

ภาคผนวก ก

## การบำรุงรักษาระบบท่อจ่ายก๊าซธรรมชาติ

ภาคผนวก ค-1

## สรุปผลการบำรุงรักษาระบบท่อจ่ายก๊าซธรรมชาติ

**สรุปผลการบำรุงรักษาระบบท่อจ่ายก๊าซธรรมชาติ**  
**โครงการท่อจ่ายก๊าซธรรมชาติในพื้นที่สวนอุตสาหกรรมโรจนะ**  
**จำนวน 3 โครงการ**  
**บริษัท ปตท. จำกัด (มหาชน) จำกัด**  
**ระหว่างเดือนมกราคม ถึงมิถุนายน พ.ศ.2565**

สรุปการดำเนินงานตามแผนบำรุงรักษาเชิงป้องกัน (PM)

| Descriptions            | Year 2022 |   |   |   |   |   |   |   |   |    |    |    |
|-------------------------|-----------|---|---|---|---|---|---|---|---|----|----|----|
|                         | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Monthly Survey          | ✓         | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |   |    |    |    |
| Cathodic Protection     |           | ✓ |   |   |   |   |   |   |   |    |    |    |
| Transformer Rectifier   | ✓         | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |   |    |    |    |
| DC Decoupler (Overhall) |           |   |   |   |   |   |   |   |   |    |    |    |
| Steel Valve             |           |   |   |   |   |   |   |   |   |    |    |    |
| HDPE Valve              | ✓         | ✓ | ✓ | ✓ |   | ✓ |   |   |   |    |    |    |
| Emergency Valve         |           |   |   |   |   |   |   |   |   |    |    |    |
| Leak Survey             |           |   |   | ✓ |   |   |   |   |   |    |    |    |
| CIPS & DCVG             |           |   |   |   |   |   |   |   |   |    |    |    |
| Warning Sign Post       |           |   |   |   | ✓ |   |   |   |   |    |    |    |

- หมายเหตุ 1. ✓ คือ ดำเนินตามแผนบำรุงรักษาเชิงป้องกัน (PM)  
 2.  คือ แผนบำรุงรักษาเชิงป้องกัน (PM)

ภาคผนวก ค-2

## แผนการบำรุงรักษาเชิงป้องกันของระบบท่อจ่ายก๊าซธรรมชาติ



[illegible]


Note: X: All, "1":Route 1, "R1":Route 1

|                 |                         |                  |                      |
|-----------------|-------------------------|------------------|----------------------|
| ผู้จัดเตรียม    | ผู้ทบทวน                | ผู้อนุมัติ       | หน้าที่..... 1/1     |
| ( พิชญ จันทะ )  | ( อธิศักดิ์ คล้ายมงคล ) | ( วิชัย มนูญโย ) | แก้ไขครั้งที่..... 1 |
| วันที่ 26/05/63 | วันที่ 26/05/63         | วันที่ 26/05/63  |                      |

ภาคผนวก ค-3

ตัวอย่างเอกสารการบำรุงรักษาระบบท่อจ่ายก๊าซธรรมชาติ

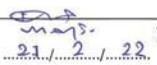
**เอกสารประกอบด้านการตรวจสอบระดับแรงดันไฟฟ้า  
ที่ใช้ป้องกันการผุกร่อนของระบบท่อส่งก๊าซธรรมชาติ  
(เอกสารตรวจสอบ Cathodic Protection ประกอบด้วย  
Test Post, Transformer Rectifier, Pipe to Soil Potential,  
Insulation Flange )**


|   |                     |  |                              |
|---|---------------------|--|------------------------------|
|  | PM / Work Order     |  | Work Order : PM22-000228     |
|   |                     |  | Work Order Date : 31/01/2022 |
|   |                     |  | Work Request No :            |
| Customer / Tag : ROJANA   |                     | Maintenance Dept. : NZ-PL<br>Pipeline โซนเหนือ |                              |
| Code : -<br>Name : -  |                     | Request Dept. :                                |                              |
| Work Type : PM  | CostCenter : NG-ROJ | Priority :                                     |                              |
| Problem / Job Detail<br>PM-NG-ROJ-Cathodic Protection-6M                          |                     |  |                              |

| Estimate Start | Estimate Finish | PM Code      | Person          |
|----------------|-----------------|--------------|-----------------|
| 01/02/2022     | 28/02/2022      | NG-ROJ-CP-6M | ภาณุรักษ์ ศิวกร |

| Actual Start  | Actual Finish | Turbine/Rotary Gas Meter Index : |
|---------------|---------------|----------------------------------|
| 25/2/22 10:00 | 27/2/22 17:00 | Corrected Volume Index :         |
| Cause Code :  | Action Code : |                                  |

| Code/Name  | Normal                              | Abnormal                 | Remarks |
|--|-------------------------------------|--------------------------|---------|
| 1) 060 R001 CP TEST POST No.1 Steel 6 inch MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8) OUTLET OTS ROJ1         | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 2) 063 R001 CP DC DECOUPLER No.1 Steel 4 inch MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8) INLET OTS ROJ1       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 3) 062 R001 CP Insulation Flange No.1 Steel 6 inch MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8) INLET OTS ROJ1  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 4) 062 R001 CP Insulation Flange No.2 Steel 4 inch MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8) OUTLET OTS ROJ1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 5) 060 R022 CP TEST POST No.2 OJeel 8 inch ROAD E1/1 BOND BOX PTT  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 6) 060 R022 CP TEST POST No.3 OJeel 10 inch ROAD E1/1 OUTLET OTS ROJ 2 / PIPE 10 INCH                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 7) 060 R022 CP TEST POST No.4 OJeel 8 inch ROAD E1/1 OUTLET OTS ROJ 2 / PIPE 8 INCH  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 8) 063 R022 CP DC DECOUPLER No.2 OJeel 8 inch ROAD E1/1 INLET OTS ROJ 2  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 9) 063 R022 CP DC DECOUPLER No.3 OJeel 10 inch ROAD E1/1 OUTLET OTS ROJ 2 / PIPE 10 INCH                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 10) 063 R022 CP DC DECOUPLER No.4 OJeel 8 inch ROAD E1/1 OUTLET OTS ROJ 2 / PIPE 8 INCH                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 11) 062 R022 CP Insulation JOINT No. 1 OJeel 8 inch ROAD E1/1 INLET OTS ROJ 2  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 12) 062 R022 CP Insulation JOINT No. 2 OJeel 10 inch ROAD E1/1 OUTLET OTS ROJ 2 / PIPE 10 INCH                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 13) 062 R022 CP Insulation JOINT No. 3 OJeel 8 inch ROAD E1/1 OUTLET OTS ROJ 2 / PIPE 8 INCH                               | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 14) 060 R023 CP TEST POST No.5 Steel 10 inch ROAD E1/1   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 15) 060 R023 CP TEST POST No.6 Steel 10 inch ROAD E1/1   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 16) 060 R023 CP TEST POST No.7 Steel 8 inch ROAD E1/1  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 17) 060 R023 CP TEST POST No.8 Steel 8 inch MAIN ROAD F  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 18) 060 R023 CP TEST POST No.9 Steel 8 inch MAIN ROAD F  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 19) 060 R024 CP TEST POST No.10 Steel 8 inch MAIN ROAD G   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 20) 060 R024 CP TEST POST No.11 Steel 8 inch MAIN ROAD G   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |

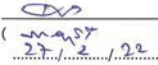
|  |                |                       |                  |
|--|----------------|-----------------------|------------------|
| PTT NGD Staff  | Customer Staff | Approve               | Division Manager |
| (  )<br>27/2/22 | ( )            | ( 1 3 65 )<br>27/2/22 | ( )              |

|   |                     |  |                              |
|---|---------------------|--|------------------------------|
|  | PM / Work Order     |  | Work Order : PM22-000228     |
|   |                     |  | Work Order Date : 31/01/2022 |
|   |                     |  | Work Request No :            |
| Customer / Tag : ROJANA   |                     | Maintenance Dept. : NZ-PL<br>Pipeline โซนเหนือ |                              |
| Code : -<br>Name : -  |                     | Request Dept. :                                |                              |
| Work Type : PM  | CostCenter : NG-ROJ | Priority :                                     |                              |
| Problem / Job Detail<br>PM-NG-ROJ-Cathodic Protection-6M                            |                     |  |                              |

| Estimate Start | Estimate Finish | PM Code      | Person          |
|----------------|-----------------|--------------|-----------------|
| 01/02/2022     | 28/02/2022      | NG-ROJ-CP-6M | ภาณุรักษ์ ศิวกร |

| Actual Start  | Actual Finish | Turbine/Rotary Gas Meter Index : |
|---------------|---------------|----------------------------------|
| 25/2/22 10:00 | 27/2/22 17:00 | Corrected Volume Index :         |
| Cause Code :  | Action Code : |                                  |

| Code/Name   | Normal                              | Abnormal                 | Remarks |
|---|-------------------------------------|--------------------------|---------|
| 21) 060 R024 CP TEST POST No.12 Steel 8 inch MAIN ROAD G                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 22) 060 R024 CP TEST POST No.13 Steel 8 inch MAIN ROAD G                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 23) 060 R025 CP TEST POST No.14 Steel 6 inch ROAD G4 AGI                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 24) 060 R025 CP TEST POST No.15 Steel 8 inch ROAD G4                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 25) 063 R025 CP DC DECOUPLER No.5 Steel 6 inch ROAD G4 AGI                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 26) 062 R025 CP Insulation Flange No.3 Steel 6 inch ROAD G4 AGI             | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 27) 060 R026 CP TEST POST No.16 Steel 6 inch MAIN ROAD I                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 28) 060 R026 CP TEST POST No.17 Steel 6 inch MAIN ROAD I INLET PRS5         | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 29) 060 R026 CP TEST POST No.18 Steel 8 inch MAIN ROAD I OUTLET PRS5        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 30) 063 R026 CP DC DECOUPLER No.6 Steel 6 inch MAIN ROAD I INLET PRS5       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 31) 063 R026 CP DC DECOUPLER No.7 Steel 8 inch MAIN ROAD I OUTLET PRS5      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 32) 062 R026 CP Insulation JOINT No. 4 Steel 6 inch MAIN ROAD I INLET PRS5  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 33) 062 R026 CP Insulation JOINT No. 5 Steel 8 inch MAIN ROAD I OUTLET PRS5 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |

|  |                |                       |                  |
|--|----------------|-----------------------|------------------|
| PTT NGD Staff  | Customer Staff | Approve               | Division Manager |
| (  )<br>27/2/22 | ( )            | ( 1 3 65 )<br>27/2/22 | ( )              |

TRANSFORMER RECTIFIER AND PIPE TO SOIL POTENTIAL (CATHODIC PROTECTION)

|        |        |             |
|--------|--------|-------------|
| AREA : | Rojana | pm22-000228 |
|--------|--------|-------------|

TEST EQUIPMENT : 1. DMM : Fluke179 SERIAL NO. 96700584

2. Reference Electrode : ☒ Cu/CuSO<sub>4</sub> ☐ Ag/AgCl

3. Clamp Meter : Fluke325 SERIAL NO. 22040020

Note: สภาพดิน : W = ดินเปียกน้ำ, D = ดินแห้ง, RC = ถนนคอนกรีต, RA = ถนนลาดยาง, RL = ถนนลูกรัง Y = Yes, N = No



### TRANSFORMER RECTIFIER

[illegible]

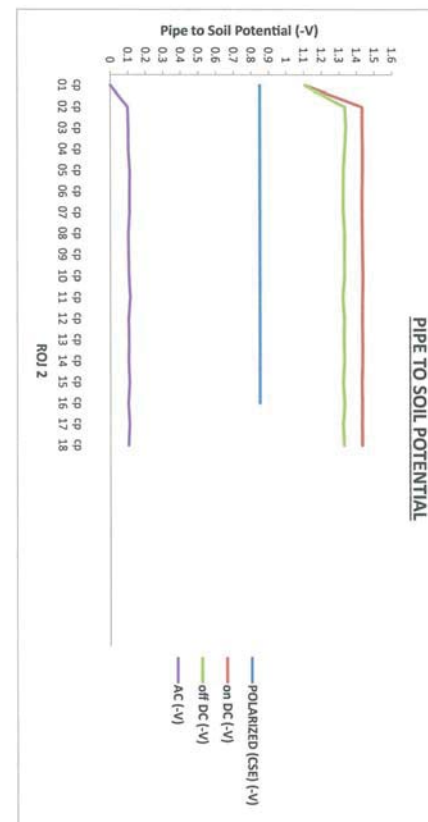
### PIPE TO SOIL POTENTIAL

Criterion : P/S off DC >850 volt

[illegible]

Staff Signed : Panurak Vichaichanarak   
Engineer Signed :   
Manager Signed :

|        |           |
|--------|-----------|
| Date : | 27/2/2022 |
| Date : | 7/3/65    |
| Date : |           |

[illegible]

(Chang-Pan Chuan)



### DC DECOUPLER

|   |          |                     |
|---|----------|---------------------|
| AREA :  | Rojana   | pm 22-000228        |
| TEST EQUIPMENT 1. DMM :                                     | FLUKE179 | SERIAL NO. 96700584 |
| 2. Clamp Meter :  | FLUKE325 | SERIAL NO. 22040020 |
| Note : Y = Yes, N = No, Correction : ให้ระบุรายละเอียดแก้ไข |          |                     |

CRITERION :  $\Delta V_{dc} \text{ (V)} < 1.2 \text{ V}$

[illegible]

## Staff

Panurak Vichaichanarak ๒๕๘

Signed

Engineer

9/3/65

Manager

Signed

Date \_\_\_\_\_

OP-FO-062-04

 PTT Natural Gas Distribution Co., Ltd.

## INSULATION FLANGE AND INSULATION JOINT

pm22-000228

Rojana

SERIAL NO. 96700584

6E179

TEST EQUIPMEN 1. DMM :

CI



## 2. References

SERIAL NO. 22040020

KFE325

### 3. Clamp A

Note: Y = Yes, N = No

บันทึกค่าการตรวจวัด Insulation Flange or Joint (Pipe-electrolyte Potential Method)

Criterion :  $|V_s - V_p| > 100 \text{ mV}$

[illegible]

Staff Signed: \_\_\_\_\_

Panurak Vichaichanarak

Date: 27/2/2022

Engineer Signed: \_\_\_\_\_

1

Date: 1/3/16

Manager Signed: \_\_\_\_\_

1

Date : \_\_\_\_\_



| TRANSFORMER RECTIFIER AND PIPE TO SOIL POTENTIAL (CATHODIC PROTECTION)   |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
|--|---------|--------------------------|------------------------------|---|---------|------------|---------------------------|-------------|--------------------------|----------|-----------------|---------|--------|
| AREA :   |         | Rojana                   |                              |   |         |            | pm22-000228 , pm22-000231 |             |                          |          |                 |         |        |
| TEST EQUIPMENT : 1. DMM :  |         | Fluke179                 |                              |   |         |            | SERIAL NO.                |             | 96700584                 |          |                 |         |        |
|  |         | 2. Reference Electrode : |                              | <input checked="" type="checkbox"/> Cu/CuSO4 <input type="checkbox"/> Ag/AgCl |         |            |                           |             |                          |          |                 |         |        |
|  |         | 3. Clamp Meter :         |                              | Fluke325  |         | SERIAL NO. |                           | 22040020    |                          |          |                 |         |        |
| Note: สภาพดิน : W = ดินเปียกหมา, D = ดินแห้ง, RC = ถนนคอนกรีต, RA = ถนนลาดยาง, RL = ถนนลูกรัง <span style="float: right;">Y = Yes, N = No</span> |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
| TRANSFORMER RECTIFIER  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
| Date   | TAG No. | LOCATION                 | Input                        |   | Output  |            | P/S                       |             | Tap Status<br>/Set Point | Cleaning | Condition (Y/N) |         | Remark |
|  |         |                          | Vac (V)                      | Iac(A)  | Vdc (V) | I dc(A)    | on Vdc(-V)                | off Vdc(-V) |                          |          | Fuse            | Breaker |        |
| 25/02/22   | TR no.1 | 060 R022                 | 220                          | 0.9   | 1.5     | -          | 1.5                       | 1.4         | 1A                       | Y        | Y               | Y       | -      |
|  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
| PIPE TO SOIL POTENTIAL   |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
| Criterion : P/S off DC >850 volt   |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
| Date   | TAG No. | LOCATION                 | PIPE TO SOIL POTENTIAL (P/S) |   |         | Cleaning   | Condition (Y/N)           |             | Remark                   |          |                 |         |        |
|  |         |                          | on DC                        | off DC  | AC      |            | Test Post                 | Guard       |                          |          |                 |         |        |
|  |         |                          | (-V)                         | (-V)  | (-V)    |            |                           |             |                          |          |                 |         |        |
| 21/2/2022  | cp 01   | 060 R001 (roj-1)         | 1.108                        | 1.108   | 0.000   | W          | Y                         | Y           | 6"                       |          |                 |         |        |
| 25/2/2022  | cp 02   | 060 R022 (roj-2)         | 1.432                        | 1.334   | 0.098   | D          | Y                         | Y           | 8"                       |          |                 |         |        |
| 25/2/2022  | cp 03   | 060 R022                 | 1.432                        | 1.339   | 0.101   | D          | Y                         | Y           | 10"                      |          |                 |         |        |
| 25/2/2022  | cp 04   | 060 R022                 | 1.433                        | 1.332   | 0.101   | RC         | Y                         | Y           | 8"                       |          |                 |         |        |
| 25/2/2022  | cp 05   | 060 R023                 | 1.433                        | 1.324   | 0.109   | RC         | Y                         | Y           | 8"                       |          |                 |         |        |
| 25/2/2022  | cp 06   | 060 R023                 | 1.431                        | 1.323   | 0.108   | D          | Y                         | Y           | 8"                       |          |                 |         |        |
| 25/2/2022  | cp 07   | 060 R023                 | 1.431                        | 1.323   | 0.108   | D          | Y                         | Y           | 8"                       |          |                 |         |        |
| 25/2/2022  | cp 08   | 060 R023                 | 1.432                        | 1.331   | 0.101   | D          | Y                         | Y           | 8"                       |          |                 |         |        |
| 25/2/2022  | cp 09   | 060 R023                 | 1.433                        | 1.330   | 0.103   | RC         | Y                         | Y           | 8"                       |          |                 |         |        |
| 26/2/2022  | cp 10   | 060 R024                 | 1.434                        | 1.330   | 0.104   | RC         | Y                         | Y           | 8"                       |          |                 |         |        |
| 26/2/2022  | cp 11   | 060 R024                 | 1.433                        | 1.321   | 0.112   | RC         | Y                         | Y           | 8"                       |          |                 |         |        |
| 26/2/2022  | cp 12   | 060 R024                 | 1.432                        | 1.329   | 0.103   | RC         | Y                         | Y           | 8"                       |          |                 |         |        |
| 26/2/2022  | cp 13   | 060 R024                 | 1.433                        | 1.328   | 0.105   | RC         | Y                         | Y           | 8"                       |          |                 |         |        |
| 26/2/2022  | cp 14   | 060 R025                 | 1.433                        | 1.330   | 0.103   | RC         | Y                         | Y           | 8"                       |          |                 |         |        |
| 26/2/2022  | cp 15   | 060 R025                 | 1.430                        | 1.322   | 0.108   | RC         | Y                         | Y           | 8"                       |          |                 |         |        |
| 21/2/2022  | cp 16   | 060 R026                 | 1.432                        | 1.331   | 0.101   | D          | Y                         | Y           | 8"                       |          |                 |         |        |
| 21/2/2022  | cp 17   | 060 R026                 | 1.431                        | 1.323   | 0.108   | D          | Y                         | Y           | 6"                       |          |                 |         |        |
| 21/2/2022  | cp 18   | 060 R026                 | 1.432                        | 1.329   | 0.103   | D          | Y                         | Y           | 10"R 8"                  |          |                 |         |        |
|  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
|  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
|  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
|  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
|  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
|  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
|  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
|  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
|  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
|  |         |                          |                              |   |         |            |                           |             |                          |          |                 |         |        |
| Staff Signed : Panurak Vichaichangrak  |         |                          | Date : 27/2/2022             |   |         |            |                           |             |                          |          |                 |         |        |
| Engineer Signed :  |         |                          | Date : 1/3/65                |   |         |            |                           |             |                          |          |                 |         |        |
| Manager Signed :   |         |                          | Date :                       |   |         |            |                           |             |                          |          |                 |         |        |





| <span style="font-size: 2em; font-weight: bold; margin-left: 10px;">PM / Work Order</span> |  |                                |  | Work Order : PM22-000601                      |                          |
|--|--|--------------------------------|--|---|--------------------------|
|  |  |                                |  | Work Order Date : 30/03/2022                  |                          |
|  |  |                                |  | Work Request No :                             |                          |
| Customer / Tag : ROJANA  |  |                                |  | Maintenance Dept. : NZ-PL<br>Pipeline โซนผลิต |                          |
| Code : -<br>Name : -   |  |                                |  | Request Dept. :                               |                          |
| Work Type : PM   |  | CostCenter : NG-ROJ            |  | Priority :                                    |                          |
| Problem / Job Detail<br>PM-NG-ROJ-Transformer Rectifier-IM                                 |  |                                |  |   |                          |
| Estimate Start   |  | Estimate Finish                |  | PM Code                                       | Person                   |
| 01/04/2022   |  | 30/04/2022                     |  | NG-ROJ-TR-IM                                  | นายจักรกร ศิริภร         |
| Actual Start   |  | Actual Finish                  |  | Turbine/Rotary Gas Meter Index :              |                          |
| <u>28/4/22</u><br><u>18:00</u>   |  | <u>28/4/22</u><br><u>18:00</u> |  | Corrected Volume Index :                      |                          |
| Cause Code :   |  |                                |  | Action Code :                                 |                          |
| Code/Name  |  |                                |  | Normal  | Abnormal      Remarks    |
| 1) 060 R022 CP Transformer Rectifier No.1 ROAD E1/I OTS ROJ 2                              |  |                                |  | <input checked="" type="checkbox"/>           | <input type="checkbox"/> |

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PTT NGD Staff \_\_\_\_\_ Customer Staff \_\_\_\_\_ Approve (Signature) Division Manager \_\_\_\_\_

(Date Stamp: 28/4/22)                  (Date Stamp: 28/4/22)                  (Stamp: 25/65)                  \_\_\_\_\_

[illegible]

