
18th minute	11.46	11.59	33.60	29.68	0.16	0.47
19th minute	11.44	11.58	21.61	22.89	0.57	0.46
20th minute	11.45	11.59	19.60	20.45	0.94	0.45
21st minute	11.47	11.59	24.43	26.41	0.75	0.47
Average	11.48	11.61	23.61	24.04	0.69	0.44

Signature

Yde S.

Site Operator

Piyachai B.

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 1** Run Number: **10**
Date: **5-Oct-22** Start Time: **14:21** End Time: **14:41**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.48	11.59	32.96	30.94	0.30	0.49
2nd minute	11.44	11.57	23.87	25.87	1.05	0.46
3rd minute	11.45	11.58	22.71	22.44	1.05	0.45
4th minute	11.55	11.65	22.11	20.92	1.32	0.46
5th minute	11.66	11.76	20.87	18.98	1.53	0.44
6th minute	11.64	11.76	19.66	20.60	1.03	0.45
7th minute	11.65	11.77	30.44	29.37	0.63	0.47
8th minute	11.70	11.77	30.73	30.47	0.75	0.47
9th minute	11.64	11.75	29.99	30.61	0.88	0.48
10th minute	11.64	11.76	24.23	26.21	0.56	0.48
11th minute	11.66	11.77	21.15	20.43	0.27	0.44
12th minute	11.66	11.77	16.36	15.34	0.70	0.43
13th minute	11.68	11.75	23.65	21.78	0.49	0.45
14th minute	11.74	11.79	23.10	24.99	0.22	0.47
15th minute	11.60	11.76	24.02	26.77	0.07	0.47
16th minute	11.59	11.76	27.45	28.19	0.01	0.48
17th minute	11.61	11.76	25.90	27.31	0.13	0.47
18th minute	11.70	11.76	24.61	24.60	0.29	0.46
19th minute	11.63	11.77	24.33	25.05	0.05	0.46
20th minute	11.65	11.76	24.39	26.35	0.62	0.48
21st minute	11.65	11.76	25.13	25.28	0.49	0.47
Average	11.62	11.73	24.65	24.88	0.59	0.46

Signature

Yde S.

Site Operator

Piyachai B.

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 1** Run Number: **11**
Date: **5-Oct-22** Start Time: **14:42** End Time: **15:02**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.65	11.76	24.55	23.96	0.99	0.48
2nd minute	11.65	11.76	24.06	24.44	0.67	0.46
3rd minute	11.65	11.76	23.92	24.10	0.90	0.46
4th minute	11.66	11.77	23.37	21.97	0.43	0.47
5th minute	11.68	11.78	22.57	22.95	0.56	0.48
6th minute	11.64	11.76	22.62	23.75	0.53	0.47
7th minute	11.65	11.76	23.38	21.88	0.48	0.46
8th minute	11.65	11.77	21.83	20.62	0.64	0.44
9th minute	11.64	11.75	21.16	21.98	0.51	0.45
10th minute	11.67	11.77	21.48	21.33	0.69	0.46
11th minute	11.63	11.76	21.40	22.08	0.58	0.47
12th minute	11.67	11.77	21.84	23.10	0.53	0.46
13th minute	11.65	11.77	22.16	22.52	0.59	0.46
14th minute	11.67	11.77	22.69	25.94	0.45	0.48
15th minute	11.62	11.78	29.89	28.43	0.26	0.48
16th minute	11.63	11.77	25.81	27.14	0.22	0.47
17th minute	11.60	11.76	26.51	29.89	0.26	0.49
18th minute	11.65	11.77	24.79	25.75	0.05	0.47
19th minute	11.71	11.77	21.95	22.20	0.19	0.45
20th minute	11.66	11.77	22.57	23.63	0.29	0.44
21st minute	11.66	11.76	26.25	26.72	0.52	0.45
Average	11.65	11.77	23.56	24.02	0.49	0.46

Signature

Site Operator

Piyachon B.
Field Department Manager

**TET**

Thai Environmental Technic Limited
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Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 1** Run Number: **12**
Date: **5-Oct-22** Start Time: **15:03** End Time: **15:23**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.60	11.77	28.58	29.57	0.02	0.45
2nd minute	11.64	11.77	28.17	29.52	0.01	0.45
3rd minute	11.66	11.78	28.07	29.10	0.05	0.45
4th minute	11.65	11.77	27.49	27.44	0.35	0.45
5th minute	11.66	11.78	26.82	27.32	0.02	0.45
6th minute	11.66	11.78	27.01	28.86	0.57	0.46
7th minute	11.69	11.77	27.37	27.63	0.32	0.46
8th minute	11.65	11.79	27.04	27.13	0.39	0.46
9th minute	11.71	11.77	26.49	27.94	0.64	0.47
10th minute	11.63	11.78	27.26	29.39	0.47	0.49
11th minute	11.67	11.77	28.72	31.00	0.46	0.48
12th minute	11.66	11.78	28.95	30.69	0.52	0.47
13th minute	11.72	11.78	28.65	27.53	0.40	0.47
14th minute	11.68	11.79	27.25	26.47	0.51	0.46
15th minute	11.72	11.79	25.61	24.94	0.48	0.45
16th minute	11.73	11.78	25.07	25.64	0.58	0.47
17th minute	11.71	11.77	28.70	27.19	0.48	0.47
18th minute	11.50	11.62	31.16	32.83	0.55	0.49
19th minute	11.50	11.59	37.32	39.16	0.78	0.51
20th minute	11.47	11.58	22.53	25.47	0.58	0.47
21st minute	11.48	11.58	17.78	17.40	0.33	0.43
Average	11.64	11.74	27.43	28.20	0.40	0.46

Signature

Site Operator

Piyachon B.
Field Department Manager



Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

DATE : 6 October 2022

Location : HRSO GAS ENGINE 2

Run No.	Time		O ₂			NO _x			SO ₂			Load (MWh)
	Start	Stop	RM	CEMS	Diff(d _f)	RM	CEMS	Diff(d _f)	RM	CEMS	Diff(d _f)	
ppmvd @7%O ₂												
1	11:20 AM	11:40 AM	11.56	11.67	-0.11	39.03	39.55	-0.53	0.63	0.67	-0.04	91.64
2	11:41 AM	12:01 PM	11.70	11.79	-0.09	34.19	34.31	-0.12	0.60	0.61	-0.01	91.64
3	12:02 PM	12:22 PM	11.64	11.79	-0.15	35.18	36.21	-1.03	0.68	0.60	0.08	91.64
4	12:23 PM	12:43 PM	11.64	11.78	-0.14	35.36	36.38	-1.02	0.54	0.60	-0.06	91.64
5	12:50 PM	1:10 PM	11.45	11.59	-0.14	40.91	42.64	-1.73	0.62	0.63	-0.01	91.64
6	1:11 PM	1:31 PM	11.59	11.76	-0.16	32.72	33.82	-1.10	0.71	0.58	0.13	91.64
7	1:32 PM	1:52 PM	11.61	11.77	-0.15	35.26	36.86	-1.59	0.96	0.57	0.38	91.64
8	1:53 PM	2:13 PM	11.63	11.79	-0.15	34.45	35.82	-1.37	0.72	0.56	0.16	91.64
9	2:20 PM	2:40 PM	11.61	11.77	-0.16	35.41	37.34	-1.93	1.00	0.55	0.46	91.64
10	2:41 PM	3:01 PM	11.60	11.77	-0.16	35.71	37.57	-1.86	0.21	0.53	-0.32	91.64
11	3:02 PM	3:22 PM	11.61	11.76	-0.15	36.02	37.85	-1.83	0.84	0.53	0.31	91.64
12	3:23 PM	3:43 PM	11.60	11.76	-0.16	36.23	38.23	-1.99	0.68	0.54	0.14	91.64
Average			11.61	11.75	-0.14	35.87	37.21	-1.34	0.68	0.58	0.10	
Confidence Coefficient			-			0.38			0.14			
Relative Accuracy			0.14			4.80			2.35			
Performance Specification			±1%O ₂ ***			20%***			10%***			

* Instrumental RM and CEMS data are on a consistent basis, that is, dry and 7% oxygen

** 20% of RM value
*** 10% of Emission Standard value (60 ppmvd@7%O₂ for NO_x, 10 ppmvd@7%O₂ for SO₂)

**** 1 % O₂

Signature

Site Operation

Piyachai B.
Field Department Manager

Thai Environmental Technic Limited 1/6 Soi Ramkhamhaeng 145 Klongwaeng/Khet Saphan Sung Bangkok 10240 Thailand
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TET

Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: HRSO GAS ENGINE 2

Run Number: 1

Date: 6-Oct-22 Start Time: 11:20

End Time: 11:40

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.53	11.63	30.19	28.89	0.40	0.47
2nd minute	11.46	11.63	28.93	28.06	0.37	0.46
3rd minute	11.53	11.65	27.73	27.88	0.40	0.45
4th minute	11.45	11.64	26.81	28.25	0.48	0.45
5th minute	11.55	11.64	27.11	28.14	0.47	0.45
6th minute	11.52	11.63	27.45	28.37	0.42	0.46
7th minute	11.58	11.70	27.71	26.83	0.37	0.45
8th minute	11.60	11.66	26.32	25.21	0.36	0.44
9th minute	11.56	11.67	25.78	27.36	0.41	0.46
10th minute	11.62	11.68	25.59	24.34	0.38	0.44
11th minute	11.58	11.70	25.63	25.31	0.37	0.44
12th minute	11.64	11.69	24.03	23.54	0.36	0.43
13th minute	11.56	11.63	24.54	27.39	0.51	0.44
14th minute	11.57	11.63	28.04	28.27	0.48	0.45
15th minute	11.56	11.62	28.04	29.17	0.48	0.45
16th minute	11.51	11.61	27.38	28.21	0.48	0.45
17th minute	11.56	11.62	28.79	28.69	0.57	0.45
18th minute	11.67	11.71	28.28	26.24	0.46	0.44
19th minute	11.70	11.76	22.95	21.54	0.41	0.42
20th minute	11.69	11.77	21.16	20.57	0.36	0.41
21st minute	11.76	11.81	21.10	19.27	0.37	0.39
Average	11.58	11.67	26.36	26.26	0.42	0.44

Signature

Site Operator

Piyachai B.
Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 2** Run Number: **2**

Date: **6-Oct-22** Start Time: **11:41** End Time: **12:01**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.70	11.74	20.14	20.08	0.36	0.39
2nd minute	11.63	11.70	25.83	25.65	0.43	0.42
3rd minute	11.73	11.77	26.74	24.17	0.45	0.41
4th minute	11.71	11.78	25.33	21.96	0.39	0.40
5th minute	11.70	11.77	22.72	21.90	0.38	0.40
6th minute	11.72	11.79	21.99	22.58	0.40	0.40
7th minute	11.73	11.81	22.23	21.81	0.41	0.40
8th minute	11.72	11.80	22.04	21.24	0.46	0.39
9th minute	11.72	11.80	21.61	21.95	0.47	0.40
10th minute	11.73	11.80	21.78	22.35	0.39	0.40
11th minute	11.72	11.80	22.22	22.24	0.37	0.40
12th minute	11.73	11.80	22.38	22.91	0.36	0.40
13th minute	11.74	11.81	22.63	22.35	0.35	0.39
14th minute	11.70	11.81	22.60	22.59	0.41	0.40
15th minute	11.67	11.81	22.47	21.83	0.39	0.39
16th minute	11.68	11.82	22.25	22.07	0.44	0.39
17th minute	11.79	11.81	21.63	21.95	0.33	0.39
18th minute	11.73	11.80	21.87	22.44	0.38	0.40
19th minute	11.66	11.80	22.17	23.42	0.44	0.39
20th minute	11.80	11.80	23.22	23.32	0.36	0.40
21st minute	11.81	11.81	23.95	23.29	0.40	0.39
Average	11.72	11.79	22.75	22.48	0.40	0.40

Signature

Yde S.

Site Operator

Piyachai B.

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 2** Run Number: **3**

Date: **6-Oct-22** Start Time: **12:02** End Time: **12:22**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.66	11.80	23.39	22.72	0.40	0.39
2nd minute	11.68	11.81	23.36	22.93	0.44	0.39
3rd minute	11.61	11.80	22.94	22.71	0.45	0.39
4th minute	11.68	11.80	22.75	22.73	0.46	0.39
5th minute	11.67	11.78	22.68	23.49	0.45	0.39
6th minute	11.69	11.78	23.32	23.77	0.52	0.39
7th minute	11.69	11.80	23.59	23.57	0.53	0.39
8th minute	11.65	11.78	23.49	23.77	0.44	0.39
9th minute	11.66	11.79	23.57	24.46	0.49	0.39
10th minute	11.66	11.79	23.85	24.11	0.40	0.39
11th minute	11.65	11.79	23.91	24.29	0.48	0.40
12th minute	11.62	11.78	23.95	24.49	0.53	0.40
13th minute	11.67	11.78	23.96	23.96	0.52	0.39
14th minute	11.66	11.78	24.05	24.19	0.50	0.40
15th minute	11.67	11.79	23.58	24.15	0.50	0.40
16th minute	11.62	11.80	24.02	23.21	0.48	0.39
17th minute	11.58	11.78	23.60	23.25	0.43	0.39
18th minute	11.76	11.77	23.51	23.51	0.46	0.39
19th minute	11.65	11.77	23.23	24.53	0.39	0.40
20th minute	11.66	11.79	23.84	24.86	0.33	0.40
21st minute	11.67	11.78	24.35	23.86	0.36	0.39
Average	11.66	11.79	23.57	23.74	0.45	0.39

Signature

Yde S.

Site Operator

Piyachai B.

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 2** Run Number: **4**

Date: **6-Oct-22** Start Time: **12:23** End Time: **12:43**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.69	11.78	24.04	24.42	0.37	0.39
2nd minute	11.65	11.79	24.01	24.07	0.45	0.38
3rd minute	11.64	11.78	23.79	23.45	0.30	0.39
4th minute	11.65	11.78	23.36	23.65	0.33	0.40
5th minute	11.65	11.76	23.17	24.14	0.34	0.39
6th minute	11.66	11.78	23.92	24.60	0.27	0.39
7th minute	11.63	11.78	24.27	23.71	0.41	0.39
8th minute	11.65	11.78	23.84	23.99	0.38	0.39
9th minute	11.74	11.79	23.70	23.95	0.36	0.39
10th minute	11.64	11.78	23.52	23.69	0.35	0.39
11th minute	11.65	11.78	23.56	23.90	0.31	0.40
12th minute	11.66	11.79	23.58	23.88	0.48	0.40
13th minute	11.62	11.78	23.96	24.23	0.34	0.39
14th minute	11.61	11.80	23.92	23.71	0.33	0.39
15th minute	11.74	11.79	23.78	23.27	0.36	0.39
16th minute	11.66	11.78	23.46	23.62	0.32	0.39
17th minute	11.61	11.77	23.52	24.74	0.38	0.40
18th minute	11.74	11.81	24.19	24.08	0.31	0.39
19th minute	11.61	11.79	23.58	22.92	0.41	0.38
20th minute	11.66	11.79	23.07	24.00	0.40	0.39
21st minute	11.73	11.80	23.06	22.92	0.40	0.39
Average	11.66	11.78	23.68	23.85	0.36	0.39

Signature

yde S.
Site Operator

Piyachai B.
Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 2** Run Number: **5**

Date: **6-Oct-22** Start Time: **12:50** End Time: **13:10**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.50	11.61	30.88	29.90	0.57	0.43
2nd minute	11.47	11.60	29.24	29.55	0.39	0.42
3rd minute	11.50	11.61	28.38	28.89	0.41	0.42
4th minute	11.48	11.61	28.07	28.33	0.27	0.41
5th minute	11.54	11.61	27.07	28.38	0.37	0.42
6th minute	11.53	11.59	27.29	27.50	0.50	0.42
7th minute	11.47	11.59	27.90	28.40	0.44	0.42
8th minute	11.44	11.58	29.90	29.19	0.36	0.43
9th minute	11.47	11.59	27.87	29.22	0.52	0.43
10th minute	11.47	11.58	28.05	29.31	0.59	0.42
11th minute	11.45	11.57	28.33	29.65	0.38	0.43
12th minute	11.44	11.58	28.52	29.64	0.28	0.43
13th minute	11.47	11.59	28.37	28.09	0.64	0.43
14th minute	11.52	11.59	27.92	27.58	0.30	0.42
15th minute	11.45	11.58	27.29	28.74	0.74	0.42
16th minute	11.47	11.59	27.79	28.60	0.13	0.42
17th minute	11.47	11.60	27.59	28.40	0.67	0.42
18th minute	11.45	11.60	27.37	27.95	0.59	0.42
19th minute	11.46	11.59	26.91	27.68	0.41	0.42
20th minute	11.50	11.61	26.85	27.27	0.20	0.41
21st minute	11.46	11.59	26.34	27.27	0.11	0.42
Average	11.48	11.59	28.00	28.55	0.42	0.42

Signature

yde S.
Site Operator

Piyachai B.
Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 2** Run Number: **6**

Date: **6-Oct-22** Start Time: **13:11** End Time: **13:31**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.42	11.59	26.61	27.86	0.39	0.42
2nd minute	11.43	11.59	27.13	27.85	0.00	0.42
3rd minute	11.40	11.60	25.31	26.37	0.03	0.42
4th minute	11.47	11.63	26.38	25.66	0.16	0.41
5th minute	11.61	11.76	25.19	21.40	0.27	0.39
6th minute	11.65	11.76	18.99	18.09	0.07	0.37
7th minute	11.65	11.77	18.17	18.10	0.23	0.37
8th minute	11.66	11.77	18.53	18.91	0.14	0.37
9th minute	11.63	11.77	19.00	19.45	0.26	0.37
10th minute	11.65	11.78	19.61	20.24	0.40	0.37
11th minute	11.63	11.77	20.00	20.23	0.57	0.38
12th minute	11.65	11.78	20.54	20.79	0.47	0.38
13th minute	11.65	11.78	20.77	21.86	0.66	0.38
14th minute	11.66	11.78	21.49	22.88	0.79	0.38
15th minute	11.63	11.81	22.37	23.30	0.76	0.39
16th minute	11.68	11.82	22.67	22.12	0.59	0.38
17th minute	11.69	11.82	22.10	22.77	0.73	0.38
18th minute	11.72	11.83	22.12	22.64	0.85	0.38
19th minute	11.69	11.82	22.35	22.31	0.94	0.37
20th minute	11.69	11.81	22.11	22.21	0.94	0.37
21st minute	11.66	11.83	21.97	22.22	0.76	0.37
Average	11.62	11.76	22.07	22.25	0.48	0.38