**HDPE Valve**

VALVE INSPECTION REPORT

|  |  |       |  |                   |  |              |  |
|--|--|-------|--|-------------------|--|--------------|--|
| AREA : ROJANA INDUSTRIAL PARK                              |  | STEEL |  | HDPE              |  | PM 22-000097 |  |
| TEST EQUIPMENT : Gas Detector :                            |  | GMI   |  | SERIAL NO. 539042 |  |              |  |
| Note : O =ปกติ X =ผิดปกติ / Correction : ให้บุคลากรเติมน้ำ |  |       |  |                   |  |              |  |

| Date     | TAG Valve No. | Type Valve |     |      | Location | Inch | mm  | Position Valve<br>In Valve Pit | Status Valve |       | Condition (OX) |            |                          |              |          |      |                             | Correction | Remark |         |  |
|----------|---------------|------------|-----|------|----------|------|-----|--------------------------------|--------------|-------|----------------|------------|--------------------------|--------------|----------|------|-----------------------------|------------|--------|---------|--|
|          |               | MPL        | SPL | VENT |          |      |     |                                | Open         | Close | ป้ายวาฬ        | เสาป้ายวาฬ | ฝาหวาฬ (Cover Valve Pit) | ท่อบน/ใต้น้ำ | Planting | Leak | Maneuverability Valve / 15° |            |        | Coating |  |
| 08/01/22 | MV 101        | O          | -   | O    | R001     | 160  | 160 | O                              | O            | O     | O              | O          | O                        | O            | O        | O    | O                           | O          | O      |         |  |
| 08/01/22 | MV 102        | O          | -   | O    | R001     | 160  | 160 | O                              | O            | O     | O              | O          | O                        | O            | O        | O    | O                           | O          | O      |         |  |
| 08/01/22 | MV 207        | O          | -   | O    | R001     | 110  | 110 | O                              | O            | O     | O              | O          | O                        | O            | O        | O    | O                           | O          | O      |         |  |
| 08/01/22 | MV 208        | -          | O   | -    | R002     | 110  | 110 | O                              | O            | O     | O              | O          | O                        | O            | O        | O    | O                           | O          | O      |         |  |
| 10/01/22 | MV 103        | -          | O   | -    | R003     | 110  | 110 | O                              | O            | O     | O              | O          | O                        | O            | O        | O    | O                           | O          | O      |         |  |
| 10/01/22 | MV 104        | O          | -   | O    | R003     | 160  | 160 | O                              | O            | O     | O              | O          | O                        | O            | O        | O    | O                           | O          | O      |         |  |
| 10/01/22 | MV 106        | O          | -   | O    | R003     | 160  | 160 | O                              | O            | O     | O              | O          | O                        | O            | O        | O    | O                           | O          | O      |         |  |
| 10/01/22 | MV 107        | O          | -   | O    | R003     | 160  | 160 | O                              | O            | O     | O              | O          | O                        | O            | O        | O    | O                           | O          | O      |         |  |
| 10/01/22 | MV 108        | O          | -   | O    | R003     | 160  | 160 | O                              | O            | O     | O              | O          | O                        | O            | O        | O    | O                           | O          | O      |         |  |
| 10/01/22 | MV 105        | -          | O   | -    | R003     | 110  | 110 | O                              | O            | O     | O              | O          | O                        | O            | O        | O    | O                           | O          | O      |         |  |
| 10/01/22 | MV 184        | -          | O   | -    | R003     | 110  | 110 | O                              | O            | O     | O              | O          | O                        | O            | O        | O    | O                           | O          | O      |         |  |

| Signed<br>Date | Staff<br>Panrak Vichachanarak<br>10/01/22 | Signed<br>Date | Engineer<br>1/2/65 | Signed<br>Date | Manager<br>01/02/65 |
|----------------|---|----------------|--------------------|----------------|---------------------|
|                |   |                |                    |                |                     |

OP-FO-013-03

|  |                               |  |                          |                              |
|--|-------------------------------|--|--------------------------|------------------------------|
| <p>PM / Work Order</p>   |                               | Work Order : PM22-000097                                     |                          |                              |
|  |                               | Work Order Date : 04/01/2022                                 |                          |                              |
|  |                               | Work Request No :  |                          |                              |
| Customer / Tag : ROJANA  |                               | Maintenance Dept. : NZ-PL<br>Pipeline โซนเหนือ               |                          |                              |
| Code :<br>Name :   |                               | Request Dept. :  |                          |                              |
| Work Type : PM   | CostCenter : NG-ROJ           | Priority :   |                          |                              |
| Problem / Job Detail<br>PM-NG-ROJ-HDPE Valve-3Y Set1   |                               |  |                          |                              |
| Estimate Start<br>01/01/2022   | Estimate Finish<br>31/01/2022 | PM Code<br>NG-ROJ-HDPE-3Y-1                                  | Person<br>ภาณุรักษ์ ศิวก |                              |
| Actual Start<br>8/1/22   | Actual Finish<br>11/1/22      | Turbine/Rotary Gas Meter Index :<br>Corrected Volume Index : |                          |                              |
| Cause Code :   | Action Code :                 |  |                          |                              |
| Code/Name  |                               | Normal   | Abnormal                 | Remarks                      |
| 1) 095 R001 Main Valve No.101 HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8)                      |                               | <input checked="" type="checkbox"/>                          | <input type="checkbox"/> |                              |
| 2) 095 R001 Main Valve No.102 HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8)                      |                               | <input checked="" type="checkbox"/>                          | <input type="checkbox"/> |                              |
| 3) 095 R001 Main Valve No.207 HDPE 110 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8)                      |                               | <input checked="" type="checkbox"/>                          | <input type="checkbox"/> |                              |
| 4) 095 R002 Service Valve No.208 HDPE 110 mm ROAD A4 SUNFLAG   |                               | <input checked="" type="checkbox"/>                          | <input type="checkbox"/> |                              |
| 5) 095 R003 Main Valve No.103 HDPE 110 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10)                     |                               | <input checked="" type="checkbox"/>                          | <input type="checkbox"/> |                              |
| 6) 095 R003 Main Valve No.104 HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10)                     |                               | <input checked="" type="checkbox"/>                          | <input type="checkbox"/> |                              |
| 7) 095 R003 Main Valve No.106 HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10)                     |                               | <input checked="" type="checkbox"/>                          | <input type="checkbox"/> |                              |
| 8) 095 R003 Main Valve No.107 HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10)                     |                               | <input checked="" type="checkbox"/>                          | <input type="checkbox"/> |                              |
| 9) 095 R003 Main Valve No.108 HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10)                     |                               | <input checked="" type="checkbox"/>                          | <input type="checkbox"/> |                              |
| 10) 095 R003 Service Valve No.105 HDPE 110 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10) THAI INDOKORDSA |                               | <input checked="" type="checkbox"/>                          | <input type="checkbox"/> |                              |
| 11) 095 R003 Service Valve No.184 HDPE 110 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10) THAI INDOKORDSA |                               | <input checked="" type="checkbox"/>                          | <input type="checkbox"/> |                              |
| PTT NGD Staff  |                               | Customer Staff   | Approve<br>1/2/65        | Division Manager<br>01/02/65 |



## VALVE INSPECTION REPORT

OP-FO-095-01

AREA : ROJANA INDUSTRIAL PARK

STEEL

HDPE

PM 22-000229

TEST EQUIPMENT : Gas Detector :

GMI

SERIAL NO.


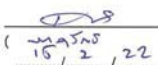
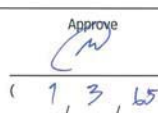
539042

Note : O = โอکی, X = ไม่โอکی / Correction : ไม่ตรงตามข้อกำหนด

| Date     | TAG Valve No. | Type Valve |     |      | Location | Size |     | Position Valve |              | Status Valve |       | Condition (OK) |              |                          |                   |          |      |                             | Correction | Remark |         |           |   |
|----------|---------------|------------|-----|------|----------|------|-----|----------------|--------------|--------------|-------|----------------|--------------|--------------------------|-------------------|----------|------|-----------------------------|------------|--------|---------|-----------|---|
|          |               | MPL        | SPL | VENT |          | Inch | mm  | In Valve Pit   | Multiple Pit | Open         | Close | น้ำยาหล่อ      | เสาน้ำยาหล่อ | ฝาครอบ (Cover Valve Pit) | หลุด/เบี้ยว/ชำรุด | Planting | Leak | Maneuverability Valve / 15° |            |        | Coating |           |   |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                          |                   |          |      |                             |            |        |         |           |   |
| 15/02/22 | MV 109        | -          | O   | -    | R004     | -    | 110 | O              | -            | O            | -     | O              | O            | O                        | O                 | O        | O    | O                           | O          | O      | -       | panasonic | - |
| 15/02/22 | MV 110        | -          | O   | -    | R004     | -    | 110 | O              | -            | O            | -     | O              | O            | O                        | O                 | O        | O    | O                           | O          | O      | -       | kingboard | - |
| 15/02/22 | MV 111        | O          | -   | O    | R004     | -    | 160 | -              | O            | O            | -     | O              | O            | O                        | O                 | O        | O    | O                           | O          | O      | -       | -         | - |
| 15/02/22 | MV 112        | -          | O   | O    | R004     | -    | 160 | -              | -            | O            | -     | O              | -            | O                        | O                 | O        | O    | O                           | O          | O      | -       | -         | - |
| 15/02/22 | MV 113        | O          | -   | O    | R005     | -    | 160 | O              | -            | O            | -     | -              | -            | O                        | O                 | O        | O    | O                           | O          | O      | -       | -         | - |
| 15/02/22 | MV 114        | O          | -   | O    | R005     | -    | 160 | O              | -            | O            | -     | -              | -            | O                        | O                 | O        | O    | O                           | O          | O      | -       | -         | - |
| 15/02/22 | MV 115        | O          | -   | O    | R007     | -    | 160 | O              | -            | O            | -     | -              | -            | O                        | O                 | O        | O    | O                           | O          | O      | -       | -         | - |
| 15/02/22 | MV 116        | O          | -   | O    | R007     | -    | 160 | O              | -            | O            | -     | -              | -            | O                        | O                 | O        | O    | O                           | O          | O      | -       | -         | - |
| 15/02/22 | MV 180        | O          | -   | -    | R007     | -    | 160 | O              | -            | O            | -     | -              | -            | O                        | O                 | O        | O    | O                           | O          | O      | -       | -         | - |
| 15/02/22 | MV 181        | O          | -   | O    | R007     | -    | 160 | O              | -            | O            | -     | -              | -            | O                        | O                 | O        | O    | O                           | O          | O      | -       | -         | - |
| 15/02/22 | MV 182        | O          | -   | -    | R007     | -    | 160 | O              | -            | O            | -     | -              | -            | O                        | O                 | O        | O    | O                           | O          | O      | -       | -         | - |
| 15/02/22 | MV 183        | O          | -   | O    | R007     | -    | 160 | O              | -            | O            | -     | -              | -            | O                        | O                 | O        | O    | O                           | O          | O      | -       | -         | - |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                          |                   |          |      |                             |            |        |         |           |   |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                          |                   |          |      |                             |            |        |         |           |   |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                          |                   |          |      |                             |            |        |         |           |   |

| Staff                 |          | Engineer |        | Manager |      |
|-----------------------|----------|----------|--------|---------|------|
| Signed                | Date     | Signed   | Date   | Signed  | Date |
| Panurak Wichaihanarak | 15/02/65 |          | 9/3/65 |         |      |

OP-FO-013-03

|   |                                     |  |                         |
|---|-------------------------------------|--|-------------------------|
|  <b>PM / Work Order</b>        |                                     | Work Order : PM22-000229<br>Work Order Date : 31/01/2022<br>Work Request No :<br>Maintenance Dept : NZ-PL<br>Pipeline โซนเหนือ<br>Request Dept :<br>Priority : |                         |
| Customer / Tag : ROJANA   |                                     |  |                         |
| Code : -<br>Name : -  |                                     |  |                         |
| Work Type : PM  | CostCenter : NG-ROJ                 |  |                         |
| Problem / Job Detail<br>PM-NG-ROJ-HDPE Valve-3Y Set2  |                                     |  |                         |
| Estimate Start<br>01/02/2022  | Estimate Finish<br>28/02/2022       | PM Code<br>NG-ROJ-HDPE-3Y-2  | Person<br>ภาคกริช สิวกร |
| Actual Start<br>15/2/22 13:00   | Actual Finish<br>15/2/22 17:00      | Turbine/Rotary Gas Meter Index :   |                         |
| Cause Code :  |                                     | Corrected Volume Index :   |                         |
| Action Code :   |                                     |  |                         |
| Code/Name   | Normal                              | Abnormal   | Remarks                 |
| 1) 095 R004 Main Valve No.111 HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A10 ถึง MAIN ROAD B4)              | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| 2) 095 R004 Main Valve No.112 HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A10 ถึง MAIN ROAD B4)              | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| 3) Service Valve No.109 HDPE 110 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A10 ถึง MAIN ROAD B4) PANASONIC          | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| 4) 095 R004 Service Valve No.110 HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A10 ถึง MAIN ROAD B4) KINGBOARD | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| 5) 095 R005 Main Valve No.113 HDPE 160 mm ROAD B4   | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| 6) 095 R005 Main Valve No.114 HDPE 160 mm ROAD B4   | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| 7) 095 R007 Main Valve No.115 HDPE 160 mm MAIN ROAD B (ช่วงระหว่าง ROAD A3 ถึง ROAD B4)                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| 8) 095 R007 Main Valve No.116 HDPE 160 mm MAIN ROAD B (ช่วงระหว่าง ROAD A3 ถึง ROAD B4)                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| 9) 095 R007 Main Valve No.180 HDPE 160 mm MAIN ROAD B (ช่วงระหว่าง ROAD A3 ถึง ROAD B4)                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| 10) 095 R007 Main Valve No.181 HDPE 160 mm MAIN ROAD B (ช่วงระหว่าง ROAD A3 ถึง ROAD B4)                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| 11) 095 R007 Main Valve No.182 HDPE 160 mm MAIN ROAD B (ช่วงระหว่าง ROAD A3 ถึง ROAD B4)                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| 12) 095 R007 Main Valve No.183 HDPE 160 mm MAIN ROAD B (ช่วงระหว่าง ROAD A3 ถึง ROAD B4)                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>   |                         |
| PTT NGD Staff   | Customer Staff                      | Approve  | Division Manager        |
| <br>( 15/2/22 )              |                                     | <br>( 13/65 )   |                         |

VALVE INSPECTION REPORT

OP-FO-095-01

AREA : ROJANA INDUSTRIAL PARK  
TEST EQUIPMENT : Gas Detector : GMI  
Note : O = ไม่พบ / Correction : ไม่พบการแก้ไข  
STEEL  
HDPE  
PM 22-000383  
SERIAL NO. 539042

| Date     | TAG Valve No. | Type Valve |     |      | Location | Size |     | Position Valve |              | Status Valve |       | Condition (OK) |              |                             |                    |          |      | Correction | Remark |                             |
|----------|---------------|------------|-----|------|----------|------|-----|----------------|--------------|--------------|-------|----------------|--------------|-----------------------------|--------------------|----------|------|------------|--------|-----------------------------|
|          |               | MPL        | SPL | VENT |          | Inch | mm  | Singel Pit     | Multiple Pit | Open         | Close | บ้ายาวลัด      | เสาบ้ายาวลัด | ฝาครอบลัด (Cover Valve Pit) | ท่อกด/เชื่อม/ชำรุด | Planting | Leak |            |        | Maneuverability Valve / 15° |
| 14/03/22 | MV 130        | O          | -   | O    | R006     | -    | 160 | -              | -            | O            | -     | -              | O            | O                           | O                  | O        | O    | -          | สีดี   | -                           |
| 14/03/22 | MV 131        | O          | -   | O    | R006     | -    | 160 | -              | -            | O            | -     | -              | O            | O                           | O                  | O        | O    | -          | สีดี   | -                           |
| 14/03/22 | MV 132        | O          | -   | O    | R006     | -    | 160 | -              | -            | O            | -     | -              | O            | O                           | O                  | O        | O    | -          | สีดี   | -                           |
| 14/03/22 | MV 133        | -          | O   | O    | R006     | -    | 110 | -              | -            | O            | -     | -              | O            | O                           | O                  | O        | O    | -          | สีดี   | -                           |
| 14/03/22 | MV 134        | O          | -   | O    | R006     | -    | 63  | O              | O            | O            | -     | -              | O            | O                           | O                  | O        | O    | -          | สีดี   | -                           |
| 14/03/22 | MV 138        | O          | -   | -    | R006     | -    | 160 | O              | -            | O            | -     | -              | O            | O                           | O                  | O        | O    | -          | สีดี   | -                           |
| 14/03/22 | MV 139        | -          | O   | -    | R006     | -    | 63  | O              | -            | -            | -     | -              | O            | O                           | O                  | O        | O    | -          | สีดี   | -                           |
| 14/03/22 | MV 141        | -          | O   | -    | R006     | -    | 63  | O              | -            | O            | -     | -              | O            | O                           | O                  | O        | O    | -          | สีดี   | -                           |
| 14/03/22 | MV 142        | -          | O   | -    | R006     | -    | 110 | O              | -            | O            | -     | -              | O            | O                           | O                  | O        | O    | -          | สีดี   | -                           |
| 14/03/22 | MV 206        | O          | -   | O    | R006     | -    | 63  | O              | -            | O            | -     | -              | O            | O                           | O                  | O        | O    | -          | สีดี   | -                           |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |
|          |               |            |     |      |          |      |     |                |              |              |       |                |              |                             |                    |          |      |            |        |                             |

OP-FO-013-03

PM / Work Order  
Customer / Tag : ROJANA  
Code : -  
Name : -  
Work Type : PM  
CostCenter : NG-ROJ  
Problem / Job Detail  
PM-NG-ROJ-HDPE Valve-3Y Set3  
Work Order : PM22-000383  
Work Order Date : 28/02/2022  
Work Request No :  
Maintenance Dept : NZ-PL  
Pipeline ไซมอน  
Request Dept :  
Priority :  
Estimate Start : 01/03/2022  
Estimate Finish : 31/03/2022  
PM Code : NG-ROJ-HDPE-3Y-3  
Person : ภาณุวิชญ์ สิวกร  
Actual Start : 13/3/22  
Actual Finish : 14/3/22  
Turbine/Rotary Gas Meter Index :  
Corrected Volume Index :  
Cause Code :  
Action Code :  
Code/Name  
Normal  
Abnormal  
Remarks  
1) 095 R006 Main Valve No.130 HDPE 160 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B)  
2) 095 R006 Main Valve No.131 HDPE 160 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B)  
3) 095 R006 Main Valve No.132 HDPE 160 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B)  
4) 095 R006 Main Valve No.133 HDPE 110 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B)  
5) 095 R006 Main Valve No.138 HDPE 110 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B)  
6) 095 R006 Service Valve No.134 HDPE 63 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B) MINEBEA  
7) 095 R006 Service Valve No.139 HDPE 63 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B) M&R  
8) 095 R006 Service Valve No.141 HDPE 63 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B) SANDEN  
9) 095 R006 Service Valve No.142 HDPE 110 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B) CHEMTRONIC  
10) 095 R006 Service Valve No.206 HDPE 63 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B) SIAM PATTANA  
PTT NGD Staff  
Customer Staff  
Approve  
Division Manager  
01/04/65

AREA : ROAJANA INDUSTRIAL PARK

TEST EQUIPMENT : Gas Detector :

Note : O = ไม่พบ / Correction : ไม่พบรายละเอียดแก้ไข

GMI

SERIAL NO.

539042

PM 22-000598

STEEL


HDPPE

| Date     | TAG Valve No. | Type Valve |     |      | Location | Size |     | Position Valve In Valve Pit |              | Status Valve |       | Condition (OX) |              |                            |                 |          |      |                             | Correction    | Remark                  |   |  |  |
|----------|---------------|------------|-----|------|----------|------|-----|-----------------------------|--------------|--------------|-------|----------------|--------------|----------------------------|-----------------|----------|------|-----------------------------|---------------|-------------------------|---|--|--|
|          |               | MPL        | SPL | VENT |          | Inch | mm  | Singel Pit                  | Multiple Pit | Open         | Close | บ้ายวาล์ว      | เสาบ้ายวาล์ว | ฝาหวาล์ว (Cover Valve Pit) | ทุบลูบียงหัวรูต | Planting | Leak | Maneuverability Valve / 15° | Coating       |                         |   |  |  |
|          |               |            |     |      |          |      |     |                             |              |              |       |                |              |                            |                 |          |      |                             |               |                         |   |  |  |
| 05/04/22 | MV 117        | O          | -   | O    | R008     | -    | 160 | O                           | O            | -            | -     | O              | O            | O                          | X               | O        | O    | O                           | -             | สีตัวบอยซ์คาง           | - |  |  |
| 05/04/22 | MV 118        | O          | -   | -    | R008     | -    | 160 | O                           | -            | -            | -     | O              | O            | O                          | X               | O        | O    | O                           | -             | สีตัวบอยซ์คาง           | - |  |  |
| 05/04/22 | MV 119        | O          | -   | O    | R008     | -    | 160 | O                           | -            | -            | -     | O              | O            | X                          | X               | O        | O    | O                           | -             | สีตัวบอยซ์คาง-ทุบลูบียง | - |  |  |
| 05/04/22 | MV 120        | O          | -   | O    | R008     | -    | 160 | O                           | O            | -            | -     | O              | O            | O                          | X               | O        | O    | O                           | -             | สีตัวบอยซ์คาง           | - |  |  |
| 05/04/22 | MV 121        | O          | -   | O    | R008     | -    | 160 | O                           | O            | -            | -     | O              | O            | O                          | X               | O        | O    | O                           | -             | สีตัวบอยซ์คาง           | - |  |  |
| 05/04/22 | MV 122        | O          | -   | O    | R008     | -    | 110 | -                           | -            | O            | -     | O              | O            | O                          | X               | O        | O    | O                           | -             | สีตัวบอยซ์คาง           | - |  |  |
| 05/04/22 | MV 123        | -          | O   | -    | R009     | -    | 110 | O                           | -            | -            | -     | O              | O            | O                          | O               | O        | O    | O                           | -             | Honda1                  | - |  |  |
| 05/04/22 | MV 124        | O          | -   | -    | R009     | -    | 160 | O                           | O            | -            | -     | O              | O            | O                          | X               | O        | O    | O                           | -             | สีตัวบอยซ์คาง           | - |  |  |
| 05/04/22 | MV 125        | O          | -   | O    | R009     | -    | 160 | O                           | -            | -            | O     | O              | O            | O                          | X               | O        | O    | -                           | สีตัวบอยซ์คาง | -                       |   |  |  |
| 05/04/22 | MV 186        | O          | -   | -    | R008     | -    | 160 | O                           | O            | -            | -     | O              | O            | O                          | X               | O        | O    | O                           | -             | สีตัวบอยซ์คาง           | - |  |  |
| 05/04/22 | MV 187        | O          | -   | O    | R008     | -    | 160 | -                           | O            | -            | -     | O              | O            | O                          | X               | O        | O    | O                           | -             | สีตัวบอยซ์คาง           | - |  |  |
| 05/04/22 | MV 188        | -          | O   | -    | R009     | -    | 160 | O                           | -            | -            | -     | O              | O            | O                          | O               | O        | O    | O                           | -             | Honda2                  | - |  |  |
| 05/04/22 | MV 189        | -          | O   | -    | R008     | -    | 63  | -                           | O            | -            | -     | O              | O            | O                          | X               | O        | O    | O                           | -             | beshox สีตัวคาง         | - |  |  |
| 05/04/22 | MV 229        | -          | O   | -    | R009     | -    | 63  | O                           | -            | -            | -     | O              | O            | O                          | X               | O        | O    | O                           | -             | Kaisuyama สีตัวคาง      | - |  |  |

| Staff                  |          | Engineer    |         | Manager |      |
|------------------------|----------|-------------|---------|---------|------|
| Signed                 | Date     | Signed      | Date    | Signed  | Date |
| Punarak Vichaiatnamrak | 05/04/65 | [Signature] | 29/5/65 |         |      |