Signature

ydeis
Site Operator

Piyachon B

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 2** Run Number: **7**

Date: **6-Oct-22** Start Time: **13:32** End Time: **13:52**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.73	11.83	21.76	21.37	0.95	0.37
2nd minute	11.69	11.83	21.73	22.83	0.87	0.37
3rd minute	11.66	11.83	22.39	22.57	0.96	0.38
4th minute	11.69	11.83	22.50	22.49	0.98	0.38
5th minute	11.77	11.81	22.22	22.79	0.73	0.37
6th minute	11.69	11.81	22.52	22.64	0.72	0.38
7th minute	11.64	11.69	22.75	26.10	0.72	0.38
8th minute	11.52	11.66	29.36	31.49	0.98	0.39
9th minute	11.47	11.66	30.47	30.57	1.09	0.40
10th minute	11.47	11.64	27.88	29.98	0.96	0.40
11th minute	11.49	11.65	28.23	29.50	1.12	0.41
12th minute	11.50	11.68	30.26	29.61	1.05	0.40
13th minute	11.62	11.78	24.84	24.26	0.63	0.38
14th minute	11.60	11.80	22.54	20.25	0.22	0.36
15th minute	11.68	11.81	20.99	19.70	0.32	0.36
16th minute	11.70	11.83	20.04	20.49	0.14	0.36
17th minute	11.67	11.79	20.33	21.38	0.17	0.36
18th minute	11.73	11.81	21.03	22.25	0.30	0.37
19th minute	11.67	11.79	21.43	22.38	0.19	0.37
20th minute	11.68	11.80	22.44	23.12	0.08	0.37
21st minute	11.74	11.79	22.53	22.76	0.24	0.36
Average	11.64	11.77	23.73	24.22	0.64	0.38

Signature

ydeis
Site Operator

Piyachon B

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 2** Run Number: **8**

Date: **6-Oct-22** Start Time: **13:53** End Time: **14:13**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.75	11.81	22.85	22.36	0.32	0.37
2nd minute	11.60	11.80	22.08	22.43	0.33	0.37
3rd minute	11.65	11.79	21.76	22.92	0.35	0.37
4th minute	11.65	11.79	22.43	23.19	0.30	0.38
5th minute	11.62	11.80	22.91	22.99	0.70	0.38
6th minute	11.64	11.79	22.92	23.40	0.25	0.38
7th minute	11.65	11.79	23.18	23.49	0.39	0.38
8th minute	11.67	11.78	23.03	23.96	0.38	0.38
9th minute	11.64	11.78	23.41	24.26	0.41	0.38
10th minute	11.67	11.78	23.66	23.95	0.44	0.37
11th minute	11.65	11.78	23.45	23.91	0.48	0.37
12th minute	11.66	11.78	23.60	24.18	0.63	0.37
13th minute	11.68	11.79	23.59	23.90	0.49	0.36
14th minute	11.65	11.77	23.41	23.27	0.54	0.36
15th minute	11.62	11.80	23.20	23.46	0.37	0.36
16th minute	11.70	11.78	23.17	22.97	0.38	0.36
17th minute	11.63	11.78	23.34	23.94	0.35	0.37
18th minute	11.68	11.79	23.35	22.85	0.58	0.36
19th minute	11.68	11.78	23.51	23.88	0.87	0.36
20th minute	11.68	11.78	23.40	23.83	0.89	0.37
21st minute	11.63	11.78	23.46	24.06	0.64	0.36
Average	11.66	11.79	23.13	23.49	0.48	0.37

Signature

Yde S.
Site Operator

Piyachon B.
Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 2** Run Number: **9**

Date: **6-Oct-22** Start Time: **14:20** End Time: **14:40**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.63	11.77	23.93	24.88	0.66	0.36
2nd minute	11.70	11.78	24.20	24.84	0.85	0.36
3rd minute	11.64	11.78	23.86	24.50	0.66	0.35
4th minute	11.63	11.78	23.61	23.79	0.74	0.36
5th minute	11.63	11.77	23.61	23.92	0.76	0.36
6th minute	11.65	11.77	23.47	24.94	0.71	0.36
7th minute	11.65	11.78	24.14	24.49	0.67	0.36
8th minute	11.64	11.77	23.80	23.81	0.85	0.36
9th minute	11.70	11.77	23.39	24.40	0.48	0.37
10th minute	11.70	11.78	23.37	24.48	0.68	0.36
11th minute	11.66	11.78	23.80	24.73	0.74	0.36
12th minute	11.64	11.77	23.73	24.38	0.87	0.36
13th minute	11.64	11.77	24.12	24.75	0.98	0.36
14th minute	11.65	11.77	23.93	24.27	0.82	0.36
15th minute	11.64	11.77	23.97	24.75	0.71	0.36
16th minute	11.65	11.77	24.00	24.46	0.77	0.36
17th minute	11.55	11.77	23.94	24.98	0.54	0.36
18th minute	11.58	11.77	24.05	24.13	0.29	0.36
19th minute	11.64	11.76	23.66	24.57	0.38	0.35
20th minute	11.63	11.77	23.76	25.07	0.56	0.35
21st minute	11.63	11.76	24.18	24.76	0.35	0.35
Average	11.64	11.77	23.83	24.52	0.67	0.36

Signature

Yde S.
Site Operator

Piyachon B.
Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 2** Run Number: **10**

Date: **6-Oct-22** Start Time: **14:41** End Time: **15:01**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.69	11.78	24.35	24.77	0.29	0.36
2nd minute	11.57	11.76	23.75	24.65	0.35	0.35
3rd minute	11.62	11.75	23.94	25.02	0.08	0.35
4th minute	11.66	11.77	24.31	24.55	0.32	0.35
5th minute	11.66	11.77	24.22	25.03	0.08	0.34
6th minute	11.65	11.76	24.25	24.69	0.26	0.35
7th minute	11.70	11.77	24.37	24.67	0.07	0.35
8th minute	11.59	11.77	24.01	25.20	0.13	0.35
9th minute	11.58	11.77	24.09	23.95	0.01	0.35
10th minute	11.65	11.77	23.59	24.21	0.05	0.36
11th minute	11.63	11.77	23.63	24.78	0.06	0.35
12th minute	11.63	11.77	24.09	24.60	0.06	0.35
13th minute	11.60	11.75	24.02	24.84	0.09	0.35
14th minute	11.62	11.78	24.24	24.25	0.09	0.35
15th minute	11.62	11.76	23.86	24.02	0.15	0.36
16th minute	11.65	11.77	23.53	24.76	0.10	0.35
17th minute	11.63	11.78	23.79	24.85	0.04	0.36
18th minute	11.64	11.76	24.31	24.81	0.14	0.35
19th minute	11.61	11.77	24.29	24.84	0.12	0.35
20th minute	11.65	11.77	24.28	24.77	0.24	0.35
21st minute	11.65	11.77	24.33	25.09	0.33	0.34
Average	11.63	11.77	24.06	24.68	0.15	0.35

Signature

yde S.
Site Operator

Piyacha B.
Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 2** Run Number: **11**

Date: **6-Oct-22** Start Time: **15:02** End Time: **15:22**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.68	11.78	24.44	24.77	0.13	0.35
2nd minute	11.63	11.76	24.36	24.75	0.51	0.35
3rd minute	11.64	11.77	24.44	25.26	0.48	0.35
4th minute	11.64	11.80	24.25	24.50	0.49	0.35
5th minute	11.61	11.77	23.73	23.04	0.44	0.33
6th minute	11.63	11.76	22.83	24.09	0.55	0.34
7th minute	11.63	11.75	23.22	24.92	0.70	0.35
8th minute	11.73	11.77	24.60	24.76	0.67	0.34
9th minute	11.64	11.75	24.29	25.14	0.59	0.34
10th minute	11.62	11.76	24.43	25.45	0.64	0.34
11th minute	11.63	11.76	24.67	25.15	0.72	0.35
12th minute	11.63	11.77	24.66	24.85	0.50	0.35
13th minute	11.63	11.76	24.37	25.35	0.59	0.36
14th minute	11.64	11.77	24.42	25.20	0.64	0.35
15th minute	11.64	11.76	24.58	25.50	0.80	0.35
16th minute	11.74	11.77	25.08	24.50	0.83	0.35
17th minute	11.68	11.76	24.34	24.48	0.88	0.36
18th minute	11.59	11.77	23.69	24.71	0.85	0.35
19th minute	11.65	11.76	24.23	25.30	0.73	0.36
20th minute	11.55	11.76	24.39	25.16	0.01	0.36
21st minute	11.62	11.75	24.18	25.51	0.04	0.36
Average	11.64	11.76	24.25	24.88	0.56	0.35

Signature

yde S.
Site Operator

Piyacha B.
Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 2** Run Number: **12**