## เอกสารตรวจสอบการรั่วซึมของท่อส่งก๊าซธรรมชาติ Leak Survey

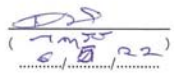




|  |  |
|--|--|
|  <b>PM / Work Order</b> | Work Order : PM22-000599                       |
|  | Work Order Date : 30/03/2022                   |
|  | Work Request No :                              |
| Customer / Tag : ROJANA  | Maintenance Dept. : NZ-PL<br>Pipeline โซนเหนือ |
| Code : -<br>Name : -   | Request Dept. :                                |
| Work Type : PM   | CostCenter : NG-ROJ                            |
| Priority :   |  |
| Problem / Job Detail<br>PM-NG-ROJ-Leak Survey-1Y   |  |

| Estimate Start | Estimate Finish | PM Code        | Person         |
|----------------|-----------------|----------------|----------------|
| 01/04/2022     | 30/04/2022      | NG-ROJ-LEAK-1Y | ภาณุรักษ์ ศิวก |

| Actual Start  | Actual Finish | Turbine/Rotary Gas Meter Index : |
|---------------|---------------|----------------------------------|
| 1/5/22 9:00   | 2/5/22 19:00  |                                  |
| Cause Code :  |               | Corrected Volume Index :         |
| Action Code : |               |                                  |

| Code/Name  | Normal                              | Abnormal                 | Remarks |
|--|-------------------------------------|--------------------------|---------|
| 1) 091 R001 Main Pipeline Steel 6 inch MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8)                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 2) 091 R001 Main Pipeline Steel 4 inch MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8)                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 3) 091 R001 Main Pipeline HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8)                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 4) 091 R001 Main Pipeline HDPE 110 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8)                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 5) 091 R002 Main Pipeline HDPE 110 mm ROAD A4  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 6) 091 R002 Service Pipeline HDPE 110 mm ROAD A4 SUNFLAG   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 7) 091 R003 Main Pipeline HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10)                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 8) 091 R003 Main Pipeline HDPE 110 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10)                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 9) 091 R003 Service Pipeline HDPE 110 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10) THAI INDOKORDSA  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 10) 091 R003 Service Pipeline HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10) THAI INDOKORDSA | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 11) 091 R004 Main Pipeline HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A10 ถึง MAIN ROAD B4)                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 12) 091 R004 Service Pipeline HDPE 110 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A10 ถึง MAIN ROAD B4) PANASONIC       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 13) 091 R004 Service Pipeline HDPE 160 mm MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A10 ถึง MAIN ROAD B4) KINGBOARD       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 14) 091 R005 Main Pipeline HDPE 160 mm ROAD B4   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 15) 091 R006 Main Pipeline HDPE 160 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD B)                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 16) 091 R006 Main Pipeline HDPE 110 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD B)                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 17) 091 R006 Service Pipeline HDPE 63 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD B) MINEBEA                | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 18) 091 R006 Service Pipeline HDPE 63 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD B) M&R                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |



| PTT NGD Staff  | Customer Staff | Approve  | Division Manager |
|--|----------------|--|------------------|
| <br>( 1 6 6 5 ) |                | <br>( 1 6 6 5 ) |                  |


|  |  |
|--|--|
|  <b>PM / Work Order</b> | Work Order : PM22-000599                       |
|  | Work Order Date : 30/03/2022                   |
|  | Work Request No :                              |
| Customer / Tag : ROJANA  | Maintenance Dept. : NZ-PL<br>Pipeline โซนเหนือ |
| Code : -<br>Name : -   | Request Dept. :                                |
| Work Type : PM   | CostCenter : NG-ROJ                            |
| Priority :   |  |
| Problem / Job Detail<br>PM-NG-ROJ-Leak Survey-1Y   |  |

| Estimate Start | Estimate Finish | PM Code        | Person         |
|----------------|-----------------|----------------|----------------|
| 01/04/2022     | 30/04/2022      | NG-ROJ-LEAK-1Y | ภาณุรักษ์ ศิวก |

| Actual Start  | Actual Finish | Turbine/Rotary Gas Meter Index : |
|---------------|---------------|----------------------------------|
| 1/5/22 9:00   | 2/5/22 19:00  |                                  |
| Cause Code :  |               | Corrected Volume Index :         |
| Action Code : |               |                                  |

| Code/Name  | Normal                              | Abnormal                 | Remarks |
|--|-------------------------------------|--------------------------|---------|
| 19) 091 R006 Service Pipeline HDPE 63 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD B) SANDEN       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 20) 091 R006 Service Pipeline HDPE 110 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD B) CHEMTRONIC  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 21) 091 R006 Service Pipeline HDPE 63 mm ROAD A3 (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD B) SIAM PATTANA | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 22) 091 R007 Main Pipeline HDPE 160 mm MAIN ROAD B (ช่วงระหว่าง ROAD A3 ถึง ROAD B4)                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 23) 091 R008 Main Pipeline HDPE 160 mm MAIN ROAD B (ช่วงระหว่าง ROAD B4 ถึง สานตง HONDA)                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 24) 091 R008 Main Pipeline HDPE 110 mm MAIN ROAD B (ช่วงระหว่าง ROAD B4 ถึง สานตง HONDA)                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 25) 091 R008 Service Pipeline HDPE 63 mm MAIN ROAD B (ช่วงระหว่าง ROAD B4 ถึง สานตง HONDA) BESTEX        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 26) 091 R009 Main Pipeline HDPE 160 mm MAIN ROAD B (ช่วงระหว่าง HONDA ถึง ROAD B7/1)                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 27) 091 R009 Main Pipeline HDPE 110 mm MAIN ROAD B (ช่วงระหว่าง HONDA ถึง ROAD B7/1)                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 28) 091 R009 Service Pipeline HDPE 110 mm MAIN ROAD B (ช่วงระหว่าง HONDA ถึง ROAD B7/1) HONDA            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 29) 091 R009 Service Pipeline HDPE 160 mm MAIN ROAD B (ช่วงระหว่าง HONDA ถึง ROAD B7/1) HONDA 2          | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 30) 091 R009 Service Pipeline HDPE 63 mm MAIN ROAD B (ช่วงระหว่าง HONDA ถึง ROAD B7/1) KATSUYAMA         | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 31) 091 R010 Main Pipeline HDPE 110 mm ROAD B7/1   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 32) 091 R010 Service Pipeline HDPE 63 mm ROAD B7/1 SERTEC KARIYA   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 33) 091 R011 Main Pipeline HDPE 160 mm MAIN ROAD B (ช่วงระหว่าง ROAD B7/1 ถึง KIKUCHI)                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 34) 091 R011 Main Pipeline HDPE 110 mm MAIN ROAD B (ช่วงระหว่าง ROAD B7/1 ถึง KIKUCHI)                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 35) 091 R011 Service Pipeline HDPE 110 mm MAIN ROAD B (ช่วงระหว่าง ROAD B7/1 ถึง KIKUCHI) KIKUCHI        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |


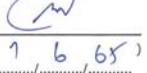
| PTT NGD Staff  | Customer Staff | Approve  | Division Manager |
|--|----------------|--|------------------|
| <br>( 1 6 6 5 ) |                | <br>( 1 6 6 5 ) |                  |


|  |                     |  |
|--|---------------------|--|
|  <b>PM / Work Order</b> |                     | Work Order : PM22-000599                         |
|  |                     | Work Order Date : 30/03/2022                     |
|  |                     | Work Request No :                                |
| Customer / Tag : ROJANA  |                     | Maintenance Dept. : NZ-PL<br>Pipeline ไขมันเหนือ |
| Code : -<br>Name : -   |                     | Request Dept. :                                  |
| Work Type : PM   | CostCenter : NG-ROJ | Priority :                                       |
| Problem / Job Detail<br>PM-NG-ROJ-Leak Survey-1Y   |                     |  |

| Estimate Start | Estimate Finish | PM Code        | Person          |
|----------------|-----------------|----------------|-----------------|
| 01/04/2022     | 30/04/2022      | NG-ROJ-LEAK-1Y | ภาณุรักษ์ ศิวกร |

| Actual Start | Actual Finish | Turbine/Rotary Gas Meter Index : |
|--------------|---------------|----------------------------------|
| 1/5/22 ๑๒๐   | 6/5/22 1215   | Corrected Volume Index :         |
| Cause Code : | Action Code : |                                  |

| Code/Name   | Normal                              | Abnormal                 | Remarks |
|---|-------------------------------------|--------------------------|---------|
| 36) 091 R011 Service Pipeline HDPE 63 mm MAIN ROAD B (ช่วงระหว่าง ROAD B7/1 ถึง KIKUCHI) SEKSUN                       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 37) 091 R011 Service Pipeline HDPE 110 mm MAIN ROAD B (ช่วงระหว่าง ROAD B7/1 ถึง KIKUCHI) KOSEI ALUMINUM              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 38) 091 R012 Main Pipeline Steel 12 inch HW#309 & HW NO#3056  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 39) 091 R013 Main Pipeline HDPE 160 mm ROAD A10   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 40) 091 R014 Main Pipeline HDPE 160 mm MAIN ROAD C  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 41) 091 R015 Main Pipeline Steel 12 inch MAIN ROAD D (ช่วงระหว่าง ENTRANCE C ถึง ROAD D2)                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 42) 091 R015 Main Pipeline HDPE 160 mm MAIN ROAD D (ช่วงระหว่าง ENTRANCE C ถึง ROAD D2)                               | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 43) 091 R016 Main Pipeline Steel 12 inch MAIN ROAD D (ช่วงระหว่าง ROAD D2 ถึง ROAD D4)                                | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 44) 091 R016 Main Pipeline Steel 8 inch MAIN ROAD D (ช่วงระหว่าง ROAD D2 ถึง ROAD D4)                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 45) 091 R016 Main Pipeline HDPE 160 mm MAIN ROAD D (ช่วงระหว่าง ROAD D2 ถึง ROAD D4)                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 46) 091 R017 Main Pipeline HDPE 160 mm MAIN ROAD D (ช่วงระหว่าง ROAD D4 ถึง ROAD D8)                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 47) 091 R017 Main Pipeline HDPE 110 mm MAIN ROAD D (ช่วงระหว่าง ROAD D4 ถึง ROAD D8)                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 48) 091 R018 Main Pipeline HDPE 160 mm ROAD D3 & ROAD D8  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 49) 091 R018 Service Pipeline HDPE 110 mm ROAD D8 APM   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 50) 091 R019 Main Pipeline HDPE 160 mm ROAD D8/1  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 51) 091 R019 Service Pipeline HDPE 63 mm ROAD D8/1 SHIN-EI  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 52) 091 R020 Main Pipeline Steel 8 inch MAIN ROAD D4 (ช่วงระหว่าง MAIN ROAD D ถึง MAIN ROAD E)                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 53) 091 R020 Main Pipeline HDPE 225 mm MAIN ROAD D4 (ช่วงระหว่าง MAIN ROAD D ถึง MAIN ROAD E)                         | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 54) 091 R020 Service Pipeline HDPE 160 mm MAIN ROAD D4 (ช่วงระหว่าง MAIN ROAD D ถึง MAIN ROAD E) SIAM GLASS AYUTTHAYA | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 55) 091 R021 Main Pipeline Steel 8 inch MAIN ROAD E (ช่วงระหว่าง ROAD D4 ถึง ROAD E1)                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |


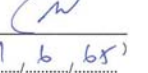
|   |                |   |                  |
|---|----------------|---|------------------|
| PTT NGD Staff   | Customer Staff | Approve   | Division Manager |
|  |                |  |                  |
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|  |                     |  |
|--|---------------------|--|
|  <b>PM / Work Order</b> |                     | Work Order : PM22-000599                         |
|  |                     | Work Order Date : 30/03/2022                     |
|  |                     | Work Request No :                                |
| Customer / Tag : ROJANA  |                     | Maintenance Dept. : NZ-PL<br>Pipeline ไขมันเหนือ |
| Code : -<br>Name : -   |                     | Request Dept. :                                  |
| Work Type : PM   | CostCenter : NG-ROJ | Priority :                                       |
| Problem / Job Detail<br>PM-NG-ROJ-Leak Survey-1Y   |                     |  |


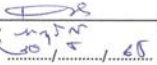

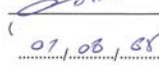
| Estimate Start | Estimate Finish | PM Code        | Person          |
|----------------|-----------------|----------------|-----------------|
| 01/04/2022     | 30/04/2022      | NG-ROJ-LEAK-1Y | ภาณุรักษ์ ศิวกร |






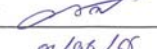
| Actual Start | Actual Finish | Turbine/Rotary Gas Meter Index : |
|--------------|---------------|----------------------------------|
| 1/5/22 ๑๒๐   | 6/5/22 1215   | Corrected Volume Index :         |
| Cause Code : | Action Code : |                                  |

| Code/Name  | Normal                              | Abnormal                 | Remarks |
|--|-------------------------------------|--------------------------|---------|
| 56) 091 R021 Main Pipeline HDPE 225 mm MAIN ROAD E (ช่วงระหว่าง ROAD D4 ถึง ROAD E1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 57) 091 R022 Main Pipeline OJee 10 inch ROAD E1/1                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 58) 091 R022 Main Pipeline OJee 8 inch ROAD E1 & ROAD E1/1                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 59) 091 R022 Main Pipeline OJee 6 inch ROAD E1/1                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 60) 091 R022 Main Pipeline HDPE 225 mm ROAD E1 & ROAD E1/1                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 61) 091 R022 Service Pipeline HDPE 160 mm ROAD E1/1 F&N                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 62) 091 R022 Service Pipeline HDPE 63 mm ROAD E1/1 SOONTHORN                         | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 63) 091 R023 Main Pipeline Steel 10 inch ROAD E1/1                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 64) 091 R023 Main Pipeline Steel 8 inch ROAD E1/1 & ROAD F                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 65) 091 R024 Main Pipeline Steel 8 inch MAIN ROAD G                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 66) 091 R024 Main Pipeline Steel 6 inch MAIN ROAD G                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 67) 091 R024 Main Pipeline HDPE 225 mm MAIN ROAD G                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 68) 091 R024 Main Pipeline HDPE 160 mm MAIN ROAD G                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 69) 091 R024 Main Pipeline HDPE 63 mm MAIN ROAD G                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 70) 091 R024 Service Pipeline HDPE 110 mm MAIN ROAD G THAI LYSAGHT                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 71) 091 R024 Service Pipeline HDPE 63 mm MAIN ROAD G UACJ                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 72) 091 R024 Service Pipeline HDPE 160 mm MAIN ROAD G ICHITAN                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 73) 091 R024 Service Pipeline HDPE 160 mm MAIN ROAD G THAI TOBACCO                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 74) 091 R025 Main Pipeline Steel 8 inch ROAD G4                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 75) 091 R025 Main Pipeline HDPE 225 mm ROAD G4                                       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 76) 091 R025 Service Pipeline Steel 6 inch ROAD G4 AGI                               | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 77) 091 R026 Main Pipeline Steel 8 inch MAIN ROAD I                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 78) 091 R026 Main Pipeline Steel 6 inch MAIN ROAD I                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 79) 091 R026 Main Pipeline HDPE 225 mm MAIN ROAD I                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 80) 091 R026 Service Pipeline HDPE 160 mm MAIN ROAD I Pepsi-Cola (Thai)              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |

|   |                |   |                  |
|---|----------------|---|------------------|
| PTT NGD Staff   | Customer Staff | Approve   | Division Manager |
|  |                |  |                  |
| ( ๑๓๓๕ ๒๒ )   |                | ( ๑ ๖ ๖๕ )  |                  |

**เอกสารการตรวจสอบ Warning Sign Post**





|   |                     |  |
|---|---------------------|--|
|  <b>PM / Work Order</b>  |                     | Work Order : WO22-000096   |
|   |                     | Work Order Date : 01/05/2022   |
| Customer / Tag : ROJANA   |                     | Work Request No :  |
|   |                     | Maintenance Dept. : NZ-PL<br>Pipeline โซนเหนือ                                       |
| Code : -<br>Name : -  |                     | Request Dept. : NZ<br>Gas Station, Pipeline โซนเหนือ                                 |
| Work Type : PM  | CostCenter : NG-ROJ | Priority :   |
| Problem / Job Detail<br>Warning Sing Post   |                     |  |
| Estimate Start<br>01/05/2022 08 : 00  |                     | Estimate Finish<br>31/05/2022 17 : 00  |
| PM Code   |                     | Person<br>ภาณุรักษ์ สิวกร  |
| Actual Start<br>30/05/22 10:00  |                     | Actual Finish<br>30/05/22 15:00  |
| Cause Code :  |                     | Turbine/Rotary Gas Meter Index :<br>Corrected Volume Index :                         |
| Code/Name   |                     | Action Code :  |
| 1) Warning Sing Post  |                     | Normal <input checked="" type="checkbox"/> Abnormal <input type="checkbox"/> Remarks |
| <div style="display: flex; justify-content: space-between;"> <div>             PTT NGD Staff<br/> <br/>             ( 30/05/22 )           </div> <div>             Customer Staff<br/>             _____<br/>             ( ..... )           </div> <div>             Approve<br/> <br/>             ( 1, 6, 65 )           </div> <div>             Division Manager<br/> <br/>             ( 01, 06, 65 )           </div> </div> |                     |  |



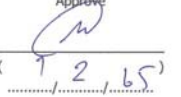
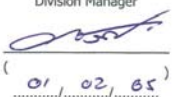
|   |                       |   |     |
|---|-----------------------|---|-----|
|  <b>PIPELINE WORK REPORT</b>  |                       |   |     |
| Location: พื้นที่โรงงาน   | Area: ROJ             | pm22-000096   |     |
| Sta. No./Valve No.  |                       |   |     |
| Problem: ตรวจสอบความเสียหายของอุปกรณ์ เสา บ้ายเตือนต่างๆที่เกี่ยวข้องต่อระบบ  |                       |   |     |
| Action taken:   |                       |   |     |
| ตรวจสอบการทำงานในพื้นที่ และแนวท่อในส่วนที่เกี่ยวข้องต่อระบบ  |                       |   |     |
| สีของตัวเสาป้าย wns ส่วนใหญ่มีสีที่หลุดร่อนแต่ยังมีความแข็งแรงของตัวเสา ควรทาสีใหม่ในแต่ละ Route  |                       |   |     |
| Route 1 = 2 ต้น   | หักเสียหาย            |   |     |
| Route 20 = 2 ต้น  | หักเสียหาย            |   |     |
| Route 22 = 3 ต้น  | หักเสียหาย            |   |     |
| Drawing :   |                       |   |     |
| route 1   |                       | route 22  |     |
|    |                       |  |     |
|   |                       | route 20  |     |
|   |                       |  |     |
| ITEM  | SPARE PART FOR REPAIR | QUANTITY  | P/N |
| <div style="display: flex; justify-content: space-between;"> <div>             Tech. sign: ภาณุรักษ์ วิชัยนารักษ์<br/>             Date: 30 พ.ค. 65<br/>             Superv. sign: <br/>             Date: 1/6/65<br/>             Managr. sign: <br/>             Date: 01/06/65           </div> </div> |                       |   |     |
| Remark:   |                       |   |     |

ภาคผนวก ค-4

ตัวอย่างเอกสารตรวจสอบการทำงานตามแนวท่อย้ายก๊าซธรรมชาติ





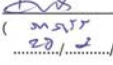
|  <b>PM / Work Order</b>  |                                      | Work Order : PM22-000098   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
|---|--------------------------------------|--|--|-----------|--------|----------|---------|---|-------------------------------------|--------------------------|--|---------------------------------|-------------------------------------|--------------------------|--|--|-------------------------------------|--------------------------|--|--|-------------------------------------|--------------------------|--|---------------------------------|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|-------------------------------------|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|------------------------------------|-------------------------------------|--------------------------|--|---------------------------------------|-------------------------------------|--------------------------|--|--|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|-------------------------------------|-------------------------------------|--------------------------|--|--|-------------------------------------|--------------------------|--|
|   |                                      | Work Order Date : 04/01/2022   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
|   |                                      | Work Request No :  |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| Customer / Tag : ROJANA   |                                      | Maintenance Dept. : NZ-PL<br>Pipeline โซนเหนือ   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| Code : -<br>Name : -  |                                      | Request Dept. :  |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| Work Type : PM  | CostCenter : NG-ROJ                  | Priority :   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| Problem / Job Detail<br>PM-NG-ROJ-Monthly Survey-1M   |                                      |  |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| Estimate Start<br>01/01/2022  | Estimate Finish<br>31/01/2022        | PM Code<br>NG-ROJ-SURVEY-1M  | Person<br>ภาณุรักษ์ สิวกร  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| Actual Start<br>1/04/22 8:00  | Actual Finish<br>31/01/22 18:00      | Turbine/Rotary Gas Meter Index :   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| Cause Code :  |                                      | Action Code :  |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| <table border="1"> <thead> <tr> <th>Code/Name</th> <th>Normal</th> <th>Abnormal</th> <th>Remarks</th> </tr> </thead> <tbody> <tr><td>1) 032 R001 ROJ ROUTE 1 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>2) 032 R002 ROJ ROUTE 2 ROAD A4</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>3) 032 R003 ROJ ROUTE 3 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>4) 032 R004 ROJ ROUTE 4 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A10 ถึง MAIN ROAD B4)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>5) 032 R005 ROJ ROUTE 5 ROAD B4</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>6) 032 R006 ROJ ROUTE 6 ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>7) 032 R007 ROJ ROUTE 7 MAIN ROAD B (ช่วงระหว่าง ROAD A3 ถึง ROAD B4)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>8) 032 R008 ROJ ROUTE 8 MAIN ROAD B (ช่วงระหว่าง ROAD B4 ถึง สถานี Honda)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>9) 032 R009 ROJ ROUTE 9 MAIN ROAD B (ช่วงระหว่าง HONDA ถึง ROAD B7/1)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>10) 032 R010 ROJ ROUTE 10 ROAD B7/1</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>11) 032 R011 ROJ ROUTE 11 MAIN ROAD B (ช่วงระหว่าง ROAD B7/1 ถึง KIKUCHI)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>12) 032 R012 ROJ ROUTE 12 HW#309 &amp; HW NO#3056</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>13) 032 R013 ROJ ROUTE 13 ROAD A10</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>14) 032 R014 ROJ ROUTE 14 MAIN ROAD C</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>15) 032 R015 ROJ ROUTE 15 MAIN ROAD D (ช่วงระหว่าง ENTRANCE C ถึง ROAD D2)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>16) 032 R016 ROJ ROUTE 16 MAIN ROAD D (ช่วงระหว่าง ROAD D2 ถึง ROAD D4)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>17) 032 R017 ROJ ROUTE 17 MAIN ROAD D (ช่วงระหว่าง ROAD D4 ถึง ROAD D8)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>18) 032 R018 ROJ ROUTE 18 ROAD D3 &amp; ROAD D8</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>19) 032 R019 ROJ ROUTE 19 ROAD D8/1</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>20) 032 R020 ROJ ROUTE 20 MAIN ROAD D4 (ช่วงระหว่าง MAIN ROAD D ถึง MAIN ROAD E)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> </tbody> </table> |                                      |  |  | Code/Name | Normal | Abnormal | Remarks | 1) 032 R001 ROJ ROUTE 1 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 2) 032 R002 ROJ ROUTE 2 ROAD A4 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 3) 032 R003 ROJ ROUTE 3 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 4) 032 R004 ROJ ROUTE 4 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A10 ถึง MAIN ROAD B4) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 5) 032 R005 ROJ ROUTE 5 ROAD B4 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 6) 032 R006 ROJ ROUTE 6 ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 7) 032 R007 ROJ ROUTE 7 MAIN ROAD B (ช่วงระหว่าง ROAD A3 ถึง ROAD B4) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 8) 032 R008 ROJ ROUTE 8 MAIN ROAD B (ช่วงระหว่าง ROAD B4 ถึง สถานี Honda) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 9) 032 R009 ROJ ROUTE 9 MAIN ROAD B (ช่วงระหว่าง HONDA ถึง ROAD B7/1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 10) 032 R010 ROJ ROUTE 10 ROAD B7/1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 11) 032 R011 ROJ ROUTE 11 MAIN ROAD B (ช่วงระหว่าง ROAD B7/1 ถึง KIKUCHI) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 12) 032 R012 ROJ ROUTE 12 HW#309 & HW NO#3056 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 13) 032 R013 ROJ ROUTE 13 ROAD A10 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 14) 032 R014 ROJ ROUTE 14 MAIN ROAD C | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 15) 032 R015 ROJ ROUTE 15 MAIN ROAD D (ช่วงระหว่าง ENTRANCE C ถึง ROAD D2) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 16) 032 R016 ROJ ROUTE 16 MAIN ROAD D (ช่วงระหว่าง ROAD D2 ถึง ROAD D4) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 17) 032 R017 ROJ ROUTE 17 MAIN ROAD D (ช่วงระหว่าง ROAD D4 ถึง ROAD D8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 18) 032 R018 ROJ ROUTE 18 ROAD D3 & ROAD D8 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 19) 032 R019 ROJ ROUTE 19 ROAD D8/1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 20) 032 R020 ROJ ROUTE 20 MAIN ROAD D4 (ช่วงระหว่าง MAIN ROAD D ถึง MAIN ROAD E) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  |
| Code/Name   | Normal                               | Abnormal   | Remarks  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 1) 032 R001 ROJ ROUTE 1 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8)   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 2) 032 R002 ROJ ROUTE 2 ROAD A4   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 3) 032 R003 ROJ ROUTE 3 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10)  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 4) 032 R004 ROJ ROUTE 4 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A10 ถึง MAIN ROAD B4)  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 5) 032 R005 ROJ ROUTE 5 ROAD B4   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 6) 032 R006 ROJ ROUTE 6 ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B)   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 7) 032 R007 ROJ ROUTE 7 MAIN ROAD B (ช่วงระหว่าง ROAD A3 ถึง ROAD B4)   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 8) 032 R008 ROJ ROUTE 8 MAIN ROAD B (ช่วงระหว่าง ROAD B4 ถึง สถานี Honda)   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 9) 032 R009 ROJ ROUTE 9 MAIN ROAD B (ช่วงระหว่าง HONDA ถึง ROAD B7/1)   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 10) 032 R010 ROJ ROUTE 10 ROAD B7/1   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 11) 032 R011 ROJ ROUTE 11 MAIN ROAD B (ช่วงระหว่าง ROAD B7/1 ถึง KIKUCHI)   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 12) 032 R012 ROJ ROUTE 12 HW#309 & HW NO#3056   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 13) 032 R013 ROJ ROUTE 13 ROAD A10  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 14) 032 R014 ROJ ROUTE 14 MAIN ROAD C   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 15) 032 R015 ROJ ROUTE 15 MAIN ROAD D (ช่วงระหว่าง ENTRANCE C ถึง ROAD D2)  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 16) 032 R016 ROJ ROUTE 16 MAIN ROAD D (ช่วงระหว่าง ROAD D2 ถึง ROAD D4)   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 17) 032 R017 ROJ ROUTE 17 MAIN ROAD D (ช่วงระหว่าง ROAD D4 ถึง ROAD D8)   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 18) 032 R018 ROJ ROUTE 18 ROAD D3 & ROAD D8   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 19) 032 R019 ROJ ROUTE 19 ROAD D8/1   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| 20) 032 R020 ROJ ROUTE 20 MAIN ROAD D4 (ช่วงระหว่าง MAIN ROAD D ถึง MAIN ROAD E)  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |  |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |
| PTT NGD Staff<br><br>( 12, 65 )  | Customer Staff<br>_____<br>( ..... ) | Approve<br><br>( 12, 65 ) | Division Manager<br><br>( 01, 02, 65 ) |           |        |          |         |   |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                    |                                     |                          |  |                                       |                                     |                          |  |  |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |

|  <b>PM / Work Order</b>   |                                      | Work Order : PM22-000098   |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
|--|--------------------------------------|--|---|-----------|--------|----------|---------|---|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|---------------------------------------|-------------------------------------|--------------------------|--|-----------------------------------|-------------------------------------|--------------------------|--|---------------------------------------|-------------------------------------|--------------------------|--|
|  |                                      | Work Order Date : 04/01/2022   |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
|  |                                      | Work Request No :  |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Customer / Tag : ROJANA  |                                      | Maintenance Dept. : NZ-PL<br>Pipeline โซนเหนือ   |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Code : -<br>Name : -   |                                      | Request Dept. :  |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Work Type : PM   | CostCenter : NG-ROJ                  | Priority :   |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Problem / Job Detail<br>PM-NG-ROJ-Monthly Survey-1M  |                                      |  |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Estimate Start<br>01/01/2022   | Estimate Finish<br>31/01/2022        | PM Code<br>NG-ROJ-SURVEY-1M  | Person<br>ภาณุรักษ์ สิวกร   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Actual Start<br>1/1/22 8:00  | Actual Finish<br>31/1/22 18:00       | Turbine/Rotary Gas Meter Index :   |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Cause Code :   |                                      | Action Code :  |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| <table border="1"> <thead> <tr> <th>Code/Name</th> <th>Normal</th> <th>Abnormal</th> <th>Remarks</th> </tr> </thead> <tbody> <tr><td>21) 032 R021 ROJ ROUTE 20 MAIN ROAD E (ช่วงระหว่าง ROAD D4 ถึง ROAD E1)</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>22) 032 R022 ROJ ROUTE 22 ROAD E1 &amp; ROAD E1/1</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>23) 032 R023 ROJ ROUTE 23 ROAD E1/1 &amp; MAIN ROAD F</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>24) 032 R024 ROJ ROUTE 24 MAIN ROAD G</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>25) 032 R025 ROJ ROUTE 25 ROAD G4</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>26) 032 R026 ROJ ROUTE 26 MAIN ROAD I</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> </tbody> </table> |                                      |  |   | Code/Name | Normal | Abnormal | Remarks | 21) 032 R021 ROJ ROUTE 20 MAIN ROAD E (ช่วงระหว่าง ROAD D4 ถึง ROAD E1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 22) 032 R022 ROJ ROUTE 22 ROAD E1 & ROAD E1/1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 23) 032 R023 ROJ ROUTE 23 ROAD E1/1 & MAIN ROAD F | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 24) 032 R024 ROJ ROUTE 24 MAIN ROAD G | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 25) 032 R025 ROJ ROUTE 25 ROAD G4 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 26) 032 R026 ROJ ROUTE 26 MAIN ROAD I | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  |
| Code/Name  | Normal                               | Abnormal   | Remarks   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 21) 032 R021 ROJ ROUTE 20 MAIN ROAD E (ช่วงระหว่าง ROAD D4 ถึง ROAD E1)  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 22) 032 R022 ROJ ROUTE 22 ROAD E1 & ROAD E1/1  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 23) 032 R023 ROJ ROUTE 23 ROAD E1/1 & MAIN ROAD F  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 24) 032 R024 ROJ ROUTE 24 MAIN ROAD G  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 25) 032 R025 ROJ ROUTE 25 ROAD G4  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 26) 032 R026 ROJ ROUTE 26 MAIN ROAD I  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| PTT NGD Staff<br><br>( 12, 65 )   | Customer Staff<br>_____<br>( ..... ) | Approve<br><br>( 12, 65 ) | Division Manager<br><br>( 01, 02, 65 ) |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |


|  <b>PIPELINE WORK REPORT</b>  |                       |  |             |
|--|-----------------------|--|-------------|
| Location: พื้นที่โรงงาน  |                       | Area: ROJ  | pm22-000098 |
| Sta. No./Valve No.   |                       |  |             |
| Problem: ตรวจสอบความเสียหายของอุปกรณ์ เสา ป้ายเตือนต่างๆที่เกี่ยวข้องระบบ  |                       |  |             |
| Action taken:<br>ตรวจสอบการทำงานในพื้นที่ และแนวท่อในส่วนที่เกี่ยวข้องระบบ<br>สีของตัวเสาป้าย wns ส่วนใหญ่มีสีที่หลุดร่อนแต่ยังมีความแข็งแรงของตัวเสา ควรหาสีใหม่ในแต่ละ Route<br>Route14 = 15 ต้น เสริมความสูงป้าย<br>Route23 = 5 ต้น เสริมความสูงป้าย<br>สีสบวาส่วนในพื้นที่เริ่มซีดจาง all route 20 ต้นคงเหลือรอดำเนินการ<br>สีเสาป้ายเตือนในพื้นที่เริ่มซีดจาง all route |                       |  |             |
| Drawing :  |                       |                                 |             |
| กฟภ.อุทัย ติดตั้งปลอกฉนวนหุ้มหม้อแปลงไฟฟ้าสถานี PRS 5<br>  |                       | งานทำสะพานข้ามรางระบาย 8a1<br> |             |
| ITEM   | SPARE PART FOR REPAIR | QUANTITY   | PIN         |
| Tech. sign: ภาณุรักษ์ วิชัยชนาภิรักษ์<br>Date: 1 - 31 มค. 65<br>Superv. sign: <br>Date: 1/2/65<br>Managr. sign: <br>Date: 01/02/65   |                       |  |             |
| Remark:  |                       |  |             |






OP-FO-046-01

OP-FO-013-03


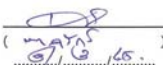
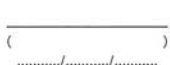
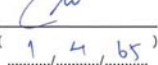
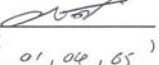
|  <b>PM / Work Order</b> |                                     |                               |         | Work Order : PM22-000230<br>Work Order Date : 31/01/2022<br>Work Request No :<br>Maintenance Dept : NZ-PL<br>Pipeline โซนเหนือ<br>Request Dept :<br>Work Type : PM<br>CostCenter : NG-ROJ<br>Priority : |  |
|--|-------------------------------------|-------------------------------|---------|---|--|
| Customer / Tag : ROJANA  |                                     |                               |         |   |  |
| Code : -<br>Name : -   |                                     |                               |         |   |  |
| Problem / Job Detail<br>PM-NG-ROJ-Monthly Survey-1M  |                                     |                               |         |   |  |
| Estimate Start<br>01/02/2022   |                                     | Estimate Finish<br>28/02/2022 |         | PM Code<br>NG-ROJ-SURVEY-1M   |  |
| Actual Start<br>1/2/22   |                                     | Actual Finish<br>28/2/22      |         | Turbine/Rotary Gas Meter Index :<br>Corrected Volume Index :  |  |
| Cause Code :   |                                     |                               |         | Action Code :   |  |
| Code/Name  | Normal                              | Abnormal                      | Remarks |   |  |
| 1) 032 R001 ROJ ROUTE 1 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A3 ถึง MAIN ROAD A8)                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 2) 032 R002 ROJ ROUTE 2 ROAD A4  | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 3) 032 R003 ROJ ROUTE 3 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A8 ถึง MAIN ROAD A10)                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 4) 032 R004 ROJ ROUTE 4 MAIN ROAD A (ช่วงระหว่าง MAIN ROAD A10 ถึง MAIN ROAD B4)                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 5) 032 R005 ROJ ROUTE 5 ROAD B4  | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 6) 032 R006 ROJ ROUTE 6 ROAD A3 (ช่วงระหว่าง MAIN ROAD A ถึง MAIN ROAD B)                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 7) 032 R007 ROJ ROUTE 7 MAIN ROAD B (ช่วงระหว่าง ROAD A3 ถึง ROAD B4)                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 8) 032 R008 ROJ ROUTE 8 MAIN ROAD B (ช่วงระหว่าง ROAD B4 ถึง สามแยก HONDA)                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 9) 032 R009 ROJ ROUTE 9 MAIN ROAD B (ช่วงระหว่าง HONDA ถึง ROAD B7/1)                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 10) 032 R010 ROJ ROUTE 10 ROAD B7/1  | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 11) 032 R011 ROJ ROUTE 11 MAIN ROAD B (ช่วงระหว่าง ROAD B7/1 ถึง KIKUCHI)                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 12) 032 R012 ROJ ROUTE 12 HW#309 & HW NO#3056  | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 13) 032 R013 ROJ ROUTE 13 ROAD A10   | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 14) 032 R014 ROJ ROUTE 14 MAIN ROAD C  | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 15) 032 R015 ROJ ROUTE 15 MAIN ROAD D (ช่วงระหว่าง ENTRANCE C ถึง ROAD D2)                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 16) 032 R016 ROJ ROUTE 16 MAIN ROAD D (ช่วงระหว่าง ROAD D2 ถึง ROAD D4)                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 17) 032 R017 ROJ ROUTE 17 MAIN ROAD D (ช่วงระหว่าง ROAD D4 ถึง ROAD D8)                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 18) 032 R018 ROJ ROUTE 18 ROAD D3 & ROAD D8  | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 19) 032 R019 ROJ ROUTE 19 ROAD D8/1  | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| 20) 032 R020 ROJ ROUTE 20 MAIN ROAD D4 (ช่วงระหว่าง MAIN ROAD D ถึง MAIN ROAD E)                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>      |         |   |  |
| PTT NGD Staff  |                                     | Customer Staff                |         | Approve<br><br>( 1 3 65 )  |  |
| <br>( 28 2 22 )       |                                     | ( ...../...../..... )         |         | ( ...../...../..... )   |  |




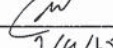
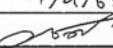
Division Manager

|  |                                |  |                           |
|--|--------------------------------|--|---------------------------|
|  <b>PM / Work Order</b> |                                | Work Order : PM22-000230                       |                           |
|  |                                | Work Order Date : 31/01/2022                   |                           |
|  |                                | Work Request No :                              |                           |
| Customer / Tag : ROJANA  |                                | Maintenance Dept. : NZ-PL<br>Pipeline โซนเหนือ |                           |
| Code : -<br>Name : -   |                                | Request Dept. :                                |                           |
| Work Type : PM   | CostCenter : NG-ROJ            | Priority :                                     |                           |
| Problem / Job Detail<br>PM-NG-ROJ-Monthly Survey-1M  |                                |  |                           |
| Estimate Start<br>01/02/2022   | Estimate Finish<br>28/02/2022  | PM Code<br>NG-ROJ-SURVEY-1M                    | Person<br>ภาณุรักษ์ ศิวกร |
| Actual Start<br>1/2/22 8:00  | Actual Finish<br>28/2/22 12:00 | Turbine/Rotary Gas Meter Index :               |                           |
| Cause Code :   |                                | Corrected Volume Index :                       |                           |
| Action Code :  |                                | Action Code :                                  |                           |
| Code/Name  |                                | Normal   | Abnormal                  |
| 21) 032 R021 ROJ ROUTE 20 MAIN ROAD E (ช่วงระหว่าง ROAD D4 ถึง ROAD E1)                                  |                                | <input checked="" type="checkbox"/>            | <input type="checkbox"/>  |
| 22) 032 R022 ROJ ROUTE 22 ROAD E1 & ROAD E1/I  |                                | <input checked="" type="checkbox"/>            | <input type="checkbox"/>  |
| 23) 032 R023 ROJ ROUTE 23 ROAD E1/I & MAIN ROAD F  |                                | <input checked="" type="checkbox"/>            | <input type="checkbox"/>  |
| 24) 032 R024 ROJ ROUTE 24 MAIN ROAD G  |                                | <input checked="" type="checkbox"/>            | <input type="checkbox"/>  |
| 25) 032 R025 ROJ ROUTE 25 ROAD G4  |                                | <input checked="" type="checkbox"/>            | <input type="checkbox"/>  |
| 26) 032 R026 ROJ ROUTE 26 MAIN ROAD I  |                                | <input checked="" type="checkbox"/>            | <input type="checkbox"/>  |
| Remarks  |                                |  |                           |
| PTT NGD Staff<br>( 1055 24 2 / 65 )  |                                | Customer Staff<br>( )                          | Approve<br>( 1/3/65 )     |
|  |                                | Division Manager<br>( )                        |                           |

|   |                       |  |     |
|---|-----------------------|--|-----|
|  <b>PIPELINE WORK REPORT</b> |                       |  |     |
| Location: พื้นที่โรจนะ  |                       | Area: ROJ pm22-0000230   |     |
| Sta. No./Valve No.  |                       |  |     |
| Problem: ตรวจสอบความเสียหายของอุปกรณ์ เสา บ้ายเตือนต่างๆที่เกี่ยวข้องต่อระบบ                                    |                       |  |     |
| Action taken:   |                       |  |     |
| ตรวจสอบการทำงานในพื้นที่ และแนวท่อในส่วนที่เกี่ยวข้องต่อระบบ  |                       |  |     |
| สีของตัวเสาป้าย wns ส่วนใหญ่มีสีที่หลุดร่อนแต่ยังมีความแข็งแรงของตัวเสา ควรทาสีใหม่ในแต่ละ Route                |                       |  |     |
| Route14 = 15 ต้น  |                       | เสริมความสูงป้าย   |     |
| Route23 = 5 ต้น   |                       | เสริมความสูงป้าย   |     |
| สีป้ายขาวในพื้นที่เริ่มซีดจาง   |                       | all route 20 ต้นคงเหลือรอดำเนินการ   |     |
| สีเสาป้ายเตือนในพื้นที่เริ่มซีดจาง  |                       | all route  |     |
| Drawing : กปท. ชุดวางท่อส่งน้ำ  |                       |   |     |
| โครงการวางท่อ อีไฟ  |                       |  |     |
| งานทำสะพานข้ามรางระบาย 8a1  |                       |  |     |
| ITEM  | SPARE PART FOR REPAIR | QUANTITY   | P/N |
| Tech. sign: ภาณุรักษ์ วิชัยชนารักษ์   |                       |  |     |
| Date: 1 - 28 กพ. 65   |                       |  |     |
| Superv. sign:              |                       |  |     |
| Date: 1/3/65  |                       |  |     |
| Managr. sign:   |                       |  |     |
| Date:   |                       |  |     |
| Remark:   |                       |  |     |



|  <b>PM / Work Order</b>   |  | Work Order : PM22-000384   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
|--|--|--|-----------|--------|----------|---------|---|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|---|-------------------------------------|--------------------------|--|---------------------------------------|-------------------------------------|--------------------------|--|-----------------------------------|-------------------------------------|--------------------------|--|---------------------------------------|-------------------------------------|--------------------------|--|
|  |  | Work Order Date : 28/02/2022   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
|  |  | Work Request No :  |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Customer / Tag : ROJANA  |  | Maintenance Dept. : NZ-PL<br>Pipeline ไซมอนเน  |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Code : -<br>Name : -   |  | Request Dept. :  |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Work Type : PM   | CostCenter : NG-ROJ  | Priority :   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Problem / Job Detail<br>PM-NG-ROJ-Monthly Survey-IM  |  |  |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Estimate Start<br>01/03/2022   | Estimate Finish<br>31/03/2022  | PM Code<br>NG-ROJ-SURVEY-IM  |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Actual Start<br>1/3/22 10:00   |  | Actual Finish<br>21/3/22 10:00   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Cause Code :   |  | Turbine/Rotary Gas Meter Index :<br>Corrected Volume Index :   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Action Code :  |  |  |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| <table border="1"> <thead> <tr> <th>Code/Name</th> <th>Normal</th> <th>Abnormal</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>21) 032 R021 ROJ ROUTE 20 MAIN ROAD E (ช่วงระหว่าง ROAD D4 ถึง ROAD E1)</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td>22) 032 R022 ROJ ROUTE 22 ROAD E1 &amp; ROAD E1/I</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td>23) 032 R023 ROJ ROUTE 23 ROAD E1/I &amp; MAIN ROAD F</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td>24) 032 R024 ROJ ROUTE 24 MAIN ROAD G</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td>25) 032 R025 ROJ ROUTE 25 ROAD G4</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td>26) 032 R026 ROJ ROUTE 26 MAIN ROAD I</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </tbody> </table> |  |  | Code/Name | Normal | Abnormal | Remarks | 21) 032 R021 ROJ ROUTE 20 MAIN ROAD E (ช่วงระหว่าง ROAD D4 ถึง ROAD E1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 22) 032 R022 ROJ ROUTE 22 ROAD E1 & ROAD E1/I | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 23) 032 R023 ROJ ROUTE 23 ROAD E1/I & MAIN ROAD F | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 24) 032 R024 ROJ ROUTE 24 MAIN ROAD G | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 25) 032 R025 ROJ ROUTE 25 ROAD G4 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 26) 032 R026 ROJ ROUTE 26 MAIN ROAD I | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  |
| Code/Name  | Normal   | Abnormal   | Remarks   |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 21) 032 R021 ROJ ROUTE 20 MAIN ROAD E (ช่วงระหว่าง ROAD D4 ถึง ROAD E1)  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 22) 032 R022 ROJ ROUTE 22 ROAD E1 & ROAD E1/I  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 23) 032 R023 ROJ ROUTE 23 ROAD E1/I & MAIN ROAD F  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 24) 032 R024 ROJ ROUTE 24 MAIN ROAD G  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 25) 032 R025 ROJ ROUTE 25 ROAD G4  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| 26) 032 R026 ROJ ROUTE 26 MAIN ROAD I  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>   |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| PTT NGD Staff<br><br>( 9/4/65 )   | Customer Staff<br><br>( ..... ) | Approve<br><br>( 1, 4, 65 ) |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |
| Division Manager<br><br>( 01, 04, 65 )   |  |  |           |        |          |         |   |                                     |                          |  |   |                                     |                          |  |   |                                     |                          |  |                                       |                                     |                          |  |                                   |                                     |                          |  |                                       |                                     |                          |  |

|   |                       |  |                          |
|---|-----------------------|--|--------------------------|
|    |                       | PIPELINE WORK REPORT   |                          |
| Location: พื้นที่โรงงาน   | Area: ROJ             | pm22-0000384   |                          |
| Sta. No./Valve No.  |                       |  |                          |
| Problem: ตรวจสอบความเสียหายของอุปกรณ์ เสา บ้ายเดือนต่างๆที่เกี่ยวข้องต่อระบบ  |                       |  |                          |
| Action taken:<br>ตรวจสอบการทำงานในพื้นที่ และแนวท่อในส่วนที่เกี่ยวข้องต่อระบบ<br>สีของตัวเสาป้าย พบ ส่วนใหญ่มีสีที่หลุดร่อนแต่ยังมีความแข็งแรงของตัวเสา ครรหาสีใหม่ในแต่ละ Route  |                       |  |                          |
| Route14 = 15 ต้น  |                       | เสริมความสูงป้าย   |                          |
| Route23 = 5 ต้น   |                       | เสริมความสูงป้าย   |                          |
| สีปอวาสน์ในพื้นที่เริ่มซีดจาง   |                       | all route  | 20 ต้นคงเหลือรอดำเนินการ |
| สีเสาป้ายเดือนในพื้นที่เริ่มซีดจาง  |                       | all route  |                          |
| Drawing :<br>งานซ่อมผิวถนนภายในนครโรงงาน ถนนB   |                       |   |                          |
| โครงการวางท่อ อีโคโน  |                       |  |                          |
| ITEM  | SPARE PART FOR REPAIR | QUANTITY   | P/N                      |
| Tech. sign: ภาณุรักษ์ วิชัยนาวิกษ์<br>Date: 1 - 31 มี.ค. 65<br>Superv. sign: <br>Date: 1/4/65<br>Managr. sign: <br>Date: 01/04/65 |                       |  |                          |
| Remark:   |                       |  |                          |

## ภาคผนวก ก-5

ตัวอย่างเอกสารใบขออนุญาตให้ทำงาน  
ในเขตแนวท่อจ่ายก๊าซธรรมชาติ



บริษัท ปตท. จำกัด (มหาชน) จำกัด  
PTT Natural Gas Distribution Co., Ltd.