Date: **6-Oct-22** Start Time: **15:23** End Time: **15:43**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	11.62	11.76	24.46	25.20	0.10	0.35
2nd minute	11.63	11.76	24.61	25.17	0.10	0.36
3rd minute	11.59	11.78	24.54	25.14	0.30	0.36
4th minute	11.56	11.77	24.59	24.99	0.29	0.34
5th minute	11.61	11.76	24.52	25.02	0.56	0.35
6th minute	11.65	11.76	24.24	25.11	0.31	0.35
7th minute	11.62	11.75	24.42	25.35	0.36	0.35
8th minute	11.65	11.77	24.63	24.88	0.52	0.35
9th minute	11.63	11.76	24.44	25.08	0.48	0.36
10th minute	11.64	11.76	24.30	25.46	0.62	0.36
11th minute	11.63	11.75	24.61	25.66	0.58	0.36
12th minute	11.65	11.75	24.70	25.75	0.48	0.37
13th minute	11.65	11.77	24.81	25.35	0.49	0.36
14th minute	11.62	11.75	24.64	25.03	0.38	0.35
15th minute	11.66	11.76	24.43	25.44	0.55	0.36
16th minute	11.59	11.76	24.19	24.60	0.50	0.36
17th minute	11.63	11.76	23.61	25.29	0.54	0.36
18th minute	11.62	11.75	23.90	24.96	0.74	0.36
19th minute	11.67	11.76	24.44	25.10	0.37	0.36
20th minute	11.70	11.77	24.27	24.65	0.75	0.36
21st minute	11.68	11.77	24.28	24.56	0.53	0.35
Average	11.63	11.76	24.41	25.13	0.46	0.36

Signature

Site Operator

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

DATE : 7 October 2022

Location : HRSG GAS ENGINE 3

Run No.	Time		O ₂			NO _x			SO ₂			Load (MW/h)
	Start	Stop	RM	CEMS	Diff(d _i)	RM	CEMS	Diff(d _i)	RM	CEMS	Diff(d _i)	
				% by Vol			ppmvd @7%O ₂			ppmvd @7%O ₂		
1	11:20 AM	11:40 AM	12.25	12.41	-0.15	38.17	37.08	1.09	0.71	0.74	-0.03	92.04
2	11:41 AM	12:01 PM	12.28	12.43	-0.15	38.61	37.28	1.33	0.81	0.75	0.05	92.04
3	12:02 PM	12:22 PM	12.26	12.43	-0.17	37.43	36.52	0.91	0.79	0.74	0.05	92.04
4	12:23 PM	12:43 PM	12.27	12.45	-0.17	38.74	37.68	1.06	0.78	0.75	0.03	92.04
5	12:50 PM	1:10 PM	12.26	12.46	-0.19	38.35	36.68	1.66	0.55	0.76	-0.21	92.04
6	1:11 PM	1:31 PM	12.27	12.48	-0.21	39.56	38.03	1.53	0.41	0.75	-0.34	92.04
7	1:32 PM	1:52 PM	12.29	12.48	-0.19	38.54	36.84	1.70	0.68	0.76	-0.09	92.04
8	1:53 PM	2:13 PM	12.17	12.37	-0.20	39.15	37.92	1.23	0.85	0.76	0.09	92.04
9	2:20 PM	2:40 PM	12.08	12.30	-0.22	37.60	37.03	0.57	1.11	0.76	0.35	92.04
10	2:41 PM	3:01 PM	12.08	12.29	-0.22	40.31	40.16	0.15	0.76	0.76	0.00	92.04
11	3:02 PM	3:22 PM	12.17	12.38	-0.21	39.80	39.35	0.46	0.39	0.74	-0.35	92.04
12	3:23 PM	3:43 PM	12.28	12.46	-0.18	40.86	40.41	0.45	0.89	0.74	0.15	92.04
Average			12.22	12.41	-0.19	38.93	37.92	1.01	0.73	0.75	-0.02	
Confidence Coefficient			-			0.33			0.13			
Relative Accuracy			0.19			3.44			1.52			
Performance Specification			+/-1%O ₂ ****			20%***			10%***			



Thai Environmental Technic Limited
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Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 3** Run Number: **1**
Date: **7-Oct-22** Start Time: **11:20** End Time: **11:40**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.26	12.41	27.42	26.54	0.42	0.45
2nd minute	12.18	12.40	27.70	26.39	0.37	0.46
3rd minute	12.24	12.40	21.80	19.38	0.36	0.43
4th minute	12.27	12.38	19.17	17.78	0.21	0.42
5th minute	12.24	12.42	19.56	23.38	0.23	0.46
6th minute	12.26	12.41	26.63	26.23	0.47	0.47
7th minute	12.31	12.45	27.32	27.10	0.37	0.48
8th minute	12.26	12.46	27.95	21.19	0.49	0.45
9th minute	12.30	12.42	17.99	16.90	0.32	0.41
10th minute	12.30	12.42	18.54	22.56	0.39	0.44
11th minute	12.16	12.39	26.89	27.20	0.49	0.47
12th minute	12.21	12.37	27.98	30.10	0.66	0.50
13th minute	12.23	12.39	29.11	24.79	0.60	0.47
14th minute	12.26	12.38	19.28	17.59	0.44	0.44
15th minute	12.24	12.42	18.56	15.42	0.31	0.43
16th minute	12.33	12.40	17.93	15.62	0.36	0.43
17th minute	12.36	12.42	20.72	21.98	0.39	0.46
18th minute	12.30	12.40	27.07	26.97	0.61	0.47
19th minute	12.26	12.40	27.94	28.41	0.66	0.46
20th minute	12.32	12.40	28.74	23.62	0.66	0.45
21st minute	12.31	12.42	19.51	16.64	0.53	0.43
Average	12.27	12.41	23.71	22.66	0.44	0.45

Signature

Yde S.

Site Operator

Piyachai B.

Field Department Manager



Thai Environmental Technic Limited
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Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 3** Run Number: **2**
Date: **7-Oct-22** Start Time: **11:41** End Time: **12:01**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.30	12.41	18.58	16.88	0.53	0.43
2nd minute	12.29	12.41	24.74	24.05	0.52	0.45
3rd minute	12.31	12.43	28.99	27.41	0.67	0.48
4th minute	12.31	12.44	28.79	25.26	0.73	0.48
5th minute	12.34	12.44	20.90	18.75	0.56	0.45
6th minute	12.32	12.43	20.49	19.29	0.62	0.45
7th minute	12.31	12.44	24.85	24.30	0.59	0.46
8th minute	12.31	12.44	26.87	26.56	0.59	0.45
9th minute	12.33	12.43	27.32	26.72	0.62	0.46
10th minute	12.30	12.43	27.66	25.00	0.60	0.46
11th minute	12.30	12.41	22.67	22.79	0.29	0.45
12th minute	12.18	12.45	24.58	25.73	0.37	0.48
13th minute	12.32	12.46	25.02	24.02	0.37	0.47
14th minute	12.24	12.42	21.12	19.10	0.51	0.45
15th minute	12.27	12.41	20.96	22.04	0.43	0.45
16th minute	12.27	12.42	28.04	27.17	0.53	0.47
17th minute	12.21	12.43	28.87	26.06	0.53	0.48
18th minute	12.39	12.47	21.48	17.79	0.39	0.44
19th minute	12.28	12.47	17.44	14.63	0.29	0.43
20th minute	12.24	12.43	17.23	18.17	0.30	0.45
21st minute	12.33	12.45	25.44	25.13	0.54	0.47
Average	12.29	12.43	23.91	22.71	0.50	0.46

Signature

Yde S.

Site Operator

Piyachai B.

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 3** Run Number: **3**
Date: **7-Oct-22** Start Time: **12:02** End Time: **12:22**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.25	12.43	27.07	25.90	0.65	0.47
2nd minute	12.25	12.39	27.09	26.83	0.53	0.47
3rd minute	12.23	12.39	27.54	26.37	0.62	0.47
4th minute	12.25	12.39	22.31	20.62	0.55	0.44
5th minute	12.26	12.44	20.65	18.45	0.49	0.43
6th minute	12.31	12.45	20.36	17.22	0.44	0.42
7th minute	12.34	12.45	20.17	21.82	0.55	0.45
8th minute	12.24	12.39	25.60	27.54	0.52	0.47
9th minute	12.24	12.39	28.47	30.33	0.72	0.48
10th minute	12.25	12.41	28.24	24.42	0.70	0.46
11th minute	12.27	12.42	20.08	17.05	0.50	0.44
12th minute	12.29	12.42	18.08	15.69	0.57	0.42
13th minute	12.27	12.42	17.84	16.16	0.48	0.43
14th minute	12.28	12.44	18.31	20.23	0.43	0.45
15th minute	12.32	12.48	25.62	25.60	0.52	0.46
16th minute	12.32	12.45	27.16	26.95	0.56	0.47
17th minute	12.28	12.43	27.82	28.19	0.37	0.48
18th minute	12.25	12.43	28.53	24.05	0.49	0.46
19th minute	12.29	12.43	19.75	17.59	0.29	0.43
20th minute	12.29	12.45	18.51	16.78	0.19	0.43
21st minute	12.23	12.44	18.61	19.78	0.25	0.43
Average	12.27	12.43	23.23	22.27	0.50	0.45

Signature

yden S.
Site Operator

Piyachai B.