Permit No. 65-001-EX-0452

ใบอนุญาตทำงานขุดเจาะ (EXCAVATION PERMIT)

เขียนวันที่ 9 เดือน มกราคม พ.ศ. 2565 เวลา 9.00

1 ระยะเวลาที่ขออนุญาต จากวันที่ 9 เดือน มกราคม พ.ศ. 2565 เวลา 9.00 ถึงวันที่ 31 เดือน มกราคม พ.ศ. 2565 เวลา 17.00

บริเวณที่จะขุด: 80801 (ตรงข้าม บจก.) : 2P2+850

เครื่องจักรหรืออุปกรณ์ที่จะใช้: สังกะสี + JCB + มอเตอร์

วัตถุประสงค์: ขุดวางท่อประปา 1.5-2 เมตร [ ] ภาพ sketch/ Drawing ที่แนบ

ขนาดที่จะขุด กว้างยาวลึก (เมตร): 2.0 x 1.0 x 0.3 x 0.30 x 1.0 จำนวนผู้ปฏิบัติงาน 10 คน

2 การวิเคราะห์การปฏิบัติงานเพื่อความปลอดภัย: JSA (กรอกโดยผู้ขออนุญาต)

รายละเอียดงาน: ขุดวางท่อประปา 1.5-2 เมตร

| ลำดับ | ขั้นตอนการทำงาน           | อันตรายที่อาจเกิดขึ้นได้ | ข้อเสนอแนะเพื่อความปลอดภัย |
|-------|---------------------------|--------------------------|----------------------------|
| 1     | ขุดวางท่อประปา 1.5-2 เมตร | ดินถล่ม                  | ใส่หมวกนิรภัย              |
| 2     | ขุดวางท่อประปา 1.5-2 เมตร | ไฟฟ้าดูด                 | ใส่ถุงมือ                  |
| 3     | ขุดวางท่อประปา 1.5-2 เมตร | วัตถุตก                  | ใส่สายรัดนิรภัย            |

[ ] ทำ JSA เพิ่มเติมตามเอกสารแนบ [ ] ประชุมชี้แจงอันตรายให้กับผู้ปฏิบัติงานก่อนเริ่มงาน

3 ข้อพึงปฏิบัติในการปฏิบัติงาน (ผู้ขออนุญาตเขียนวงกลมล้อมรอบตัวเลขที่ต้องปฏิบัติ และเขียน [ ] ในข้อที่ดำเนินการแล้วเสร็จ)

[ ] 1. มีสายเคเบิลไฟฟ้า/ สายโทรศัพท์/ สายเครื่องมือวัด/ ท่ออยู่ใต้บริเวณที่ขุด (ถ้าไม่มีขั้วในข้อ 4) ผู้ตรวจสอบ.....วัน/ เวลา.....

[ ] 2. ต้องตัดสะพานไฟ/ หยุดจ่ายกระแสไฟฟ้า และติดป้ายเตือนการตัดกระแสไฟฟ้า ผู้ตรวจสอบ.....วัน/ เวลา.....

[ ] 3. ทำเครื่องหมายแสดงตำแหน่งที่ขุดเจาะเรียบร้อยแล้ว ผู้ตรวจสอบ.....วัน/ เวลา.....

[ ] 4. บริเวณที่จะขุดมีสารติดไฟ/ สารมีพิษ/ ทรัพย์สินสาธารณะ ผู้ตรวจสอบ.....วัน/ เวลา.....

[ ] 5. จำเป็นต้องมีการขุดดินที่ขุดเจาะ ระบุ.....วัน/ เวลา.....

[ ] 6. จำเป็นต้องมีการขุดดินที่ขุดเจาะ ระบุ.....วัน/ เวลา.....

[ ] 7. ผู้ขออนุญาตต้องติดตั้งวางกั้นดินและเครื่องมือเตือนให้เห็นได้ชัดเจนตลอดเวลาลงานขุดจะแล้วเสร็จ

[ ] 8. จำเป็นต้องใช้อุปกรณ์ตรวจวัด [ ] ก๊าซติดไฟ หรือ [ ] ตรวจวัด O2

[ ] 9. ข้อกำหนดเพิ่มเติม: .....

4 ต้องสวมใส่อุปกรณ์คุ้มครองความปลอดภัยส่วนบุคคล ดังนี้ (กรอกโดยผู้ขออนุญาตหรือผู้ควบคุมงาน)

[ ] หมวกนิรภัย [ ] แว่นตานิรภัย [ ] ที่ครอบหู/อุดหู [ ] อุปกรณ์ป้องกันทางเดินหายใจ [ ] เข็มขัดนิรภัย [ ] Gas Detector

[ ] ชุดป้องกันฝุ่น/ สารเคมี [ ] รองเท้านิรภัย [ ] รองเท้าบูทหัวเหล็ก [ ] อื่นๆ.....

5 ลงนามใบอนุญาตทำงาน/ ต่ออายุ/ ปิดงาน

ข้าพเจ้าเข้าใจในงานที่ปฏิบัติเป็นอย่างดี

5.1 ลงชื่อ ..... ผู้ขออนุญาต โทร. 083-5798366 วันที่ 2022-01-09

5.2 ลงชื่อ ..... ผู้ควบคุมงาน โทร. 092-00998 วันที่ 9-1-22 PTT-NGD

5.3 ลงชื่อ ..... ผู้อนุญาต โทร. 9/1/64

ก่อนเลิกงาน

ข้าพเจ้าได้จัดทำสถานที่ทำงานให้มีสภาพปลอดภัยหรือเหมือนเดิมแล้ว

สถานะงาน [ ] แล้วเสร็จ [ ] ยังไม่แล้วเสร็จ [ ] ยกเลิก

หมายเหตุ: ขุดวางท่อประปา 1.5-2 เมตร

5.7 ลงชื่อ ..... ผู้ขออนุญาต

5.8 ลงชื่อ ..... ผู้ควบคุมงาน

วันที่ 9 เดือน มกราคม พ.ศ. 2565 เวลา 17.00

ต้นฉบับ : สำหรับผู้ขออนุญาตนำไปติดแสดงที่หน้างาน  
สำเนา 1 : สำหรับผู้ควบคุมงาน

คำเตือน : ต้องติดแสดงใบอนุญาตฉบับนี้ให้เห็นเด่นชัดในจุดทำงาน  
QM-FO-017-00



บริษัท ปตท. จำกัด (มหาชน) จำกัด  
PTT Natural Gas Distribution Co., Ltd.

Permit No. 65-001-CD-0338

ใบอนุญาตทำงานทั่วไปไม่มีความร้อน (COLD WORK PERMIT)

เขียนวันที่ 17 เดือน 2 พ.ศ. 65 เวลา 9.45

1 ระยะเวลาที่ขออนุญาต จากวันที่ 17 เดือน 2 พ.ศ. 65 เวลา 9.45 ถึงวันที่ 20 เดือน 2 พ.ศ. 65 เวลา 17.00

สถานที่ (ระบุให้ชัดเจน): OTS (โซน 1) OTS2C (โซน 1) PAS5 (โซน 1)

เครื่องจักรหรืออุปกรณ์ที่จะใช้: เครื่องตัดหญ้า เครื่องสูบลม อุปกรณ์ซ่อมท่อ

รายละเอียดของงาน: ตัดหญ้า

จำนวนผู้ปฏิบัติงาน 8 คน

2 การวิเคราะห์การปฏิบัติงานเพื่อความปลอดภัย: JSA (กรอกโดยผู้ขออนุญาต)

รายละเอียดงาน: ตัดหญ้า

| ลำดับ | ขั้นตอนการทำงาน | อันตรายที่อาจเกิดขึ้นได้ | ข้อเสนอแนะเพื่อความปลอดภัย |
|-------|-----------------|--------------------------|----------------------------|
| 1     | ตัดหญ้า         | หญ้าแห้ง                 | ใส่หมวกนิรภัย              |
| 2     | ตัดหญ้า         | หญ้าแห้ง                 | ใส่ถุงมือ                  |
| 3     | ตัดหญ้า         | หญ้าแห้ง                 | ใส่สายรัดนิรภัย            |

[ ] ทำ JSA เพิ่มเติมตามเอกสารแนบ [ ] ประชุมชี้แจงอันตรายให้กับผู้ปฏิบัติงานก่อนเริ่มงาน

3 ข้อพึงปฏิบัติในการปฏิบัติงาน (ผู้ขออนุญาตเขียนวงกลมล้อมรอบตัวเลขที่ต้องปฏิบัติ และเขียน [ ] ในข้อที่ดำเนินการแล้วเสร็จ)

[ ] 9. ปิดท่อทางด้วยหมวกเปลี่ยน [ ] 17. แจ้ง GRCC

[ ] 1. ติดแถบระบบ [ ] 10. ใส่ตัวกั้นในโครงงาน [ ] 18. แจ้ง .....

[ ] 2. ลดความดัน [ ] 11. ตรวจสอบสภาพพรมยนต์/ อุปกรณ์ไฟฟ้า [ ] 19. ตรวจสอบการติดตั้งก่อนปฏิบัติงาน (น้อยกว่า 10% LEL)

[ ] 3. ระบบถัง [ ] 12. เตรียมพร้อมอุปกรณ์ดับเพลิง [ ] ครึ่งคราว [ ] ต่อเนื่อง

[ ] 4. ติดตั้งอุปกรณ์ทางกล [ ] 13. ใส่ตัวขยายจาก

[ ] 5. ติดตั้งอุปกรณ์ไฟฟ้า [ ] 14. กั้นบริเวณ

[ ] 6. ยกเลิกอุปกรณ์ความปลอดภัยชั่วคราว [ ] 15. ติดตั้งป้ายเตือน

[ ] 7. ติดตั้งอุปกรณ์เครื่องมือวัด [ ] 16. ติดตั้งระบบระบายอากาศ

[ ] 8. ตรวจสอบป้ายห้ามอุปกรณ์ที่ตัด/ ล็อค

ข้อกำหนดเพิ่มเติม: ..... [ ] หมายเหตุ: ให้ใช้ตารางเพิ่มกรณีที่ต้องกรอก

4 ต้องสวมใส่อุปกรณ์คุ้มครองความปลอดภัยส่วนบุคคล ดังนี้ (กรอกโดยผู้ขออนุญาตหรือผู้ควบคุมงาน)

[ ] หมวกนิรภัย [ ] แว่นตานิรภัย [ ] ที่ครอบหู/อุดหู [ ] อุปกรณ์ป้องกันทางเดินหายใจ [ ] เข็มขัดนิรภัย [ ] Gas Detector

[ ] ชุดป้องกันฝุ่น/ สารเคมี [ ] รองเท้านิรภัย [ ] รองเท้าบูทหัวเหล็ก [ ] อื่นๆ.....

5 ลงนามใบอนุญาตทำงาน/ ต่ออายุ/ ปิดงาน

ข้าพเจ้าเข้าใจในงานที่ปฏิบัติเป็นอย่างดี

5.1 ลงชื่อ ..... ผู้ขออนุญาต โทร. 092-163-2995 วันที่ 17-2-65

5.2 ลงชื่อ ..... ผู้ควบคุมงาน โทร. 092-00998 วันที่ 18-2-65

5.3 ลงชื่อ ..... ผู้อนุญาต โทร. 17/2/65

ก่อนเลิกงาน

ข้าพเจ้าได้จัดทำสถานที่ทำงานให้มีสภาพปลอดภัยหรือเหมือนเดิมแล้ว

สถานะงาน [ ] แล้วเสร็จ [ ] ยังไม่แล้วเสร็จ [ ] ยกเลิก

หมายเหตุ: ตัดหญ้า

5.7 ลงชื่อ ..... ผู้ขออนุญาต

5.8 ลงชื่อ ..... ผู้ควบคุมงาน

วันที่ 18 เดือน 2 พ.ศ. 65 เวลา 17.00

ต้นฉบับ : สำหรับผู้ขออนุญาตนำไปติดแสดงที่หน้างาน  
สำเนา 1 : สำหรับผู้ควบคุมงาน

คำเตือน : ต้องติดแสดงใบอนุญาตฉบับนี้ให้เห็นเด่นชัดในจุดทำงาน  
QM-FO-014-00





บริษัท ปตท. จำกัด (มหาชน) จำกัด  
PTT Natural Gas Distribution Co., Ltd.

Permit No. 65-Reg-CD-0346

ใบอนุญาตทำงานทั่วไปไม่มีความร้อน (COLD WORK PERMIT) เขียนวันที่ ๕ เดือน ๗ พ.ศ. ๕๕ เวลา ๙:๐๐

|                                 |   |  |
|---------------------------------|---|--|
| 1 ระยะเวลาที่ขออนุญาต           | จากวันที่ ๕ เดือน ๗ พ.ศ. ๕๕ เวลา ๙:๐๐         | ถึงวันที่ ๘ เดือน ๗ พ.ศ. ๕๕ เวลา ๑๖:๐๐ |
| สถานที่ (ระบุให้ชัดเจน):        | - 073 รั้วรั้ว ๐๗, ๐๗, ๐๗, ๐๗, ๐๗, ๐๗, ๐๗, ๐๗ |  |
| เครื่องจักรหรืออุปกรณ์ที่จะใช้: | เครื่องจักร ๑๐๐๐                              |  |
| รายละเอียดของงาน:               | ตัดหญ้า ตัดแต่งรั้ว ๕ เมตร ล้างถัง ๕๕         |  |
| จำนวนผู้ปฏิบัติงาน ๘ คน         |   |  |

|  |                    |                          |                            |
|--|--------------------|--------------------------|----------------------------|
| 2 การวิเคราะห์การปฏิบัติงานเพื่อความปลอดภัย : JSA (กรอกโดยผู้ขออนุญาต) |                    |                          |                            |
| รายละเอียดงาน :  |                    |                          |                            |
| ลำดับ  | ขั้นตอนการทำงาน    | อันตรายที่อาจเกิดขึ้นได้ | ข้อเสนอแนะเพื่อความปลอดภัย |
| 1  | ตัดหญ้า            | หญ้าขึ้นรก               | ตัดหญ้า                    |
| 2  | ตัดแต่งรั้ว ๕ เมตร | หญ้าขึ้นรก               | ตัดหญ้า                    |
| 3  | ล้างถัง ๕๕         | ถังขึ้นรก                | ล้างถัง ๕๕                 |

[ ] ทำ JSA เพิ่มเติมตามเอกสารแนบ [ ] ประชุมชี้แจงอันตรายให้กับผู้ปฏิบัติงานก่อนเริ่มงาน

3 ข้อพึงปฏิบัติในการปฏิบัติงาน (ผู้ขออนุญาตเขียนวงกลมล้อมรอบตัวเลขที่ต้องปฏิบัติ และเขียน [ ] ในข้อที่ดำเนินการแล้วเสร็จ)

|                                     |                                     |   |
|-------------------------------------|-------------------------------------|---|
| 1. ตัดเยกรบ                         | 9. ปิดทองด้วยน้ำเปลี่ยน             | 17. แจ้ง GRCC   |
| 2. ลดความดัน                        | 10. ใส่ด้วยก๊าซไนโตรเจน             | 18. แจ้ง  |
| 3. ระบายทิ้ง                        | 11. ตรวจสอบสภาพรถยนต์/ อุปกรณ์ไฟฟ้า | 19. ตรวจสอบก๊าซติดไฟก่อนปฏิบัติงาน (น้อยกว่า 10% LEL)     |
| 4. ตัด/ ล็อคอุปกรณ์ทางกล            | 12. เตรียมพร้อมอุปกรณ์ดับเพลิง      | [ ] ครั้งคราว [ ] ต่อเนื่อง                               |
| 5. ตัด/ ล็อคอุปกรณ์ไฟฟ้า            | 13. ใส่ด้วยอากาศ                    | ก๊าซติดไฟ ก่อนเริ่มงาน ระหว่างทำงาน ขอต่ออายุ หลังเลิกงาน |
| 6. ยกเลิกอุปกรณ์ความปลอดภัยชั่วคราว | 14. กั้นบริเวณ                      | %LEL เวลา ผู้ตรวจ   |
| 7. ตัดเยกรบเครื่องมือวัด            | 15. ติดตั้งป้ายเตือน                |   |
| 8. แขนงป้ายห้ามอุปกรณ์ที่ตัด/ ล็อค  | 16. ติดตั้งระบบระบายอากาศ           |   |

ข้อกำหนดเพิ่มเติม : [ ] หมายเหตุ : ให้ใช้ตารางเพิ่มกรณีที่ต้องการ

4 ต้องสวมใส่อุปกรณ์คุ้มครองความปลอดภัยส่วนบุคคล ดังนี้ (กรอกโดยผู้ขออนุญาตหรือผู้ควบคุมงาน)

[ ] หมวกนิรภัย [ ] แว่นตานิรภัย [ ] ที่ครอบหู/ ชุดหูฟัง [ ] อุปกรณ์ป้องกันทางเดินหายใจ [ ] เข็มขัด/ เชือกนิรภัย [ ] Gas Detector

[ ] ชุดป้องกันฝุ่น/ สารเคมี [ ] ถุงมือหนังยาง [ ] รองเท้าบูทหุ้มเหล็ก [ ] รองเท้านิรภัย [ ] อื่นๆ

5 ลงนามใบอนุญาตทำงาน/ ต่ออายุ/ ปิดงาน

ข้าพเจ้าเข้าใจในงานที่ปฏิบัติเป็นอย่างดี

5.1 ลงชื่อ นาย ๐๑๐๐๐ ผู้ขออนุญาต โทร ๐๙๐-๔๔๔-๔๔๔๔  
(นาย ๐๑๐๐๐) วันที่ ๕-๗-๕๕  
หน่วยงาน น.ค.๔ ๕๕๕๕๕

ขอต่ออายุ  
ตั้งแต่ วันที่ ..... เดือน ..... พ.ศ. .... เวลา .....  
ถึง วันที่ ..... เดือน ..... พ.ศ. .... เวลา .....