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 3** Run Number: **4**
Date: **7-Oct-22** Start Time: **12:23** End Time: **12:43**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.25	12.43	26.45	26.25	0.40	0.46
2nd minute	12.32	12.43	27.34	27.28	0.50	0.47
3rd minute	12.25	12.43	22.29	22.62	0.44	0.46
4th minute	12.16	12.42	21.83	20.56	0.42	0.44
5th minute	12.29	12.44	21.92	20.43	0.49	0.45
6th minute	12.30	12.43	22.00	23.32	0.47	0.46
7th minute	12.27	12.44	23.72	26.73	0.56	0.48
8th minute	12.26	12.43	26.79	23.40	0.52	0.47
9th minute	12.28	12.44	20.71	18.76	0.39	0.46
10th minute	12.27	12.44	19.48	18.01	0.41	0.44
11th minute	12.27	12.44	19.94	22.60	0.47	0.45
12th minute	12.27	12.46	28.93	27.45	0.57	0.47
13th minute	12.28	12.43	28.82	26.04	0.60	0.48
14th minute	12.26	12.45	23.16	20.41	0.57	0.46
15th minute	12.29	12.45	19.99	18.15	0.39	0.44
16th minute	12.26	12.44	20.21	22.91	0.47	0.44
17th minute	12.39	12.48	29.50	26.94	0.54	0.45
18th minute	12.23	12.47	28.35	26.20	0.53	0.45
19th minute	12.38	12.47	27.63	21.32	0.49	0.43
20th minute	12.33	12.47	20.06	18.36	0.47	0.43
21st minute	12.34	12.47	25.10	23.55	0.51	0.45
Average	12.28	12.45	24.01	22.92	0.49	0.45

Signature

yden S.
Site Operator

Piyachai B.

Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 3** Run Number: **5**
Date: **7-Oct-22** Start Time: **12:50** End Time: **13:10**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.31	12.44	23.17	22.30	0.45	0.46
2nd minute	12.31	12.45	28.65	27.75	0.46	0.47
3rd minute	12.28	12.46	28.29	27.73	0.56	0.48
4th minute	12.26	12.45	22.39	19.52	0.47	0.45
5th minute	12.30	12.45	18.86	16.07	0.20	0.45
6th minute	12.28	12.46	18.24	15.76	0.13	0.45
7th minute	12.24	12.46	17.95	20.53	0.15	0.46
8th minute	12.31	12.47	26.28	25.54	0.39	0.46
9th minute	12.25	12.44	27.24	28.20	0.56	0.47
10th minute	12.26	12.45	26.54	22.50	0.36	0.45
11th minute	12.28	12.47	19.98	17.71	0.18	0.45
12th minute	12.29	12.46	19.63	17.54	0.18	0.44
13th minute	12.24	12.44	24.89	24.74	0.30	0.46
14th minute	12.26	12.44	29.60	29.12	0.42	0.48
15th minute	12.34	12.48	29.57	22.90	0.52	0.47
16th minute	12.25	12.49	17.10	15.47	0.34	0.44
17th minute	12.27	12.44	16.70	15.76	0.21	0.44
18th minute	12.30	12.44	22.86	22.62	0.37	0.47
19th minute	12.28	12.47	27.52	26.81	0.41	0.48
20th minute	12.34	12.47	27.74	26.04	0.29	0.48
21st minute	12.29	12.47	27.54	23.32	0.30	0.47
Average	12.28	12.46	23.84	22.28	0.35	0.46

Signature

yde-S.
Site Operator

Piyachon B.
Field Department Manager



Thai Environmental Technic Limited
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 3** Run Number: **6**
Date: **7-Oct-22** Start Time: **13:11** End Time: **13:31**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.29	12.45	20.10	18.85	0.15	0.45
2nd minute	12.22	12.43	24.58	24.75	0.18	0.47
3rd minute	12.31	12.46	28.92	26.94	0.38	0.47
4th minute	12.33	12.44	28.60	24.16	0.34	0.45
5th minute	12.31	12.44	22.45	18.97	0.20	0.43
6th minute	12.28	12.45	21.10	17.32	0.11	0.43
7th minute	12.32	12.47	19.23	19.52	0.14	0.46
8th minute	12.24	12.48	25.34	24.75	0.09	0.47
9th minute	12.25	12.47	27.75	26.88	0.25	0.47
10th minute	12.27	12.49	27.52	25.69	0.23	0.45
11th minute	12.28	12.48	21.85	20.77	0.28	0.44
12th minute	12.26	12.49	22.59	25.05	0.43	0.46
13th minute	12.30	12.50	27.20	25.75	0.66	0.48
14th minute	12.30	12.50	26.54	25.27	0.54	0.48
15th minute	12.31	12.51	26.45	21.71	0.41	0.46
16th minute	12.30	12.51	19.33	20.52	0.01	0.44
17th minute	12.29	12.49	25.44	25.43	0.27	0.45
18th minute	12.37	12.51	27.51	26.69	0.26	0.45
19th minute	12.30	12.51	27.57	25.43	0.20	0.45
20th minute	12.28	12.50	26.97	22.01	0.04	0.45
21st minute	12.20	12.48	19.19	17.40	0.33	0.45
Average	12.29	12.48	24.58	23.04	0.26	0.46

Signature

yde-S.
Site Operator

Piyachon B.
Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคนิควิเสณแวดลอมไทย จํากัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 3**

Run Number: **7**

Date: **7-Oct-22**

Start Time: **13:32**

End Time: **13:52**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.27	12.47	19.05	20.06	0.41	0.46
2nd minute	12.30	12.47	25.98	25.46	0.12	0.48
3rd minute	12.32	12.46	28.21	27.99	0.01	0.49
4th minute	12.23	12.47	28.93	24.00	0.24	0.47
5th minute	12.24	12.47	18.58	16.62	0.63	0.43
6th minute	12.28	12.45	17.65	15.72	0.80	0.43
7th minute	12.27	12.49	17.98	18.44	0.91	0.45
8th minute	12.30	12.48	23.72	24.04	0.59	0.47
9th minute	12.30	12.49	27.73	26.22	0.13	0.48
10th minute	12.26	12.48	27.61	26.27	0.22	0.49
11th minute	12.29	12.48	27.30	26.28	0.26	0.48
12th minute	12.32	12.47	27.29	27.21	0.40	0.48
13th minute	12.31	12.46	27.26	21.38	0.45	0.47
14th minute	12.31	12.47	18.66	15.90	0.91	0.45
15th minute	12.32	12.48	17.87	16.24	1.01	0.44
16th minute	12.30	12.49	21.91	22.34	0.72	0.45
17th minute	12.32	12.49	26.89	26.64	0.32	0.46
18th minute	12.33	12.48	27.32	26.81	0.32	0.46
19th minute	12.40	12.51	27.54	20.81	0.24	0.45
20th minute	12.43	12.51	20.35	17.96	0.01	0.45
21st minute	12.38	12.50	23.91	22.31	0.17	0.45
Average	12.31	12.48	23.89	22.32	0.42	0.46

Signature

Yde S.

Site Operator

Piyachai B.

Field Department Manager

**TET**

Thai Environmental Technic Limited
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Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 3**

Run Number: **8**

Date: **7-Oct-22**

Start Time: **13:53**

End Time: **14:13**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.42	12.52	26.91	24.00	0.11	0.46
2nd minute	12.31	12.49	25.10	25.09	0.02	0.46
3rd minute	12.30	12.49	25.69	24.99	0.09	0.45
4th minute	12.29	12.48	26.09	25.78	0.20	0.45
5th minute	12.31	12.48	26.62	26.76	0.05	0.46
6th minute	12.26	12.47	27.29	27.10	0.12	0.46
7th minute	12.31	12.44	27.87	23.26	0.02	0.45
8th minute	12.29	12.39	20.16	19.50	0.43	0.45
9th minute	12.16	12.35	23.81	23.30	0.55	0.46
10th minute	12.14	12.31	25.80	23.36	0.44	0.46
11th minute	12.15	12.31	25.34	23.45	0.55	0.46
12th minute	12.10	12.30	24.38	23.04	0.49	0.48
13th minute	12.08	12.30	24.43	21.72	0.74	0.47
14th minute	12.19	12.31	23.39	21.67	0.85	0.46
15th minute	12.17	12.31	22.62	21.79	0.73	0.47
16th minute	12.11	12.29	22.93	22.03	0.90	0.48
17th minute	12.08	12.28	23.09	22.31	0.86	0.48
18th minute	12.07	12.28	23.46	22.47	1.09	0.48
19th minute	12.04	12.28	23.83	23.12	0.97	0.48
20th minute	12.04	12.30	24.12	22.78	1.04	0.47
21st minute	12.10	12.29	23.85	21.43	1.01	0.47
Average	12.19	12.37	24.61	23.28	0.54	0.46

Signature

Yde S.

Site Operator

Piyachai B.

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคนิสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 3** Run Number: **9**

Date: **7-Oct-22** Start Time: **14:20** End Time: **14:40**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.11	12.32	22.46	22.57	0.31	0.45
2nd minute	12.13	12.33	24.55	21.75	0.27	0.47
3rd minute	12.10	12.31	22.60	21.69	0.30	0.47
4th minute	12.12	12.31	22.57	20.75	0.47	0.48
5th minute	12.23	12.33	22.51	19.86	0.54	0.47
6th minute	12.09	12.30	21.89	22.14	0.50	0.47
7th minute	12.14	12.31	22.65	21.73	0.62	0.47
8th minute	12.12	12.33	23.21	22.23	0.73	0.47
9th minute	12.12	12.34	23.05	20.35	0.74	0.45
10th minute	12.11	12.29	22.47	21.49	0.59	0.46
11th minute	12.04	12.28	22.27	23.36	0.81	0.47
12th minute	12.17	12.29	25.60	24.59	0.66	0.48
13th minute	12.06	12.28	26.09	23.86	0.65	0.47
14th minute	12.09	12.29	25.49	23.93	0.88	0.46
15th minute	12.07	12.29	25.21	23.75	0.70	0.46
16th minute	12.14	12.29	25.01	23.40	1.11	0.48
17th minute	11.99	12.27	24.46	24.25	0.99	0.47
18th minute	12.00	12.26	24.74	24.89	1.01	0.48
19th minute	12.08	12.27	25.68	24.86	1.04	0.47
20th minute	12.11	12.28	26.03	24.42	0.86	0.47
21st minute	12.07	12.27	25.81	25.39	1.05	0.48
Average	12.10	12.30	24.02	22.92	0.71	0.47

Signature

Site Operator

Piyachai B.