5.4 ลงชื่อ ..... ผู้ขออนุญาต  
5.5 ลงชื่อ ..... ผู้ควบคุมงาน  
5.6 ลงชื่อ ..... ผู้อนุญาต

ข้าพเจ้าได้ตรวจสอบรายการข้างต้น และพิจารณาเห็นว่าปลอดภัยสามารถปฏิบัติงานได้

5.2 ลงชื่อ นาย ๐๑๐๐๐ ผู้ควบคุมงาน โทร ๐๙๐-๔๔๔-๔๔๔๔  
(นาย ๐๑๐๐๐) วันที่ ๕-๗-๕๕

ก่อนเลิกงาน  
ข้าพเจ้าได้จัดทำสถานที่ทำงานให้มีสภาพปลอดภัยหรือเหมือนเดิมแล้ว  
สถานงาน [ ] แล้วเสร็จ [ ] ยังไม่แล้วเสร็จ [ ] ยกเลิก  
หมายเหตุ :

5.3 ลงชื่อ นาย ๐๑๐๐๐ ผู้อนุญาต โทร ๐๙๐-๔๔๔-๔๔๔๔  
(นาย ๐๑๐๐๐) วันที่ ๕-๗-๕๕

5.7 ลงชื่อ นาย ๐๑๐๐๐ ผู้ขออนุญาต  
5.8 ลงชื่อ นาย ๐๑๐๐๐ ผู้ควบคุมงาน  
วันที่ ๕-๗-๕๕ เดือน ๕ พ.ศ. ๕๕ เวลา ๑๖:๐๐

ต้นฉบับ : สำหรับผู้ขออนุญาตนำไปติดแสดงที่หน้างาน  
สำเนา 1 : สำหรับผู้ควบคุมงาน

คำเตือน : ต้องติดแสดงใบอนุญาตฉบับนี้ให้เห็นเด่นชัดในจุดทำงาน  
QM-FO-014-00

ภาคผนวก ง

## การบำรุงรักษาสถานีก๊าซธรรมชาติ

ภาคผนวก ง-1

## สรุปผลการบำรุงรักษาสถานีก๊าซธรรมชาติ

**สรุปผลการบำรุงรักษาสถานีก๊าซธรรมชาติ**  
**โครงการท่อจ่ายก๊าซธรรมชาติบริเวณนิคมอุตสาหกรรมโรจนะ**  
**บริษัท ปตท. จำกัด (มหาชน) ก๊าซธรรมชาติ จำกัด**  
**ระหว่างเดือนมกราคม ถึงมิถุนายน พ.ศ.2565**

สรุปการดำเนินงานตามแผนบำรุงรักษาเชิงป้องกันสถานีก๊าซ OTS PRS และ MRS

| Descriptions  | Year 2022 |   |   |   |   |      |      |   |      |      |    |      |
|---|-----------|---|---|---|---|------|------|---|------|------|----|------|
|   | 1         | 2 | 3 | 4 | 5 | 6    | 7    | 8 | 9    | 10   | 11 | 12   |
| OTS #1  |           | ✓ |   |   | ✓ | Y(3) | Y(3) |   |      |      |    |      |
| OTS #2  |           | ✓ |   |   | ✓ |      |      |   | Y(3) | Y(3) |    |      |
| PRS #5  |           | ✓ |   |   | ✓ |      |      |   |      |      |    |      |
| MRS บริษัท พานาโซนิค<br>เมนูแฟลคเจอร์ริง อยุธา<br>จำกัด |           | ✓ |   |   | ✓ |      |      |   |      |      |    | Y(3) |

หมายเหตุ : 1. ✓ คือ ดำเนินการตามแผนบำรุงรักษาเชิงป้องกัน (PM)

2.  คือ แผนบำรุงรักษาเชิงป้องกันประจำทุก 3 เดือน

3.  คือ แผนบำรุงรักษาเชิงป้องกันประจำทุก 3 ปี

บริษัทฯ ได้ดำเนินการตามแผนบำรุงรักษาเชิงป้องกันสถานี OTS#1, OTS#2, PRS#5 และ MRS ประจำทุก 3 เดือน

**สรุปผลการบำรุงรักษาสถานีก๊าซธรรมชาติ**  
**โครงการท่อส่งก๊าซธรรมชาติไปยังโรงงานอุตสาหกรรม**  
**ในสวนอุตสาหกรรมโรจนะ ระยะที่ 7 และ 8**  
**บริษัท ปตท. จำกัด ก๊าซธรรมชาติ จำกัด**  
**ระหว่างเดือนมกราคม ถึงมิถุนายน พ.ศ.2565**

สรุปการดำเนินงานตามแผนบำรุงรักษาเชิงป้องกันสถานี OTS PRS และ MRS

| Descriptions                       | Year 2022 |   |   |   |   |      |      |   |      |      |    |    |
|------------------------------------|-----------|---|---|---|---|------|------|---|------|------|----|----|
|                                    | 1         | 2 | 3 | 4 | 5 | 6    | 7    | 8 | 9    | 10   | 11 | 12 |
| OTS #1                             |           | ✓ |   |   | ✓ | Y(3) | Y(3) |   |      |      |    |    |
| OTS #2                             |           | ✓ |   |   | ✓ |      |      |   | Y(3) | Y(3) |    |    |
| PRS #5                             |           | ✓ |   |   | ✓ |      |      |   |      |      |    |    |
| MRS บริษัท สุนทรเมทัล<br>แกน จำกัด | ✓         |   |   | ✓ |   |      |      |   |      |      |    |    |

หมายเหตุ : 1. ✓ คือ ดำเนินตามแผนบำรุงรักษาเชิงป้องกัน (PM)

2.  คือ แผนบำรุงรักษาเชิงป้องกันประจำทุก 3 เดือน

3.  คือ แผนบำรุงรักษาเชิงป้องกันประจำทุก 3 ปี

บริษัทฯ ได้ดำเนินการตามแผนบำรุงรักษาเชิงป้องกันสถานีก๊าซฯ OTS PRS และ MRS ประจำทุก 3 เดือน



**สรุปผลการบำรุงรักษาสถานีก๊าซธรรมชาติ**

**โครงการท่อส่งก๊าซธรรมชาติบริเวณสวนอุตสาหกรรมโรจนะเฟส 8/2**

**บริษัท ปตท. จำกัด (มหาชน) ก๊าซธรรมชาติ จำกัด**

**ระหว่างเดือนมกราคม ถึงมิถุนายน พ.ศ.2565**

สรุปการดำเนินงานตามแผนบำรุงรักษาเชิงป้องกันสถานีก๊าซ OTS PRS และ MRS

| Descriptions                      | Year 2022 |   |   |   |   |      |      |   |      |      |    |    |
|-----------------------------------|-----------|---|---|---|---|------|------|---|------|------|----|----|
|                                   | 1         | 2 | 3 | 4 | 5 | 6    | 7    | 8 | 9    | 10   | 11 | 12 |
| OTS #1                            |           | ✓ |   |   | ✓ | Y(3) | Y(3) |   |      |      |    |    |
| OTS #2                            |           | ✓ |   |   | ✓ |      |      |   | Y(3) | Y(3) |    |    |
| PRS #5                            |           | ✓ |   |   | ✓ |      |      |   |      |      |    |    |
| MRS บริษัท เป๊ปซี่ - โคโล่า (ไทย) | Y(3)      |   | ✓ |   |   | ✓    |      |   |      |      |    |    |

หมายเหตุ : 1. ✓ คือ ดำเนินตามแผนบำรุงรักษาเชิงป้องกัน (PM)

2.  คือ แผนบำรุงรักษาเชิงป้องกันประจำทุก 3 เดือน

3.  คือ แผนบำรุงรักษาเชิงป้องกันประจำทุก 3 ปี

บริษัทฯ ได้ดำเนินการตามแผนบำรุงรักษาเชิงป้องกันสถานีก๊าซ OTS PRS และ MRS ประจำทุก 3 เดือน

ภาคผนวก ง-2

## แผนการบำรุงรักษาเชิงป้องกันสถานีก๊าซธรรมชาติ

| For: การบำรุงรักษาเชิงป้องกัน (PM) สถานีก๊าซ OTS, PRS และ MRS พื้นที่โรจนะ (ROJ) |                    | Year 2020 |   |      |      |      |   |   |   |      |      |      |    | Year 2021 |      |   |      |   |   |      |      |   |    |      |    | Year 2022 |   |      |   |      |      |      |   |      |      |      |    |  |
|--|--------------------|-----------|---|------|------|------|---|---|---|------|------|------|----|-----------|------|---|------|---|---|------|------|---|----|------|----|-----------|---|------|---|------|------|------|---|------|------|------|----|--|
| Code   | Descriptions       | 1         | 2 | 3    | 4    | 5    | 6 | 7 | 8 | 9    | 10   | 11   | 12 | 1         | 2    | 3 | 4    | 5 | 6 | 7    | 8    | 9 | 10 | 11   | 12 | 1         | 2 | 3    | 4 | 5    | 6    | 7    | 8 | 9    | 10   | 11   | 12 |  |
| 000  | OTS ROJJANA        |           | Q |      |      | Q    |   |   | Q |      |      | Q    |    |           | Q    |   |      | Q |   |      | Q    |   |    | Q    |    |           | Q |      |   | Q    | Y(3) | Y(3) | Q |      |      | Q    |    |  |
| 001  | 2nd OTS ROJJANA    |           | Q |      |      | Q    |   |   | Q |      |      | Q    |    |           | Q    |   |      | Q |   |      | Q    |   |    | Q    |    |           | Q |      |   | Q    |      |      | Q | Y(3) | Y(3) | Q    |    |  |
| 005  | PRS5 ROJ           |           | Q |      |      | Q    |   |   | Q |      |      | Q    |    |           | Q    |   |      | Q |   |      | Q    |   |    | Q    |    |           | Q |      |   | Q    |      |      | Q |      |      | Q    |    |  |
| 102-P00  | Kingboard Laminare |           |   | Q    | Y(3) |      | Q |   |   |      | Q    |      | Q  |           |      | Q |      |   | Q |      |      | Q |    | Q    |    |           | Q |      |   | Q    |      |      | Q |      |      | Q    |    |  |
| 103-P00  | HONDA              |           | Q |      | Y(3) | Q    |   |   | Q |      |      | Q    |    |           | Q    |   | Q    | Q |   |      | Q    |   |    | Q    |    | Q         |   |      | Q |      |      | Q    |   |      | Q    |      |    |  |
| 104-P00  | PANASONIC          |           | Q |      |      | Q    |   |   | Q |      |      | Q    |    |           | Q    |   |      | Q |   |      | Q    |   |    | Q    |    | Q         |   |      | Q |      |      | Q    |   |      | Q    | Y(3) |    |  |
| 106-P00  | MINEBEA            |           |   | Q    |      | Y(3) | Q |   |   | Q    |      |      | Q  |           |      | Q |      |   | Q |      |      | Q |    | Q    |    |           | Q |      |   | Q    |      |      | Q |      |      | Q    |    |  |
| 107-P00  | KOSEI              |           |   | Q    |      |      | Q |   |   | Q    |      | Y(3) | Q  |           |      | Q |      |   | Q |      |      | Q |    | Q    |    |           | Q |      |   | Q    |      |      | Q |      |      | Q    |    |  |
| 109-P00  | SURTEC KARIYA      |           | Q |      |      | Q    |   |   | Q |      |      | Q    |    |           | Q    |   |      | Q |   | Y(3) | Q    |   |    | Q    |    | Q         |   |      | Q |      |      | Q    |   |      | Q    |      |    |  |
| 110-P00  | M&R                | Q         |   |      | Q    |      |   | Q |   |      | Q    |      |    | Q         |      |   | Q    |   |   | Q    | Y(3) |   | Q  |      | Q  |           |   | Q    |   |      | Q    |      |   | Q    |      |      |    |  |
| 111-P00  | KIKUCHI            | Q         |   |      | Q    |      |   | Q |   |      | Q    |      |    | Q         |      |   | Q    |   |   | Q    |      |   | Q  | Y(3) | Q  |           |   | Q    |   |      | Q    |      |   | Q    |      |      |    |  |
| 112-P00  | SANDEN             |           |   | Q    |      |      | Q |   |   | Q    |      |      | Q  |           |      | Q |      |   | Q |      |      | Q |    | Q    |    |           | Q |      |   | Q    |      |      | Q |      |      | Q    |    |  |
| 113-P00  | CHEMTRONIC         |           |   | Q    |      |      | Q |   |   | Q    |      |      | Q  |           |      | Q | Y(3) |   | Q |      |      | Q |    | Q    |    |           | Q |      |   | Q    |      |      | Q |      |      | Q    |    |  |
| 114-P00  | APM                |           | Q |      |      | Q    |   |   | Q |      |      | Q    |    |           | Q    |   |      | Q |   |      | Q    |   |    | Q    |    | Q         |   | Y(3) | Q |      |      | Q    |   |      | Q    |      |    |  |
| 115-P00  | SEKSUN             |           | Q |      |      | Q    |   |   | Q |      |      | Q    |    |           | Q    |   |      | Q |   |      | Q    |   |    | Q    |    | Q         |   |      | Q | Y(3) |      | Q    |   |      | Q    |      |    |  |
| 116-P00  | THAI INDO K.       | Q         |   | Y(3) | Q    |      |   | Q |   |      | Q    |      |    | Q         |      |   | Q    |   |   | Q    |      |   | Q  |      | Q  |           |   | Q    |   |      | Q    |      |   | Q    |      |      |    |  |
| 117(103-P01)   | HONDA 2            | Q         |   |      | Q    |      |   | Q |   | Y(3) |      | Q    |    |           | Q    |   |      | Q |   |      | Q    |   |    | Q    |    | Q         |   |      | Q |      |      | Q    |   |      | Q    |      |    |  |
| 118-P00  | SUNFLAG            |           | Q |      |      | Q    |   |   | Q |      | Y(3) | Q    |    |           | Q    |   |      | Q |   |      | Q    |   |    | Q    |    | Q         |   |      | Q |      |      | Q    |   |      | Q    |      |    |  |
| 119-P00  | BESTEX             |           |   | Q    |      |      | Q |   |   | Q    |      | Y(3) | Q  |           |      | Q |      |   | Q |      |      | Q |    | Q    |    |           | Q |      |   | Q    |      |      | Q |      |      | Q    |    |  |
| 120-P00  | F&N Dairies        |           |   | Q    |      |      | Q |   |   | Q    |      |      | Q  |           |      | Q |      |   | Q |      |      | Q |    | Y(3) | Q  |           |   | Q    |   |      | Q    |      |   | Q    |      |      | Q  |  |
| 121-P00  | SHIN EI            | Q         |   |      | Q    |      |   | Q |   |      | Q    |      |    | Q         | Y(3) |   | Q    |   |   | Q    |      |   | Q  |      | Q  |           |   | Q    |   |      | Q    |      |   | Q    |      |      |    |  |
| 122-P00  | SOONTHORN          | Q         |   |      | Q    |      |   | Q |   |      | Q    |      |    | Q         |      |   | Q    |   |   | Q    | Y(3) |   | Q  |      | Q  |           |   | Q    |   |      | Q    |      |   | Q    |      |      |    |  |

Note: Q: 3 Month Preventive Maintenance, Y(3): 3 Year Preventive Maintenance (and prove turbine gas meter at PTT OC)

|   |  |   |                                |
|---|--|---|--------------------------------|
| ผู้จัดเตรียม <u>พิษณุ จันทะระ</u><br>(พิษณุ จันทะระ)<br>วันที่ 3/2/64 | ผู้ทบทวน <u>สม</u><br>(อิทธิศักดิ์ คล้ายมงคล)<br>วันที่ 3/2/64 | ผู้อนุมัติ <u>สม</u><br>(วิชัย มนูญโย)<br>วันที่ 3/2/64 | หน้าที่ 1/2<br>แก้ไขครั้งที่ 0 |
|---|--|---|--------------------------------|

For: การบำรุงรักษาเชิงป้องกัน (PM) สถานีก๊าซ OTS, PRS และ MRS พื้นที่โรจนะ (ROJ)

| Code    | Descriptions                  | Year 2020 |      |   |   |   |   |   |   |      |    |    |    | Year 2021 |   |      |      |      |   |   |      |   |    |    |    | Year 2022 |   |      |   |    |      |   |   |   |      |    |    |
|---------|-------------------------------|-----------|------|---|---|---|---|---|---|------|----|----|----|-----------|---|------|------|------|---|---|------|---|----|----|----|-----------|---|------|---|----|------|---|---|---|------|----|----|
|         |                               | 1         | 2    | 3 | 4 | 5 | 6 | 7 | 8 | 9    | 10 | 11 | 12 | 1         | 2 | 3    | 4    | 5    | 6 | 7 | 8    | 9 | 10 | 11 | 12 | 1         | 2 | 3    | 4 | 5  | 6    | 7 | 8 | 9 | 10   | 11 | 12 |
| 123-P00 | AGI - Turbine Run A           |           |      | Q |   |   | Q |   |   | Q    |    |    | Q  |           |   | Q    |      | Y(3) | Q |   |      | Q |    |    | Q  |           |   | Q    |   |    | Q    |   |   | Q |      |    | Q  |
|         | AGI - Turbine Run B           |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    | Y(3) |   |   | Q |      |    | Q  |
| 126-P00 | Thai-Lysaght                  |           | Q    |   |   | Q |   |   | Q |      |    | Q  |    |           | Q | Y(3) |      | Q    |   |   | Q    |   |    | Q  |    |           | Q |      |   | Q  |      |   | Q |   |      | Q  |    |
| 127-P00 | UACJ Extrusion                |           | Q    |   |   | Q |   |   | Q |      |    | Q  |    |           | Q |      | Y(3) |      | Q |   |      | Q |    |    | Q  |           |   | Q    |   |    | Q    |   |   | Q |      |    | Q  |
| 128-P00 | Ichitan Group                 |           |      | Q |   |   | Q |   |   | Q    |    |    | Q  |           |   | Q    |      |      | Q |   | Y(3) | Q |    |    | Q  |           |   | Q    |   |    | Q    |   |   | Q |      |    | Q  |
| 129-P00 | Siam Glass Ayutthaya          |           | Q    |   |   | Q |   |   | Q | Y(3) |    | Q  |    |           | Q |      |      | Q    |   |   | Q    |   |    | Q  |    |           | Q |      |   | Q  |      |   | Q |   |      | Q  |    |
| 130-P00 | Katsuyama Finetech            |           | Y(3) | Q |   |   | Q |   |   | Q    |    |    | Q  |           |   | Q    |      |      | Q |   |      | Q |    |    | Q  |           |   | Q    |   |    | Q    |   |   | Q |      |    | Q  |
| 134-P00 | Pepsi-Cola (Thai)             |           |      | Q |   |   | Q |   |   | Q    |    |    | Q  |           |   | Q    |      |      | Q |   |      | Q |    |    | Q  |           |   | Y(3) |   | Q  |      |   | Q |   |      | Q  |    |
| 136-P00 | Tobacco Authority of Thailand | Q         |      |   | Q |   |   | Q |   |      | Q  |    |    | Q         |   |      | Q    |      |   | Q |      |   | Q  |    |    | Q         |   |      | Q |    |      | Q |   |   | Y(3) | Q  |    |
| 141-P00 | Bangkok Can Manufacturing     |           | Q    |   |   | Q |   |   | Q |      |    | Q  |    |           | Q |      |      | Q    |   |   | Q    |   |    | Q  |    |           | Q |      |   | Q  |      |   | Q |   |      | Q  |    |
| 142-P00 | CHACHA FOOD (THAILAND)        |           |      | Q |   |   | Q |   |   | Q    |    |    | Q  |           |   | Q    |      |      | Q |   |      | Q |    |    | Q  |           |   | Q    |   |    | Q    |   |   | Q | Y(3) |    | Q  |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   |    |      |   |   |   |      |    |    |
|         |                               |           |      |   |   |   |   |   |   |      |    |    |    |           |   |      |      |      |   |   |      |   |    |    |    |           |   |      |   | </ |      |   |   |   |      |    |    |

Note: Q: 3 Month Preventive Maintenance, Y(3): 3 Year Preventive Maintenance (and prove turbine gas meter at PTT OC)

|  |  |   |                                |
|--|--|---|--------------------------------|
| ผู้จัดเตรียม<br>( พิชญ์ จันทะระ )<br>วันที่ 20/12/62 | ผู้ทบทวน<br>( อธิศักดิ์ คล้ายมงคล )<br>วันที่ 20/12/62 | ผู้อนุมัติ<br>( วิชัย มนูญโย )<br>วันที่ 23/12/62 | หน้าที่ 2/2<br>แก้ไขครั้งที่ 0 |
|--|--|---|--------------------------------|

ภาคผนวก ง-3

## ตัวอย่างเอกสารการบำรุงรักษาสถานีก๊าซธรรมชาติ





## PM / Work Order

Customer / Tag : OTS ROJANA

Code : 915KN980

Name : Skid/Station

Work Type : PM

Cost Center : NG-R01-00006-P00401

Problem / Job Detail

PM OTS ROJANA 3 MONTH

Work Order : PM22-000166

Work Order Date : 31-01-2022

Work Request No :

Maintenance Dept : NG-ST  
Gas Station 10111111

Request Dept :

Priority :

| Estimate Start | Estimate Finish | PM Code                  | Person               |
|----------------|-----------------|--------------------------|----------------------|
| 01/03/2022     | 28/02/2022      | PM/NG-R01-00006-P00401-2 | 10111111111111111111 |

| Actual Start | Actual Finish | Turbine/Rotary Gas Meter Index |
|--------------|---------------|--------------------------------|
| 28/2/65      | 10:40         | 28/2/65 19:20                  |

| Cause Code | Action Code |
|------------|-------------|
|------------|-------------|

| Code/Name                               | Neutral | Abnormal | Remarks |
|---|---------|----------|---------|
| 1) HV001A-Q001 Hand Valve               |         |          |         |
| 2) HV001B-Q001 Hand Valve               |         |          |         |
| 3) HV003A-Q001 Hand Valve               |         |          |         |
| 4) HV002B-Q001 Hand Valve               |         |          |         |
| 5) HV003A-Q001 Hand Valve               |         |          |         |
| 6) HV003B-Q001 Hand Valve               |         |          |         |
| 7) HV004A-Q001 Hand Valve               |         |          |         |
| 8) HV004B-Q001 Hand Valve               |         |          |         |
| 9) F001A-Q002 Filter                    |         |          |         |
| 10) F001B-Q002 Filter                   |         |          |         |
| 11) PCV001A-Q005 Pressure Control Valve |         |          |         |
| 12) PCV001B-Q005 Pressure Control Valve |         |          |         |
| 13) PCV002A-Q005 Pressure Control Valve |         |          |         |
| 14) PCV002B-Q005 Pressure Control Valve |         |          |         |
| 15) SSV001A-Q003 Safety Shut-off Valve  |         |          |         |
| 16) SSV001B-Q003 Safety Shut-off Valve  |         |          |         |
| 17) PSV001A-Q004 Pressure Safety Valve  |         |          |         |
| 18) PSV001B-Q004 Pressure Safety Valve  |         |          |         |
| 19) PI001-Q006 Pressure Indicator       |         |          |         |
| 20) PI002A-Q006 Pressure Indicator      |         |          |         |
| 21) PI002B-Q006 Pressure Indicator      |         |          |         |
| 22) PI003A-Q006 Pressure Indicator      |         |          |         |
| 23) PI003B-Q006 Pressure Indicator      |         |          |         |
| 24) PI004-Q006 Pressure Indicator       |         |          |         |
| 25) PI005-Q006 Pressure Indicator       |         |          |         |
| 26) TI001-Q007 Temperature Indicator    |         |          |         |
| 27) PT002-Q008 Pressure Transmitter     |         |          |         |
| 28) PT001A-Q008 Pressure Transmitter    |         |          |         |
| 29) PT001B-Q008 Pressure Transmitter    |         |          |         |
| 30) PT003-Q008 Pressure Transmitter     |         |          |         |
| 31) TT001A-Q009 Temperature Transmitter |         |          |         |

PTT NGD Staff

Customer Staff

Approve

Division Manager

Signature of PTT NGD Staff

28/2/65

Signature of Customer Staff

28/2/65

Signature of Division Manager

28/02/65



## OTS / PRS / MRS PM REPORT FORM

Customer / Location : OTS-Rojana

Area : Rojana

Date of Maintenance : 21/2/65 Time : 10:30

Type of Maintenance : 3/5 Year PM ☐ 1 Year PM ☐ 6 Month PM ☐ 3 Month PM ☐ 1 Month PM ☐

DIAGNOSTIC & RECORD PARTS

Inlet Pressure : 3.5 Bar g. a) Index at gas meter (V) 3209241 Turbine G 1000

Outlet Pressure : 5 Bar g. b) Corrected volume at EVC (Vb) 3209246

Set Point (Bar g. / mbar g.) Stream 1 (Bar g. / mbar g.) Stream 2 (Bar g. / mbar g.) c) Uncorrected volume at EVC 13184913

d) Pressure (BarA) 5.007

PCV 1st state 0.5 4.5 e) Temperature (°C) 17.939

PCV override mon. - - f) Correction Factor -

PCV 2nd state - - g) Qmax, Max Flow -

PSV 6 6 h) Qb, Flow Rates 5077.67

SSV 1st 6.5 7.5 i) Alarm Shown -

SSV 2nd 6.5 7.5 j) Battery Shown -

Pulse Inspection from Gas Meter to Volume Corrector : 100% ☐ 100% EVC

Turbine/Rotary Gas Meter Rotating Check : 100% ☐ 100% EVC

CP System : Inlet Flange Voltage 1.16V, Outlet Flange Voltage 1.16V, DC Decoupler 1.16V

Details : - Check gas flow rate + 0.5 m³/min at 100% flow rate.