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคนิสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSR GAS ENGINE 3** Run Number: **10**

Date: **7-Oct-22** Start Time: **14:41** End Time: **15:01**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.05	12.27	26.06	26.11	0.92	0.48
2nd minute	12.08	12.26	26.81	25.33	1.21	0.47
3rd minute	12.13	12.29	27.08	26.04	1.12	0.47
4th minute	12.08	12.28	26.46	24.72	1.15	0.48
5th minute	12.03	12.29	26.32	23.46	1.10	0.46
6th minute	12.11	12.29	24.42	22.69	1.13	0.46
7th minute	12.08	12.29	24.16	25.54	0.79	0.46
8th minute	12.16	12.32	25.31	24.46	0.05	0.46
9th minute	12.10	12.29	25.65	23.64	0.20	0.47
10th minute	12.13	12.31	24.87	23.55	0.17	0.47
11th minute	12.12	12.29	24.66	24.82	0.05	0.47
12th minute	12.10	12.30	25.27	25.17	0.02	0.47
13th minute	12.09	12.28	26.01	25.12	0.02	0.48
14th minute	12.10	12.29	26.15	24.96	0.03	0.48
15th minute	12.17	12.30	25.93	24.90	0.41	0.48
16th minute	12.11	12.31	25.78	25.02	0.32	0.48
17th minute	12.06	12.29	25.89	25.54	0.26	0.47
18th minute	12.10	12.32	25.93	25.93	0.36	0.47
19th minute	12.05	12.29	25.97	25.36	0.27	0.46
20th minute	12.13	12.30	26.09	25.10	0.22	0.47
21st minute	12.14	12.31	25.65	24.65	0.39	0.46
Average	12.10	12.29	25.74	24.86	0.48	0.47

Signature

Site Operator

Piyachai B.

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคนิสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 3** Run Number: **11**
Date: **7-Oct-22** Start Time: **15:02** End Time: **15:22**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.05	12.28	25.69	26.25	0.13	0.46
2nd minute	12.07	12.28	26.88	26.64	0.02	0.47
3rd minute	12.09	12.28	27.16	25.47	0.04	0.47
4th minute	12.09	12.28	26.28	25.09	0.13	0.46
5th minute	12.08	12.28	26.32	26.74	0.02	0.48
6th minute	12.07	12.27	26.78	25.49	0.01	0.48
7th minute	12.08	12.28	26.68	25.33	0.12	0.46
8th minute	12.09	12.27	25.99	25.46	0.11	0.48
9th minute	12.10	12.32	26.32	24.70	0.01	0.47
10th minute	12.19	12.41	23.58	20.89	0.19	0.45
11th minute	12.27	12.44	20.93	17.86	0.62	0.44
12th minute	12.28	12.44	19.91	18.02	0.60	0.44
13th minute	12.26	12.45	19.78	21.27	0.44	0.44
14th minute	12.29	12.45	26.08	25.80	0.50	0.46
15th minute	12.32	12.46	27.51	27.16	0.30	0.45
16th minute	12.28	12.44	28.07	28.47	0.03	0.46
17th minute	12.33	12.46	28.74	26.13	0.46	0.46
18th minute	12.30	12.48	27.42	22.55	0.41	0.44
19th minute	12.30	12.49	20.90	20.80	0.25	0.43
20th minute	12.30	12.47	23.05	22.58	0.38	0.43
21st minute	12.30	12.47	23.80	23.73	0.48	0.44
Average	12.20	12.38	25.14	24.12	0.25	0.46

Signature

Site Operator

Piyadri B.

Field Department Manager

**TET**

Thai Environmental Technic Limited
บริษัท เทคนิสิ่งแวดล้อมไทย จำกัด

Relative Accuracy Recording From : Berkprai Cogeneration Co.,Ltd.

Location: **HRSG GAS ENGINE 3** Run Number: **12**
Date: **7-Oct-22** Start Time: **15:23** End Time: **15:43**

Time	O ₂ Reading (% by Vol)		NO _x Reading (ppmvd)		SO ₂ Reading (ppmvd)	
	RM	CEMS	RM	CEMS	RM	CEMS
1st minute	12.25	12.44	24.58	25.35	0.30	0.45
2nd minute	12.26	12.47	25.64	25.30	0.47	0.45
3rd minute	12.26	12.46	26.47	25.51	0.27	0.45
4th minute	12.28	12.48	26.33	24.46	0.13	0.45
5th minute	12.31	12.47	26.08	24.88	0.31	0.44
6th minute	12.32	12.48	25.76	24.26	0.39	0.45
7th minute	12.30	12.46	25.40	23.76	0.42	0.45
8th minute	12.32	12.46	25.25	23.21	0.18	0.44
9th minute	12.29	12.45	24.48	23.70	0.13	0.44
10th minute	12.25	12.44	24.52	24.17	0.39	0.44
11th minute	12.31	12.45	25.09	24.73	0.15	0.46
12th minute	12.30	12.48	25.62	24.80	0.34	0.45
13th minute	12.24	12.46	25.69	25.57	0.34	0.45
14th minute	12.31	12.44	26.09	26.08	0.48	0.46
15th minute	12.42	12.46	26.99	25.71	0.87	0.46
16th minute	12.32	12.46	26.13	23.04	0.64	0.44
17th minute	12.35	12.48	24.97	23.54	0.84	0.44
18th minute	12.27	12.47	24.40	24.05	1.08	0.44
19th minute	12.31	12.48	25.17	24.44	1.24	0.44
20th minute	12.30	12.47	25.23	24.14	1.23	0.43
21st minute	12.36	12.48	25.43	24.35	1.43	0.45
Average	12.30	12.46	25.49	24.53	0.55	0.45

Signature

Site Operator

Piyadri B.

Field Department Manager



TEST REPORT

Analysis No. : R22-3617

Report Date : 15/12/22

Received Date : 10/10/22

Analysis Date : 04/10/22

Customer : Technical Division of Thai Environmental Technic Limited

Job No. : S650001/Oct

For บริษัท เบิกไพร โดเจนเนอร์ชั่น จำกัด

Sampling By : TET

โครงการ โรงไฟฟ้าเบิกไพร โดเจนเนอร์ชั่น (ระยะดำเนินการ)

Type of Sample : Stack

(ภายหลังการเปลี่ยนแปลงรายละเอียดโครงการ โรงไฟฟ้าเบิกไพร โดเจนเนอร์ชั่น
(ครั้งที่ 3))

Address : 88 หมู่ 8 ตำบลเบิกไพร อำเภอบ้านโป่ง จังหวัดราชบุรี

Contact : -

Sampling Conditions :

Item	Description	Unit	Result					
			HRSG GAS TURBINE GENERATOR					
1	Sampling Date	-	04/10/22	04/10/22	04/10/22	04/10/22	04/10/22	04/10/22
2	Sampling Time	-	11.00-11.15	12.10-12.25	12.30-12.45	12.50-13.05	13.10-13.25	13.30-13.45
3	Stack Diameter	m.	Ø 3.00	Ø 3.00	Ø 3.00	Ø 3.00	Ø 3.00	Ø 3.00
4	Temperature ⁽¹⁾	°C	102	102	102	102	102	101
5	Stack Gas Velocity ⁽¹⁾	m/s	24.4	24.5	24.1	24.4	24.2	24.1
6	Flow Rate ⁽¹⁾	m ³ /s	172.5	173.3	170.4	172.6	170.8	170.1
7	Flow Rate ⁽²⁾	Nm ³ /s	124.8	137.0	134.6	136.4	134.9	134.8
8	O ₂ Rate ⁽¹⁾ , dry basis	%	13.6	13.6	13.6	13.6	13.6	13.6
9	CO ₂ Rate ⁽¹⁾ , dry basis	%	4.5	4.5	4.5	4.5	4.5	4.5
10	Absolute Stack Pressure ⁽¹⁾	mm.Hg	755.9	755.8	755.9	755.8	755.7	755.7

Remarks : HRSG GAS TURBINE GENERATOR = 47P 0592509 UTM 1530026

(1) Flue Conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (closed system)

Reviewed by

Mrs. Wareerat Prachumdaeng
Chief of Laboratory
15/12/22



Approved by

Mrs. Pornpip Pethshee
Laboratory Manager
15/12/22

"Refer to Analysis No. R22-2896 and follow to QF-19-01 No. 007/22 in order to edited the result of SAR on page 24 and QF-10-02 No. 035/22 in order to edited the result of NH₃ on page 5, 8, 11"

- REPORTED RESULTS REFER TO SUBMITTED SAMPLE(S) ONLY
- DO NOT COPY PARTIAL OF THIS ANALYSIS REPORT WITHOUT OFFICIAL APPROVAL



TEST REPORT

Analysis No. : R22-3617

Report Date : 15/12/22

Received Date : 10/10/22

Analysis Date : 04/10/22

Customer : Technical Division of Thai Environmental Technic Limited

Job No. : S650001/Oct

For บริษัท เบิกไพร โดเจนเนอร์ชั่น จำกัด

Sampling By : TET

โครงการ โรงไฟฟ้าเบิกไพร โดเจนเนอร์ชั่น (ระยะดำเนินการ)

Type of Sample : Stack

(ภายหลังการเปลี่ยนแปลงรายละเอียดโครงการ โรงไฟฟ้าเบิกไพร โดเจนเนอร์ชั่น
(ครั้งที่ 3))

Address : 88 หมู่ 8 ตำบลเบิกไพร อำเภอบ้านโป่ง จังหวัดราชบุรี

Contact : -

Sampling Conditions :

Item	Description	Unit	Result					
			HRSG GAS TURBINE GENERATOR					
1	Sampling Date	-	04/10/22	04/10/22	04/10/22	04/10/22	04/10/22	04/10/22
2	Sampling Time	-	13.50-14.05	14.10-14.25	15.25-15.40	15.45-16.00	16.15-16.30	16.45-17.00
3	Stack Diameter	m.	Ø 3.00	Ø 3.00	Ø 3.00	Ø 3.00	Ø 3.00	Ø 3.00
4	Temperature ⁽¹⁾	°C	101	101	100	100	100	100
5	Stack Gas Velocity ⁽¹⁾	m/s	24.3	24.4	24.2	24.0	24.1	24.0
6	Flow Rate ⁽¹⁾	m ³ /s	171.6	172.5	171.1	170.0	170.4	169.6
7	Flow Rate ⁽²⁾	Nm ³ /s	136.0	136.7	135.9	135.0	135.3	134.7
8	O ₂ Rate ⁽¹⁾ , dry basis	%	13.6	13.6	13.7	13.7	13.7	13.7
9	CO ₂ Rate ⁽¹⁾ , dry basis	%	4.5	4.5	4.4	4.4	4.4	4.4
10	Absolute Stack Pressure ⁽¹⁾	mm.Hg	755.7	755.7	755.7	755.7	755.7	755.7

Remarks : HRSG GAS TURBINE GENERATOR = 47P 0592509 UTM 1530026

(1) Flue Conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (closed system)

Reviewed by

Mrs. Wareerat Prachumdaeng
Chief of Laboratory
15/12/22



Approved by

Mrs. Pornpip Pethshee
Laboratory Manager
15/12/22

"Refer to Analysis No. R22-2896 and follow to QF-19-01 No. 007/22 in order to edited the result of SAR on page 24 and QF-10-02 No. 035/22 in order to edited the result of NH₃ on page 5, 8, 11"

- REPORTED RESULTS REFER TO SUBMITTED SAMPLE(S) ONLY
- DO NOT COPY PARTIAL OF THIS ANALYSIS REPORT WITHOUT OFFICIAL APPROVAL



TEST REPORT

Analysis No. : R22-3617

Report Date : 15/12/22

Received Date : 10/10/22

Analysis Date : 05/10/22

Customer : Technical Division of Thai Environmental Technic Limited

Job No. : S650001/Oct

For บริษัท เภ็กไฟโร โคเจนเนอเรชั่น จำกัด

Sampling By : TET

โครงการ โรงไฟฟ้าเภ็กไฟโร โคเจนเนอเรชั่น (ระยะดำเนินการ)

Type of Sample : Stack

(ภายหลังการเปลี่ยนแปลงรายละเอียดโครงการ โรงไฟฟ้าเภ็กไฟโร โคเจนเนอเรชั่น (ครั้งที่ 3))

Address : 88 หมู่ 8 ตำบลเภ็กไฟโร อำเภอบ้านโป่ง จังหวัดราชบุรี

Contact : -

Sampling Conditions :

Item	Description	Unit	Result					
			HRSG GAS ENGINE 1					
1	Sampling Date	-	05/10/22	05/10/22	05/10/22	05/10/22	05/10/22	05/10/22
2	Sampling Time	-	11.00-11.15	11.20-11.35	11.40-11.55	12.00-12.15	12.20-12.35	12.40-12.55
3	Stack Diameter	m.	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30
4	Temperature ⁽¹⁾	°C	166	167	166	167	167	168
5	Stack Gas Velocity ⁽¹⁾	m/s	16.5	16.6	16.5	16.5	16.5	16.1
6	Flow Rate ⁽¹⁾	m ³ /s	21.9	22.0	21.9	21.8	21.9	21.4
7	Flow Rate ⁽²⁾	Nm ³ /s	13.1	14.8	14.8	14.7	14.8	14.4
8	O ₂ Rate ⁽¹⁾ , dry basis	%	11.6	12.0	12.0	12.0	12.0	12.0
9	CO ₂ Rate ⁽¹⁾ , dry basis	%	5.8	5.0	5.0	5.0	5.0	5.0
10	Absolute Stack Pressure ⁽¹⁾	mm.Hg	756.6	756.6	756.6	756.7	756.6	756.6

Remarks : HRSG GAS ENGINE 1 = 47P 0592585 UTM 1530122

(1) Flue Conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (closed system)

Reviewed by

Ms. Wareut Prachundaeng
Chief of Laboratory
15.12.22



Approved by

Mrs. Pomtip Pethshee
Laboratory Manager
15.12.22

"Refer to Analysis No. R22-2896 and follow to QF-19-01 No. 007/22 in order to edited the result of SAR on page 24 and QF-10-02 No. 035/22 in order to edited the result of NH₃ on page 5, 8, 11"

- REPORTED RESULTS REFER TO SUBMITTED SAMPLE(S) ONLY
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TEST REPORT

Analysis No. : R22-3617

Report Date : 15/12/22

Received Date : 10/10/22

Analysis Date : 05/10/22

Customer : Technical Division of Thai Environmental Technic Limited

Job No. : S650001/Oct

For บริษัท เภ็กไฟโร โคเจนเนอเรชั่น จำกัด

Sampling By : TET

โครงการ โรงไฟฟ้าเภ็กไฟโร โคเจนเนอเรชั่น (ระยะดำเนินการ)

Type of Sample : Stack

(ภายหลังการเปลี่ยนแปลงรายละเอียดโครงการ โรงไฟฟ้าเภ็กไฟโร โคเจนเนอเรชั่น (ครั้งที่ 3))

Address : 88 หมู่ 8 ตำบลเภ็กไฟโร อำเภอบ้านโป่ง จังหวัดราชบุรี

Contact : -

Sampling Conditions :

Item	Description	Unit	Result					
			HRSG GAS ENGINE 1					
1	Sampling Date	-	05/10/22	05/10/22	05/10/22	05/10/22	05/10/22	05/10/22
2	Sampling Time	-	13.00-13.15	13.20-13.35	13.40-13.55	14.00-14.15	14.20-14.35	14.40-14.55
3	Stack Diameter	m.	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30
4	Temperature ⁽¹⁾	°C	168	165	166	166	166	167
5	Stack Gas Velocity ⁽¹⁾	m/s	16.0	17.5	17.0	16.8	16.7	16.5
6	Flow Rate ⁽¹⁾	m ³ /s	21.2	23.2	22.6	22.3	22.1	22.0
7	Flow Rate ⁽²⁾	Nm ³ /s	14.3	15.7	15.2	15.1	14.9	14.8
8	O ₂ Rate ⁽¹⁾ , dry basis	%	12.0	12.0	12.0	12.0	11.9	11.9
9	CO ₂ Rate ⁽¹⁾ , dry basis	%	5.0	5.0	5.0	5.0	5.1	5.1
10	Absolute Stack Pressure ⁽¹⁾	mm.Hg	756.6	756.4	756.4	756.4	756.5	756.6

Remarks : HRSG GAS ENGINE 1 = 47P 0592585 UTM 1530122

(1) Flue Conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (closed system)

Reviewed by

Ms. Wareut Prachundaeng
Chief of Laboratory
15.12.22



Approved by

Mrs. Pomtip Pethshee
Laboratory Manager
15.12.22

"Refer to Analysis No. R22-2896 and follow to QF-19-01 No. 007/22 in order to edited the result of SAR on page 24 and QF-10-02 No. 035/22 in order to edited the result of NH₃ on page 5, 8, 11"

- REPORTED RESULTS REFER TO SUBMITTED SAMPLE(S) ONLY
- DO NOT COPY PARTIAL OF THIS ANALYSIS REPORT WITHOUT OFFICIAL APPROVAL



TEST REPORT

Analysis No. : R22-3617
Received Date : 10/10/22
Customer : Technical Division of Thai Environmental Technic Limited
For บริษัท เบิกไพร โกลบอลเนอเรนซ์ จำกัด
โครงการ โรงไฟฟ้าเบิกไพร โกลบอลเนอเรนซ์ (ระยะดำเนินการ)
(ภายหลังการเปลี่ยนแปลงรายละเอียดโครงการ โรงไฟฟ้าเบิกไพร โกลบอลเนอเรนซ์
(ครั้งที่ 3))
Address : 88 หมู่ 8 ตำบลเบิกไพร อำเภอบ้านโป่ง จังหวัดราชบุรี
Contact : -
Sampling Conditions :

Report Date : 15/12/22
Analysis Date : 06/10/22
Job No. : S650001/Oct
Sampling By : TET
Type of Sample : Stack