- Check gas flow rate + 0.5 m³/min at 100% flow rate.

- Check gas flow rate + 0.5 m³/min at 100% flow rate.

- Check gas flow rate + 0.5 m³/min at 100% flow rate.

REPAIRED/CHANGED/REQUIRED PARTS

| Item | Overhaul/Take-off Equipment | Change Part Detail | Code |
|------|-----------------------------|--------------------|------|
|      |                             |                    |      |
|      |                             |                    |      |
|      |                             |                    |      |
|      |                             |                    |      |
|      |                             |                    |      |
|      |                             |                    |      |
|      |                             |                    |      |
|      |                             |                    |      |
|      |                             |                    |      |
|      |                             |                    |      |


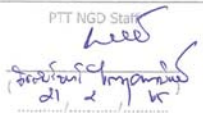

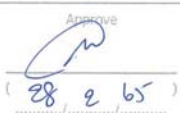
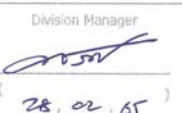
Gas Odeurization Present : ☒ YES ☐ NO

Complete of Visual Check : ☒ YES ☐ NO

PTT NGD Staff Signed : Signature Date : 21/2/65

PTT NGD Engineer Signed : Signature Date : 28/2/65

PTT NGD Manager Signed : Signature Date : 28/02/65

|   |                               |  |   |
|---|-------------------------------|--|---|
|    |                               | PM / Work Order  |   |
| Customer / Tag : OTS ROJANA   |                               | Work Order : PM27-000166   |   |
| Code : 91SKN9001<br>Name : Skid/Station   |                               | Work Order Date : 31.01.2022   |   |
| Work Type : PM  |                               | Work Request No :  |   |
| Cost Center : NG-ROJ-00000-P00-01   |                               | Maintenance Dept : NG-ST<br>Gas Station ไร่จันทบุรี  |   |
| Priority :  |                               | Request Dept :   |   |
| Problem / Job Detail<br>PM OTS ROJANA 3 MONTH                                       |                               |  |   |
| Estimate Start<br>01/02/2022  | Estimate Finish<br>28/02/2022 | PM Code<br>PM-NG-ROJ-00000-P00-01-Q  | Person<br>นายสมชาย ใจดี   |
| Actual Start<br>01/2/22   | Actual Finish<br>28/2/22      | Turbine/Rotary Gas Meter Index : ๙๘๕๐๒๙๑ ๙๘๕๐๒๙๑   |   |
| Corrected Volume Index : ๙๘๕๐๒๙๑  |                               | Action Code :  |   |
| Code/Name   |                               | Normal   | Abnormal  |
| 32) TT001B-Q009 Temperature Transmitter   |                               | ✓  | ○   |
| 33) FE010-Q010 Turbine Meter  |                               | ✓  | ○   |
| 34) FE011-Q010 Turbine Meter  |                               | ✓  | ○   |
| 35) FY010-Q012 Flow Computer  |                               | ✓  | ○   |
| 36) FY011-Q012 Flow Computer  |                               | ✓  | ○   |
| 37) M001-Q013 Skid/Station  |                               | ✓  | ○   |
| 38) ODR001-Q014 Odorant   |                               | ✓  | ○   |
| Remarks   |                               | 32) 33) 34) 35) 36) 37) 38)<br>๙๘๕๐๒๙๑ ๙๘๕๐๒๙๑<br>๙๘๕๐๒๙๑ ๙๘๕๐๒๙๑<br>๙๘๕๐๒๙๑ ๙๘๕๐๒๙๑<br>๙๘๕๐๒๙๑ ๙๘๕๐๒๙๑<br>๙๘๕๐๒๙๑ ๙๘๕๐๒๙๑<br>๙๘๕๐๒๙๑ ๙๘๕๐๒๙๑<br>๙๘๕๐๒๙๑ ๙๘๕๐๒๙๑ |   |
| PTT NGD Staff   |                               | Customer Staff   | Approval  |
|  |                               |   |  |
| Division Manager  |                               |    |   |



|   |                              |                              |                               |
|---|------------------------------|------------------------------|-------------------------------|
| EQUIPMENT:  |                              | HAND VALVE                   |                               |
| <input checked="" type="checkbox"/> OTS                 | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : <u>At-Blue</u> |
| TAG No. : <u>05-01</u>                                  |                              | TYPE/SPEC. : <u>1</u>        |                               |
| LOCATION/CUSTOMER : <u>1</u>                            |                              | SERIAL No. : <u>1</u>        |                               |
| AREA/ESTATE : <u>1</u>                                  |                              |                              |                               |
| INSPECTION TASK   |                              |                              |                               |
| AS SEEN :   | ACTION :                     | ACTION :                     | RESULT :                      |
| 1. SERVICED   | 5. CLEAN                     | 9. MODIFY                    | 13. READY                     |
| 2. OUT OF ORDER   | 6. REPAIR                    | 10. CALIBRATE                | 14. BE MONITORED              |
| 3. BREAKDOWN  | 7. REPLACED EQUIPMENT        | 11. RESET                    | 15. PARTS REQUIRED            |
| 4. DIRTINESS  | 8. REPLACED PART             | 12. VERIFY/DIAG.             | 16. TERMINATED                |
| DESCRIPTION   | AS SEEN                      | ACTION                       | RESULT                        |
| 1. CHECK AND CLEAN GENERAL OF HV                        | 1                            | 1                            | 1                             |
| 2. PERFORM OPERATE OPEN/CLOSE (DIRECTION)               | 1                            | 1                            | 1                             |
| 3. IF APPLICABLE, INSPECT GEAR BOX / GREASE AS REQUIRED | 1                            | 1                            | 1                             |
| 4. DRAIN BODY   | 1                            | 1                            | 1                             |
| 5. CHECK LEAK AT SEAT, STEM AND FLANGES OR THREAD       | 1                            | 1                            | 1                             |
| 6. CHECK AND SOLVE CORROSION OF BOLTS & NUTS            | 1                            | 1                            | 1                             |
| 7. INJECT SEALANT IF NECESSARY                          | 1                            | 1                            | 1                             |
| 8. CHECK CLEANING AND PAINTING OF HV                    | 1                            | 1                            | 1                             |
| 9. _____  | _____                        | _____                        | _____                         |
| COMMENT :   |                              |                              |                               |
| MATERIAL / PART USED                                    |                              |                              |                               |
| STOCK No.   | DESCRIPTION                  | MANUFACTURER                 | QUANTITY                      |
| _____   | _____                        | _____                        | _____                         |
| _____   | _____                        | _____                        | _____                         |
| _____   | _____                        | _____                        | _____                         |
| _____   | _____                        | _____                        | _____                         |
| INSPECTION DATE : 01/2/22                               | INSPECTED BY : <u>1</u>      |                              |                               |
| TASK No. : Q 001  |                              |                              |                               |
| PERIOD : 3 MONTH  |                              |                              |                               |



QP-FO-036-03

| EQUIPMENT:                              |                              | FILTER                       |                          |
|---|------------------------------|------------------------------|--------------------------|
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : <u>JO</u> |
| TAG No. : _____                         |                              |                              | TYPE/SPEC. : <u>OTS</u>  |
| LOCATION/CUSTOMER : _____               |                              |                              | SERIAL No. : <u>-</u>    |
| AREA/ESTATE : _____                     |                              |                              |                          |

### INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. INSPECT CASE OF FILTER                                 | 1       | ✓      | ✓      |
| 2. DIFFERENTIAL PRESSURE ACROSS FILTER                    | 1       | ✓      | ✓      |
| 2.1 BEFORE INSPECT FILTER                                 |         |        |        |
| DIFF PRESSURE : _____ 0 _____ mbarg                       | 1       | ✓      | ✓      |
| 2.2 INSPECT FILTER (IF DIFF PRESSURE OVER THAN 200 mbarg) | 1       | ✓      | ✓      |
| 2.3 AFTER INSPECT FILTER                                  |         |        |        |
| DIFF PRESSURE : _____ 0 _____ mbarg                       |         |        |        |
| 3. CLEAN AND GREASE O-RING AND GASKET                     | 1       | ✓      | ✓      |
| 4. LEAK CHECK AT FLANGE                                   | 1       | ✓      | ✓      |
| 5. DRIAN THE DIRT FROM FILTER                             |         |        |        |
| 6. _____  |         |        |        |

COMMENT :

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 21/2/68 INSPECTED BY : [Signature]

TASK No. : Q 002

PERIOD : 3 MONTH



OP-FO-036-03

| EQUIPMENT:                              |                              | SAFETY SHUT-OFF VALVE        |                                 |
|---|------------------------------|------------------------------|---------------------------------|
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : <u>Flow Chem</u> |
| TAG No. : _____                         |                              |                              | TYPE/SPEC. : <u>9D/12 1000</u>  |
| LOCATION/CUSTOMER : _____               |                              |                              | SERIAL No. : _____              |
| AREA/ESTATE : _____                     |                              |                              |                                 |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN   | ACTION   | RESULT   |
|---|---|----------|----------|
| 1. CHECK GENERAL CONDITION OF VALVE/PILOT             | <u>1</u>  | <u>2</u> | <u>1</u> |
| 2. CHECK TUBE FITTING / TIGHTEN AS REQUIRE            | <u>1</u>  | <u>2</u> | <u>1</u> |
| 3. CLEAN AND PAINTING                                 | <u>4</u>  | <u>5</u> | <u>1</u> |
| 4. INSPECT FLANGE CONNECTION ( CHECK LEAK )           | <u>1</u>  | <u>2</u> | <u>1</u> |
| 5. DIAGNOSTIC TEST                                    | <u>1</u>  | <u>2</u> | <u>1</u> |
| RUN <u>1</u> SET POINT : <u>6.5</u> / <u>6.5</u> barg | RUN <u>1</u> SET POINT : <u>7.5</u> / <u>7.5</u> barg |          |          |
| FOUND : <u>6.5</u> / <u>6.5</u> barg                  | FOUND : <u>7.5</u> / <u>7.5</u> barg                  |          |          |
| LEFT : <u>6.5</u> / <u>6.5</u> barg                   | LEFT : <u>7.5</u> / <u>7.5</u> barg                   |          |          |
| 6. IF APPLICABLE, CHECK PROXIMITY SWITCH AND WIRING   | <u>1</u>  | <u>2</u> | <u>1</u> |
| 7. CHECK LOCK UP                                      | <u>1</u>  | <u>2</u> | <u>1</u> |
| ACTIVE LOCK UP : <u>9.0</u> barg                      | STAND BY LOCK UP : <u>9.0</u> barg                    |          |          |
| 8. CHECK AND SOLVE CORROSION OF BOLTS & NUTS          | <u>1</u>  | <u>2</u> | <u>1</u> |
| 9. SSV ARE NORMALLY IN OPEN DIRECTION                 | <u>1</u>  | <u>2</u> | <u>1</u> |

COMMENT :

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 21/2/68 INSPECTED BY : [Signature]

TASK No.: Q 003

PERIOD : 3 MONTH





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CORPORATION

OP-FO-036-03

|   |                              |   |                           |
|---|------------------------------|---|---------------------------|
| EQUIPMENT: PRESSURE SAFETY VALVE (RELIEF VALVE) |                              |   |                           |
| <input checked="" type="checkbox"/> OTS         | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS                | MANUFACTURER : <u>ICV</u> |
| TAG No. : <u>A</u>                              |                              | TYPE/SPEC. : <u>APV + BSC 100</u>           |                           |
| LOCATION/CUSTOMER : <u>OB-Raj</u>               |                              | SERIAL No. : <u>-</u>                       |                           |
| AREA/ESTATE : <u>Raj</u>                        |                              | INLET / OUTLET PRESSURE (barg) : <u>5/5</u> |                           |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                       | AS SEEN  | ACTION           | RESULT        |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
|---|--|------------------|---------------|----------------|------------------|----------------|---------------|-----------------------|------------|------------------|---------------|---|----------|----------|----------|---|----------|----------|----------|
| 1. CHECK GENERAL CONDITION OF PSV                 | <u>1</u>   | <u>1</u>         | <u>1</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 2. THERE ARE NOT ANY OBSTRUCTION ON THE VENT LINE | <u>1</u>   | <u>1</u>         | <u>1</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 3. CHECK LEAK AT CONNECTION OR FLANGE             | <u>1</u>   | <u>1</u>         | <u>1</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 4. DIAGNOSTIC TEST                                | <u>1</u>   | <u>1</u>         | <u>1</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 5. TEST RESULT                                    | <table border="1"><thead><tr><th>TEST No.</th><th>SET POINT (barg)</th><th>ASFOUND (barg)</th><th>ASLEFT (barg)</th></tr></thead><tbody><tr><td>1</td><td><u>6</u></td><td><u>6</u></td><td><u>6</u></td></tr><tr><td>2</td><td><u>6</u></td><td><u>6</u></td><td><u>6</u></td></tr><tr><td>3</td><td><u>6</u></td><td><u>6</u></td><td><u>6</u></td></tr></tbody></table> |                  |               | TEST No.       | SET POINT (barg) | ASFOUND (barg) | ASLEFT (barg) | 1                     | <u>6</u>   | <u>6</u>         | <u>6</u>      | 2 | <u>6</u> | <u>6</u> | <u>6</u> | 3 | <u>6</u> | <u>6</u> | <u>6</u> |
| TEST No.  | SET POINT (barg)   | ASFOUND (barg)   | ASLEFT (barg) |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 1   | <u>6</u>   | <u>6</u>         | <u>6</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 2   | <u>6</u>   | <u>6</u>         | <u>6</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 3   | <u>6</u>   | <u>6</u>         | <u>6</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 7. TEST CONCLUSION                                | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> NOT PASS   |                  |               |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 8. TEST EQUIPMENT                                 | <table border="1"><thead><tr><th>EQUIPMENT NAME</th><th>MANUFACTURER</th><th>MODEL</th><th>SERIAL No.</th></tr></thead><tbody><tr><td><u>Pressure gauge</u></td><td><u>Beh</u></td><td><u>Beh gauge</u></td><td><u>21 kdx</u></td></tr></tbody></table>  |                  |               | EQUIPMENT NAME | MANUFACTURER     | MODEL          | SERIAL No.    | <u>Pressure gauge</u> | <u>Beh</u> | <u>Beh gauge</u> | <u>21 kdx</u> |   |          |          |          |   |          |          |          |
| EQUIPMENT NAME                                    | MANUFACTURER   | MODEL            | SERIAL No.    |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| <u>Pressure gauge</u>                             | <u>Beh</u>   | <u>Beh gauge</u> | <u>21 kdx</u> |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |

REMARKS : \_\_\_\_\_

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 01/2/68 INSPECTED BY : Lee  
CUSTOMER SIGN : \_\_\_\_\_

TASK No. : Q 004

PERIOD : 3 MONTH



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OP-FO-036-03

|   |                              |   |                           |
|---|------------------------------|---|---------------------------|
| EQUIPMENT: PRESSURE SAFETY VALVE (RELIEF VALVE) |                              |   |                           |
| <input checked="" type="checkbox"/> OTS         | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS                | MANUFACTURER : <u>ICV</u> |
| TAG No. : <u>B</u>                              |                              | TYPE/SPEC. : <u>APV + BSC 100</u>           |                           |
| LOCATION/CUSTOMER : <u>OB-Raj</u>               |                              | SERIAL No. : <u>-</u>                       |                           |
| AREA/ESTATE : <u>Raj</u>                        |                              | INLET / OUTLET PRESSURE (barg) : <u>5/5</u> |                           |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                       | AS SEEN  | ACTION           | RESULT        |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
|---|--|------------------|---------------|----------------|------------------|----------------|---------------|-----------------------|------------|------------------|---------------|---|----------|----------|----------|---|----------|----------|----------|
| 1. CHECK GENERAL CONDITION OF PSV                 | <u>1</u>   | <u>1</u>         | <u>1</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 2. THERE ARE NOT ANY OBSTRUCTION ON THE VENT LINE | <u>1</u>   | <u>1</u>         | <u>1</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 3. CHECK LEAK AT CONNECTION OR FLANGE             | <u>1</u>   | <u>1</u>         | <u>1</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 4. DIAGNOSTIC TEST                                | <u>1</u>   | <u>1</u>         | <u>1</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
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| TEST No.  | SET POINT (barg)   | ASFOUND (barg)   | ASLEFT (barg) |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 1   | <u>6</u>   | <u>6</u>         | <u>6</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 2   | <u>6</u>   | <u>6</u>         | <u>6</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 3   | <u>6</u>   | <u>6</u>         | <u>6</u>      |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 7. TEST CONCLUSION                                | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> NOT PASS   |                  |               |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| 8. TEST EQUIPMENT                                 | <table border="1"><thead><tr><th>EQUIPMENT NAME</th><th>MANUFACTURER</th><th>MODEL</th><th>SERIAL No.</th></tr></thead><tbody><tr><td><u>Pressure gauge</u></td><td><u>Beh</u></td><td><u>Beh gauge</u></td><td><u>21 kdx</u></td></tr></tbody></table>  |                  |               | EQUIPMENT NAME | MANUFACTURER     | MODEL          | SERIAL No.    | <u>Pressure gauge</u> | <u>Beh</u> | <u>Beh gauge</u> | <u>21 kdx</u> |   |          |          |          |   |          |          |          |
| EQUIPMENT NAME                                    | MANUFACTURER   | MODEL            | SERIAL No.    |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |
| <u>Pressure gauge</u>                             | <u>Beh</u>   | <u>Beh gauge</u> | <u>21 kdx</u> |                |                  |                |               |                       |            |                  |               |   |          |          |          |   |          |          |          |

REMARKS : \_\_\_\_\_

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 01/2/68 INSPECTED BY : Lee  
CUSTOMER SIGN : \_\_\_\_\_

TASK No. : Q 004

PERIOD : 3 MONTH





|  |                                   |   |
|--|-----------------------------------|---|
|  <b>PM / Work Order</b> |                                   | Work Order : PM22-000172<br>Work Order Date : 31/01/2022<br>Work Request No : |
| Customer / Tag : OTS ROJANA2   |                                   | Maintenance Dept : NG-ST<br>Gas Station ราชานวด                               |
| Code : 95SKN888<br>Name : Skid/Station   |                                   | Request Dept :  |
| Work Type : PM   | Cost Center : NG-ROI-00000-P00-02 | Priority :  |
| Problem / Job Detail :<br>PM OTS ROJANA2 3 MONTH   |                                   |   |

|                |                 |                           |               |
|----------------|-----------------|---------------------------|---------------|
| Estimate Start | Estimate Finish | PM Code                   | Person        |
| 01/02/2022     | 28/02/2022      | PM-NG-ROI-00000-P00-02-03 | นายสมชาย ใจดี |

|              |               |   |                                   |
|--------------|---------------|---|-----------------------------------|
| Actual Start | Actual Finish | Turbine/Rotary Gas Meter Index : 2.526153 | Corrected Volume Index : 2.526153 |
| 28/2/22      | 28/2/22       |   |                                   |
| Cause Code : |               | Action Code :                             |                                   |

| Code/Name                 | Normal | Abnormal | Remarks |
|---------------------------|--------|----------|---------|
| 32) OTS-ROI2-P1006A-Q006  | ✓      | 0        |         |
| 33) OTS-ROI2-P1006A-Q006  | ✓      | 0        |         |
| 34) OTS-ROI2-P1007A-Q006  | ✓      | 0        |         |
| 35) OTS-ROI2-P1007B-Q006  | ✓      | 0        |         |
| 36) OTS-ROI2-P1008-Q006   | ✓      | 0        |         |
| 37) OTS-ROI2-PSV001A-Q004 | ✓      | 0        |         |
| 38) OTS-ROI2-PSV001B-Q004 | ✓      | 0        |         |
| 39) OTS-ROI2-PSV002A-Q004 | ✓      | 0        |         |
| 40) OTS-ROI2-PSV002B-Q004 | ✓      | 0        |         |
| 41) OTS-ROI2-PT001-Q008   | ✓      | 0        |         |
| 42) OTS-ROI2-PT002A-Q008  | ✓      | 0        |         |
| 43) OTS-ROI2-PT002B-Q008  | ✓      | 0        |         |
| 44) OTS-ROI2-PT003-Q008   | ✓      | 0        |         |
| 45) OTS-ROI2-PT004-Q008   | ✓      | 0        |         |
| 46) OTS-ROI2-SSV001A-Q003 | ✓      | 0        |         |
| 47) OTS-ROI2-SSV002A-Q003 | ✓      | 0        |         |
| 48) OTS-ROI2-SSV002B-Q003 | ✓      | 0        |         |
| 49) OTS-ROI2-SSV003A-Q003 | ✓      | 0        |         |
| 50) OTS-ROI2-SSV003B-Q003 | ✓      | 0        |         |
| 51) OTS-ROI2-TT001-Q007   | ✓      | 0        |         |
| 52) OTS-ROI2-TT001A-Q009  | ✓      | 0        |         |
| 53) OTS-ROI2-TT001B-Q009  | ✓      | 0        |         |
| 54) OTS-ROI2-SSV001B-Q003 | ✓      | 0        |         |
| 55) ODR001-Q014 Odorant   | ✓      | 0        |         |

Signal 03 + Lighting  
0.6 - 2.65 L.

|  |   |  |  |
|--|---|--|--|
| PTT NGD Staff<br> | Customer Staff<br> | Approve<br> | Division Manager<br> |
|--|---|--|--|



|   |  |
|---|--|
| EQUIPMENT: HAND VALVE   |  |
| <input checked="" type="checkbox"/> OTS<br><input type="checkbox"/> PRS<br><input type="checkbox"/> MRS | MANUFACTURER : <u>Domina</u><br>TYPE/SPEC. : <u>5.1.1.1.1.1</u><br>SERIAL No. : <u>1</u> |
| TAG No. : <u>05-042</u><br>LOCATION/CUSTOMER : <u>Ref</u><br>AREA/ESTATE : <u>Ref</u>                   |  |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. CHECK AND CLEAN GENERAL OF HV                        | 1       | 1      | D      |
| 2. PERFORM OPERATE OPEN/CLOSE (DIRECTION)               | 1       | 1      | D      |
| 3. IF APPLICABLE, INSPECT GEAR BOX / GREASE AS REQUIRED | 1       | 1      | D      |
| 4. DRAIN BODY   | 1       | 1      | D      |
| 5. CHECK LEAK AT SEAT, STEM AND FLANGES OR THREAD       | 1       | 1      | D      |
| 6. CHECK AND SOLVE CORROSION OF BOLTS & NUTS            | 1       | 1      | D      |
| 7. INJECT SEALANT IF NECESSARY                          | 1       | 1      | D      |
| 8. CHECK CLEANING AND PAINTING OF HV                    | 1       | 1      | D      |
| 9. _____  | _____   | _____  | _____  |