Item	Description	Unit	Result					
			HRSG GAS ENGINE 2					
1	Sampling Date	-	06/10/22	06/10/22	06/10/22	06/10/22	06/10/22	06/10/22
2	Sampling Time	-	11.20-11.35	12.10-12.25	12.30-12.45	12.50-13.05	13.10-13.25	13.30-13.45
3	Stack Diameter	m.	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30
4	Temperature ⁽¹⁾	°C	166	166	165	167	166	164
5	Stack Gas Velocity ⁽¹⁾	m/s	16.4	16.1	15.9	15.3	15.4	15.9
6	Flow Rate ⁽¹⁾	m ³ /s	21.8	21.3	21.1	20.3	20.5	21.1
7	Flow Rate ⁽²⁾	Nm ³ /s	13.0	14.4	14.3	13.7	13.8	14.3
8	O ₂ Rate ⁽¹⁾ , dry basis	%	11.7	11.8	11.8	11.8	12.0	12.0
9	CO ₂ Rate ⁽¹⁾ , dry basis	%	5.3	5.2	5.2	5.2	5.0	5.0
10	Absolute Stack Pressure ⁽¹⁾	mm.Hg	756.5	756.5	756.6	756.6	756.6	756.6

Remarks : HRSG GAS ENGINE 2 = 47P 0592587 UTM 1530126

- (1) Flue Conditions
(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (closed system)

Reviewed by 
Ms. Wareut Prachumdaeng
Chief of Laboratory
15/12/22

Approved by 
Mrs. Porntip Pethsuee
Laboratory Manager
15/12/22

"Refer to Analysis No. R22-2896 and follow to QF-19-01 No. 007/22 in order to edited the result of SAR on page 24 and QF-10-02 No. 035/22 in order to edited the result of NH₃ on page 5, 8, 11"

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- DO NOT COPY PARTIAL OF THIS ANALYSIS REPORT WITHOUT OFFICIAL APPROVAL



TEST REPORT

Analysis No. : R22-3617
Received Date : 10/10/22
Customer : Technical Division of Thai Environmental Technic Limited
For บริษัท เบิกไพร โกลบอลเนอเรนซ์ จำกัด
โครงการ โรงไฟฟ้าเบิกไพร โกลบอลเนอเรนซ์ (ระยะดำเนินการ)
(ภายหลังการเปลี่ยนแปลงรายละเอียดโครงการ โรงไฟฟ้าเบิกไพร โกลบอลเนอเรนซ์
(ครั้งที่ 3))
Address : 88 หมู่ 8 ตำบลเบิกไพร อำเภอบ้านโป่ง จังหวัดราชบุรี
Contact : -
Sampling Conditions :

Report Date : 15/12/22
Analysis Date : 06/10/22
Job No. : S650001/Oct
Sampling By : TET
Type of Sample : Stack

Item	Description	Unit	Result					
			HRSG GAS ENGINE 2					
1	Sampling Date	-	06/10/22	06/10/22	06/10/22	06/10/22	06/10/22	06/10/22
2	Sampling Time	-	13.50-14.05	14.10-14.25	14.30-14.45	14.50-15.05	15.10-15.25	15.30-15.45
3	Stack Diameter	m.	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30
4	Temperature ⁽¹⁾	°C	165	165	165	165	165	165
5	Stack Gas Velocity ⁽¹⁾	m/s	15.8	15.7	15.5	15.2	15.0	15.2
6	Flow Rate ⁽¹⁾	m ³ /s	20.9	20.9	20.6	20.2	20.0	20.2
7	Flow Rate ⁽²⁾	Nm ³ /s	14.2	14.1	13.9	13.7	13.5	13.7
8	O ₂ Rate ⁽¹⁾ , dry basis	%	12.0	12.0	12.0	12.0	12.0	12.0
9	CO ₂ Rate ⁽¹⁾ , dry basis	%	5.0	5.0	5.0	5.0	5.0	5.0
10	Absolute Stack Pressure ⁽¹⁾	mm.Hg	756.6	756.6	756.6	756.6	756.6	756.6

Remarks : HRSG GAS ENGINE 2 = 47P 0592587 UTM 1530126

- (1) Flue Conditions
(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (closed system)

Reviewed by 
Ms. Wareut Prachumdaeng
Chief of Laboratory
15/12/22

Approved by 
Mrs. Porntip Pethsuee
Laboratory Manager
15/12/22

"Refer to Analysis No. R22-2896 and follow to QF-19-01 No. 007/22 in order to edited the result of SAR on page 24 and QF-10-02 No. 035/22 in order to edited the result of NH₃ on page 5, 8, 11"

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TEST REPORT

Analysis No. : R22-3617
Received Date : 10/10/22
Customer : Technical Division of Thai Environmental Technic Limited
For บริษัท เบิกไพร โกลบอลเนชั่น จำกัด
โครงการ โรงไฟฟ้าเบิกไพร โกลบอลเนชั่น (ระยะดำเนินการ)
(ภายหลังการเปลี่ยนแปลงรายละเอียดโครงการ โรงไฟฟ้าเบิกไพร โกลบอลเนชั่น
(ครั้งที่ 3))
Address : 88 หมู่ 8 ตำบลเบิกไพร อำเภอบ้านโป่ง จังหวัดราชบุรี
Contact : -
Sampling Conditions :

Report Date : 15/12/22
Analysis Date : 07/10/22
Job No. : S650001/Oct
Sampling By : TET
Type of Sample : Stack

Item	Description	Unit	Result					
			HRSG GAS ENGINE 3					
1	Sampling Date	-	07/10/22	07/10/22	07/10/22	07/10/22	07/10/22	07/10/22
2	Sampling Time	-	11.20-11.35	12.10-12.25	12.30-12.45	12.50-13.05	13.10-13.25	13.30-13.45
3	Stack Diameter	m.	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30
4	Temperature ⁽¹⁾	°C	165	168	169	168	168	168
5	Stack Gas Velocity ⁽¹⁾	m/s	16.0	16.2	16.2	16.5	16.5	16.6
6	Flow Rate ⁽¹⁾	m ³ /s	21.2	21.6	21.5	21.9	21.9	22.0
7	Flow Rate ⁽²⁾	Nm ³ /s	12.7	14.5	14.4	14.7	14.7	14.8
8	O ₂ Rate ⁽¹⁾ , dry basis	%	12.2	12.2	12.2	12.2	12.2	12.2
9	CO ₂ Rate ⁽¹⁾ , dry basis	%	4.9	4.9	4.9	4.9	4.9	4.9
10	Absolute Stack Pressure ⁽¹⁾	mm.Hg	756.6	756.6	756.6	756.6	756.6	756.6

Remarks : HRSG GAS ENGINE 3 = 4TP 0592584 UTM 1530127

- (1) Flue Conditions
(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis. (closed system)

Reviewed by 
Ms. Wareerat Prachumdaeng
Chief of Laboratory
15.12.22

Approved by 
Mrs. Porntip Pethsuee
Laboratory Manager
15.12.22

Refer to Analysis No. R22-2896 and follow to QF-19-01 No. 007/22 in order to edited the result of SAR on page 24 and QF-10-02 No. 035/22 in order to edited the result of NH₃ on page 5, 8, 11

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TEST REPORT

Analysis No. : R22-3617
Received Date : 10/10/22
Customer : Technical Division of Thai Environmental Technic Limited
For บริษัท เบิกไพร โกลบอลเนชั่น จำกัด
โครงการ โรงไฟฟ้าเบิกไพร โกลบอลเนชั่น (ระยะดำเนินการ)
(ภายหลังการเปลี่ยนแปลงรายละเอียดโครงการ โรงไฟฟ้าเบิกไพร โกลบอลเนชั่น
(ครั้งที่ 3))
Address : 88 หมู่ 8 ตำบลเบิกไพร อำเภอบ้านโป่ง จังหวัดราชบุรี
Contact : -
Sampling Conditions :

Report Date : 15/12/22
Analysis Date : 07/10/22
Job No. : S650001/Oct
Sampling By : TET
Type of Sample : Stack

Item	Description	Unit	Result					
			HRSG GAS ENGINE 3					
1	Sampling Date	-	07/10/22	07/10/22	07/10/22	07/10/22	07/10/22	07/10/22
2	Sampling Time	-	13.50-14.05	14.10-14.25	14.30-14.45	14.50-15.05	15.10-15.25	15.30-15.45
3	Stack Diameter	m.	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30	Ø 1.30
4	Temperature ⁽¹⁾	°C	168	168	169	169	168	168
5	Stack Gas Velocity ⁽¹⁾	m/s	16.6	16.5	16.6	16.4	16.4	16.5
6	Flow Rate ⁽¹⁾	m ³ /s	22.0	21.9	22.0	21.7	21.8	21.9
7	Flow Rate ⁽²⁾	Nm ³ /s	14.8	14.7	14.8	14.6	14.6	14.7
8	O ₂ Rate ⁽¹⁾ , dry basis	%	12.2	12.2	12.2	12.2	12.2	12.2
9	CO ₂ Rate ⁽¹⁾ , dry basis	%	4.9	4.9	4.9	4.9	4.9	4.9
10	Absolute Stack Pressure ⁽¹⁾	mm.Hg	756.6	756.6	756.6	756.6	756.6	756.5

Remarks : HRSG GAS ENGINE 3 = 4TP 0592584 UTM 1530127

- (1) Flue Conditions
(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis. (closed system)

Reviewed by 
Ms. Wareerat Prachumdaeng
Chief of Laboratory
15.12.22

Approved by 
Mrs. Porntip Pethsuee
Laboratory Manager
15.12.22

Refer to Analysis No. R22-2896 and follow to QF-19-01 No. 007/22 in order to edited the result of SAR on page 24 and QF-10-02 No. 035/22 in order to edited the result of NH₃ on page 5, 8, 11

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