COMMENT : \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

| MATERIAL / PART USED | STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|----------------------|-----------|-------------|--------------|----------|
|                      |           |             |              |          |
|                      |           |             |              |          |
|                      |           |             |              |          |
|                      |           |             |              |          |

INSPECTION DATE : 28/2/22 INSPECTED BY : 

TASK No. : Q 001

PERIOD : 3 MONTH

| EQUIPMENT:                              |                              | FILTER                       |                             |
|---|------------------------------|------------------------------|-----------------------------|
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : <u>PLATE</u> |
| TAG No. :                               |                              |                              | TYPE/SPEC. : <u>RX403</u>   |
| LOCATION/CUSTOMER : <u>OB-242</u>       |                              |                              | SERIAL No. : <u>-</u>       |
| AREA/ESTATE : <u>Ry</u>                 |                              |                              |                             |

| INSPECTION TASK |                       |                  |                    |
|-----------------|-----------------------|------------------|--------------------|
| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN  | ACTION   | RESULT   |
|---|----------|----------|----------|
| 1. INSPECT CASE OF FILTER                                 | <u>1</u> | <u>✓</u> | <u>B</u> |
| 2. DIFFERENTIAL PRESSURE ACROSS FILTER                    | <u>1</u> | <u>✓</u> | <u>B</u> |
| 2.1 BEFORE INSPECT FILTER                                 | <u>0</u> |          |          |
| DIFF PRESSURE : _____ mbarg                               |          |          |          |
| 2.2 INSPECT FILTER (IF DIFF PRESSURE OVER THAN 200 mbarg) | <u>1</u> | <u>✓</u> | <u>B</u> |
| 2.3 AFTER INSPECT FILTER                                  | <u>0</u> | <u>✓</u> | <u>B</u> |
| DIFF PRESSURE : _____ mbarg                               |          |          |          |
| 3. CLEAN AND GREASE O-RING AND GASKET                     | <u>1</u> | <u>✓</u> | <u>B</u> |
| 4. LEAK CHECK AT FLANGE                                   | <u>1</u> | <u>✓</u> | <u>B</u> |
| 5. DRIAN THE DIRT FROM FILTER                             |          |          |          |
| 6. _____  |          |          |          |

COMMENT : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |

INSPECTION DATE : 25/12/65 INSPECTED BY : luc

| EQUIPMENT:                              |                              | SAFETY SHUT-OFF VALVE        |                                |
|---|------------------------------|------------------------------|--------------------------------|
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : <u>ROCKWELL</u> |
| TAG No. :                               |                              |                              | TYPE/SPEC. : <u>RNG 750</u>    |
| LOCATION/CUSTOMER : <u>OB-242</u>       |                              |                              | SERIAL No. : <u>-</u>          |
| AREA/ESTATE : <u>Ry</u>                 |                              |                              |                                |

| INSPECTION TASK |                       |                  |                    |
|-----------------|-----------------------|------------------|--------------------|
| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN                 | ACTION   | RESULT   |
|---|-------------------------|----------|----------|
| 1. CHECK GENERAL CONDITION OF VALVE/PILOT                                   | <u>1</u>                | <u>✓</u> | <u>B</u> |
| 2. CHECK TUBE FITTING / TIGHTEN AS REQUIRE                                  | <u>0</u>                | <u>✓</u> | <u>B</u> |
| 3. CLEAN AND PAINTING   | <u>1</u>                | <u>✓</u> | <u>B</u> |
| 4. INSPECT FLANGE CONNECTION ( CHECK LEAK )                                 | <u>1</u>                | <u>✓</u> | <u>B</u> |
| 5. DIAGNOSTIC TEST  |                         |          |          |
| RUN <input checked="" type="checkbox"/> SET POINT : <u>15, 15, 6.5</u> barg | <u>20, 20, 7.5</u>      |          |          |
| FOUND : <u>15, 15, 6.5</u> barg   | <u>20, 20, 7.5</u> barg |          |          |
| LEFT : <u>15, 15, 6.5</u> barg  | <u>20, 20, 7.5</u> barg |          |          |
| 6. IF APPLICABLE, CHECK PROXIMITY SWITCH AND WIRING                         | <u>1</u>                | <u>✓</u> | <u>B</u> |
| 7. CHECK LOCK UP  |                         |          |          |
| ACTIVE LOCK UP : <u>0.0</u> barg  | <u>0.0</u> barg         |          |          |
| 8. CHECK AND SOLVE CORROSION OF BOLTS & NUTS                                | <u>1</u>                | <u>✓</u> | <u>B</u> |
| 9. SSV ARE NORMALLY IN OPEN DIRECTION                                       | <u>1</u>                | <u>✓</u> | <u>B</u> |

COMMENT : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |

INSPECTION DATE : 25/12/65 INSPECTED BY : luc



OP-FO-036-03

EQUIPMENT: PRESSURE SAFETY VALVE (RELIEF VALVE)

☒ OTS ☐ PRS ☐ MRS MANUFACTURER: DEPSEK

TAG No.: A TYPE/SPEC.: 7912000C KCMSS1

LOCATION/CUSTOMER: 08-242 SERIAL No.: -

AREA/STATE: 2 INLET / OUTLET PRESSURE (barg): 20/15

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                       | AS SEEN  | ACTION   | RESULT   |
|---|----------|----------|----------|
| 1. CHECK GENERAL CONDITION OF PSV                 | <u>1</u> | <u>1</u> | <u>B</u> |
| 2. THERE ARE NOT ANY OBSTRUCTION ON THE VENT LINE | <u>1</u> | <u>1</u> | <u>B</u> |
| 3. CHECK LEAK AT CONNECTION OR FLANGE             | <u>1</u> | <u>1</u> | <u>B</u> |
| 4. DIAGNOSTIC TEST                                | <u>1</u> | <u>1</u> | <u>B</u> |

## 5. TEST RESULT

| TEST No. | SET POINT (barg) | ASFOUND (barg) | ASLEFT (barg) |
|----------|------------------|----------------|---------------|
| 1        | <u>17</u>        | <u>17</u>      | <u>17</u>     |
| 2        |                  | <u>17</u>      | <u>17</u>     |
| 3        |                  | <u>17</u>      | <u>17</u>     |

## 7. TEST CONCLUSION

☒ PASS ☐ NOT PASS

## 8. TEST EQUIPMENT

|                |                |
|----------------|----------------|
| EQUIPMENT NAME | <u>Penerap</u> |
| MANUFACTURER   | <u>Bek</u>     |
| MODEL          | <u>Bek</u>     |
| SERIAL No.     | <u>21000</u>   |

REMARKS :

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE :

25/2/20

INSPECTED BY :

CUSTOMER SIGN :

TASK No.: Q 004

PERIOD : 3 MONTH



OP-FO-036-03

EQUIPMENT: PRESSURE SAFETY VALVE (RELIEF VALVE)

☒ OTS ☐ PRS ☐ MRS MANUFACTURER: DEPSEK

TAG No.: B TYPE/SPEC.: 7912000C KCMSS1

LOCATION/CUSTOMER: 08-242 SERIAL No.: -

AREA/STATE: 2 INLET / OUTLET PRESSURE (barg): 20/15

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                       | AS SEEN  | ACTION   | RESULT   |
|---|----------|----------|----------|
| 1. CHECK GENERAL CONDITION OF PSV                 | <u>1</u> | <u>1</u> | <u>B</u> |
| 2. THERE ARE NOT ANY OBSTRUCTION ON THE VENT LINE | <u>1</u> | <u>1</u> | <u>B</u> |
| 3. CHECK LEAK AT CONNECTION OR FLANGE             | <u>1</u> | <u>1</u> | <u>B</u> |
| 4. DIAGNOSTIC TEST                                | <u>1</u> | <u>1</u> | <u>B</u> |

## 5. TEST RESULT

| TEST No. | SET POINT (barg) | ASFOUND (barg) | ASLEFT (barg) |
|----------|------------------|----------------|---------------|
| 1        | <u>17</u>        | <u>17</u>      | <u>17</u>     |
| 2        |                  | <u>17</u>      | <u>17</u>     |
| 3        |                  | <u>17</u>      | <u>17</u>     |

## 7. TEST CONCLUSION

☒ PASS ☐ NOT PASS

## 8. TEST EQUIPMENT

|                |                |
|----------------|----------------|
| EQUIPMENT NAME | <u>Penerap</u> |
| MANUFACTURER   | <u>Bek</u>     |
| MODEL          | <u>Bek</u>     |
| SERIAL No.     | <u>21000</u>   |

REMARKS :

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE :

25/2/20

INSPECTED BY :

CUSTOMER SIGN :

TASK No.: Q 004

PERIOD : 3 MONTH





## PM / Work Order

Work Order: PM22-000176

Work Order Date: 31/01/2022

Work Request No:

Customer / Tag: PRSS ROJANA

Maintenance Dept: NG-ST  
Gas Station 177777

Code: 93SKN7777

Name: Skid/Station

Request Dept:

Work Type: PM

Cost Center: NG-ROJ-00000-P00-11

Priority:

Problem / Job Detail

PM PRSS ROJANA 3 MONTH

| Estimate Start | Estimate Finish | PM Code                  | Person               |
|----------------|-----------------|--------------------------|----------------------|
| 31/01/2022     | 28/02/2022      | PM-NG-ROJ-00000-P00-11-Q | นายสุวิทย์ วัฒนวิทย์ |

| Actual Start | Actual Finish | Turbine/Rotary Gas Meter Index: |
|--------------|---------------|---------------------------------|
| 22/2/65      | 22/2/65       | 16.16                           |

| Cause Code: | Action Code: |
|-------------|--------------|
|-------------|--------------|

| Code/Name                 | Normal | Abnormal | Remarks |
|---------------------------|--------|----------|---------|
| 1) PRSS-ROJ-F001A-Q002    |        |          |         |
| 2) PRSS-ROJ-F001B-Q002    |        |          |         |
| 3) PRSS-ROJ-HV001A-Q001   |        |          |         |
| 4) PRSS-ROJ-HV001B-Q001   |        |          |         |
| 5) PRSS-ROJ-HV002A-Q001   |        |          |         |
| 6) PRSS-ROJ-HV002B-Q001   |        |          |         |
| 7) PRSS-ROJ-M001-Q003     |        |          |         |
| 8) PRSS-ROJ-PCV001A-Q005  |        |          |         |
| 9) PRSS-ROJ-PCV001B-Q005  |        |          |         |
| 10) PRSS-ROJ-P1001-Q006   |        |          |         |
| 11) PRSS-ROJ-P1002A-Q006  |        |          |         |
| 12) PRSS-ROJ-P1002B-Q006  |        |          |         |
| 13) PRSS-ROJ-P1003-Q006   |        |          |         |
| 14) PRSS-ROJ-PSV001A-Q004 |        |          |         |
| 15) PRSS-ROJ-PSV001B-Q004 |        |          |         |
| 16) PRSS-ROJ-PT001-Q008   |        |          |         |
| 17) PRSS-ROJ-PT002-Q008   |        |          |         |
| 18) PRSS-ROJ-SSV001A-Q003 |        |          |         |
| 19) PRSS-ROJ-SSV001B-Q003 |        |          |         |
| 20) PRSS-ROJ-SSV002A-Q005 |        |          |         |
| 21) PRSS-ROJ-SSV002B-Q005 |        |          |         |
| 22) PRSS-ROJ-TB001-Q007   |        |          |         |

2) signal PRS + backup + big leak  
0.35 - 0.62 L.

PTT NGD Staff

Customer Staff

Approve

Division Manager

Signature of Approver  
28/2/65

Signature of Customer Staff  
28/2/65

Signature of Approver  
28/2/65

Signature of Division Manager  
28/02/65



## OTS / PRS / MRS PM REPORT FORM

Customer / Location: 428-5

Area: Ray

Date of Maintenance: 22/2/65

Time: 16:00

Type of Maintenance:

3/5 Year PM

1 Year PM

6 Month PM

3 Month PM

1 Month PM

## DIAGNOSTIC &amp; RECORD PARTS

Inlet Pressure:

14.6

Bar g

a) Index at gas meter (V)

Turbine G

Outlet Pressure:

Bar g

b) Corrected volume at EVC (Vb)

Set Point

Stream 1

Stream 2

c) Uncorrected volume at EVC

(Bar g. / mbar g.)

(Bar g. / mbar g.)

d) Pressure (BarA)

PCV 1st state

1.5

4.5

e) Temperature (°C)

PCV override mon.

f) Correction Factor

PCV 2nd state

g) Qmax, Max Flow

PSV

6

6

h) Qb, Flow Rates

SSV 1st

6.5

2.5

i) Alarm Shown

SSV 2nd

6.5

2.5

j) Battery Shown

Pulse Inspection from Gas Meter to Volume Corrector:

ไม่ EVC

Turbine/Rotary Gas Meter Rotating Check:

CP System: Inlet Flange Voltage: 1.346 V., Outlet Flange Voltage: 1.346 V., DC Decoupler: 1.346 V.

Details:

no signal at PCV (2) gas meter + big leak  
- 0.35 - 0.62 L.

## REPAIRED/CHANGED/REQUIRED PARTS

| Item | Overhaul/Take-off Equipment | Change Part Detail | Code |
|------|-----------------------------|--------------------|------|
|      |                             |                    |      |
|      |                             |                    |      |
|      |                             |                    |      |
|      |                             |                    |      |

Gas Oderization Present:

☒ YES☐ NO

Complete of Visual Check:

☒ YES☐ NO

PTT NGD Staff Signed:

Date:

22/2/65

PTT NGD Engineer Signed:

Date:

28/2/65

PTT NGD Manager Signed:

Date:

28/02/65



PTT (Public) Co., Ltd.  
National Gas Distribution Corporation  
Public Utility Service

OP-FO-036-03

| EQUIPMENT:                   |   | HAND VALVE                     |                            |
|------------------------------|---|--------------------------------|----------------------------|
| <input type="checkbox"/> OTS | <input checked="" type="checkbox"/> PRS | <input type="checkbox"/> MRS   | MANUFACTURER : <u>DECO</u> |
| TAG No. : _____              |   | TYPE/SPEC. : <u>Ball Valve</u> |                            |
| LOCATION/CUSTOMER : _____    |   | SERIAL No. : _____             |                            |
| AREA/ESTATE : _____          |   |                                |                            |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN  | ACTION    | RESULT    |
|---|----------|-----------|-----------|
| 1. CHECK AND CLEAN GENERAL OF HV                        | <u>1</u> | <u>12</u> | <u>15</u> |
| 2. PERFORM OPERATE OPEN/CLOSE (DIRECTION)               | <u>1</u> | <u>12</u> | <u>15</u> |
| 3. IF APPLICABLE, INSPECT GEAR BOX / GREASE AS REQUIRED | <u>1</u> | <u>12</u> | <u>15</u> |
| 4. DRAIN BODY   | <u>1</u> | <u>12</u> | <u>15</u> |
| 5. CHECK LEAK AT SEAT, STEM AND FLANGES OR THREAD       | <u>1</u> | <u>12</u> | <u>15</u> |
| 6. CHECK AND SOLVE CORROSION OF BOLTS & NUTS            | <u>1</u> | <u>12</u> | <u>15</u> |
| 7. INJECT SEALANT IF NECESSARY                          | <u>1</u> | <u>12</u> | <u>15</u> |
| 8. CHECK CLEANING AND PAINTING OF HV                    | <u>1</u> | <u>12</u> | <u>15</u> |
| 9. _____  | _____    | _____     | _____     |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |

INSPECTION DATE : 30/2/65 INSPECTED BY : [Signature]

TASK No. : Q 001

PERIOD : 3 MONTH



PTT (Public) Co., Ltd.  
National Gas Distribution Corporation  
Public Utility Service

OP-FO-036-03

| EQUIPMENT:                   |   | FILTER                       |                            |
|------------------------------|---|------------------------------|----------------------------|
| <input type="checkbox"/> OTS | <input checked="" type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : <u>DECO</u> |
| TAG No. : _____              |   | TYPE/SPEC. : <u>RD403</u>    |                            |
| LOCATION/CUSTOMER : _____    |   | SERIAL No. : _____           |                            |
| AREA/ESTATE : _____          |   |                              |                            |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN  | ACTION    | RESULT    |
|---|----------|-----------|-----------|
| 1. INSPECT CASE OF FILTER                                 | <u>1</u> | <u>12</u> | <u>15</u> |
| 2. DIFFERENTIAL PRESSURE ACROSS FILTER                    | <u>1</u> | <u>12</u> | <u>15</u> |
| 2.1 BEFORE INSPECT FILTER                                 | <u>1</u> | <u>12</u> | <u>15</u> |
| DIFF PRESSURE : _____ mbarg                               | <u>1</u> | <u>12</u> | <u>15</u> |
| 2.2 INSPECT FILTER (IF DIFF PRESSURE OVER THAN 200 mbarg) | <u>1</u> | <u>12</u> | <u>15</u> |
| 2.3 AFTER INSPECT FILTER                                  | <u>1</u> | <u>12</u> | <u>15</u> |
| DIFF PRESSURE : _____ mbarg                               | <u>1</u> | <u>12</u> | <u>15</u> |
| 3. CLEAN AND GREASE O-RING AND GASKET                     | <u>1</u> | <u>12</u> | <u>15</u> |
| 4. LEAK CHECK AT FLANGE                                   | <u>1</u> | <u>12</u> | <u>15</u> |
| 5. DRIAN THE DIRT FROM FILTER                             | <u>1</u> | <u>12</u> | <u>15</u> |
| 6. _____  | _____    | _____     | _____     |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |
| _____                | _____       | _____        | _____    |

INSPECTION DATE : 30/2/65 INSPECTED BY : [Signature]

TASK No. : Q 002

PERIOD : 3 MONTH



|   |                               |
|---|-------------------------------|
| EQUIPMENT: SAFETY SHUT-OFF VALVE  |                               |
| <input type="checkbox"/> OTS <input checked="" type="checkbox"/> PRS <input type="checkbox"/> MRS | MANUFACTURER : <u>HOZMEK</u>  |
| TAG No. : _____   | TYPE/SPEC. : <u>50mm 10kg</u> |
| LOCATION/CUSTOMER : _____   | SERIAL No. : _____            |
| AREA/ESTATE : _____   |                               |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION  | AS SEEN  | ACTION | RESULT |
|--|--|--------|--------|
| 1. CHECK GENERAL CONDITION OF VALVE/PILOT                                      | 1  | 12     | 13     |
| 2. CHECK TUBE FITTING / TIGHTEN AS REQUIRE                                     | 1  | 12     | 13     |
| 3. CLEAN AND PAINTING  | 4  | 5      | 13     |
| 4. INSPECT FLANGE CONNECTION ( CHECK LEAK )                                    | 1  | 12     | 13     |
| 5. DIAGNOSTIC TEST   | 1  | 12     | 13     |
| RUN <input checked="" type="checkbox"/> SET POINT : <u>6.5</u> <u>6.5</u> barg | RUN <input checked="" type="checkbox"/> SET POINT : <u>9.5</u> <u>9.5</u> barg |        |        |
| FOUND : <u>6.5</u> <u>6.5</u> barg   | FOUND : <u>9.5</u> <u>9.5</u> barg   |        |        |
| LEFT : <u>6.5</u> <u>6.5</u> barg  | LEFT : <u>9.5</u> <u>9.5</u> barg  |        |        |
| 6. IF APPLICABLE, CHECK PROXIMITY SWITCH AND WIRING                            | 1  | 12     | 13     |
| 7. CHECK LOCK UP   | 1  | 12     | 13     |
| ACTIVE LOCK UP : <u>0.0</u> barg   | STAND BY LOCK UP : <u>0.0</u> barg   |        |        |
| 8. CHECK AND SOLVE CORROSION OF BOLTS & NUTS                                   | 1  | 12     | 13     |
| 9. SSV ARE NORMALLY IN OPEN DIRECTION  |  |        |        |
| COMMENT :  |  |        |        |

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 22/3/65 INSPECTED BY : luek

TASK No. : Q 003

PERIOD : 3 MONTH

|   |  |
|---|--|
| EQUIPMENT: PRESSURE SAFETY VALVE (RELIEF VALVE)   |  |
| <input type="checkbox"/> OTS <input checked="" type="checkbox"/> PRS <input type="checkbox"/> MRS | MANUFACTURER : <u>PRESTO</u>                     |
| TAG No. : _____   | TYPE/SPEC. : <u>1010-00RC-1CC-11531</u>          |
| LOCATION/CUSTOMER : _____   | SERIAL No. : _____                               |
| AREA/ESTATE : _____   | INLET / OUTLET PRESSURE (barg) : <u>10.0 / 6</u> |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                       | AS SEEN  | ACTION         | RESULT        |
|---|--|----------------|---------------|
| 1. CHECK GENERAL CONDITION OF PSV                 | 1  | 12             | 13            |
| 2. THERE ARE NOT ANY OBSTRUCTION ON THE VENT LINE | 1  | 12             | 13            |
| 3. CHECK LEAK AT CONNECTION OR FLANGE             | 1  | 12             | 13            |
| 4. DIAGNOSTIC TEST                                | 1  | 12             | 13            |
| 5. TEST RESULT                                    |  |                |               |
| TEST No.  | SET POINT (barg)   | ASFOUND (barg) | ASLEFT (barg) |
| 1   | 6  | 6              | 6             |
| 2   | 6  | 6              | 6             |
| 3   | 6  | 6              | 6             |
| 7. TEST CONCLUSION                                | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> NOT PASS |                |               |
| 8. TEST EQUIPMENT                                 |  |                |               |
| EQUIPMENT NAME                                    | <u>Pressure gauge</u>  |                |               |
| MANUFACTURER                                      | <u>Beh</u>   |                |               |
| MODEL   | <u>Beh gauge</u>   |                |               |
| SERIAL No.  | <u>210012</u>  |                |               |

REMARKS : \_\_\_\_\_

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 22/3/65 INSPECTED BY : luek

CUSTOMER SIGN : \_\_\_\_\_

TASK No. : Q 004

PERIOD : 3 MONTH

EQUIPMENT: PRESSURE CONTROL VALVE

☐ OTS ☒ PRS ☐ MRS MANUFACTURER : Force

TAG No. : 21120039 TYPE/SPEC. : PRV

LOCATION/CUSTOMER : PRV SERIAL No. : -

AREA/ESTATE : PRV

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN   | ACTION   | RESULT   |
|---|---|----------|----------|
| 1. CHECK GENERAL CONDITION OF VALVE/PILOT                         | <u>1</u>  | <u>1</u> | <u>1</u> |
| 2. INSPECT TUBE FITTING / TIGHTEN AS REQUIRE                      | <u>1</u>  | <u>1</u> | <u>1</u> |
| 3. CLEAN AND PAINTING   | <u>1</u>  | <u>1</u> | <u>1</u> |
| 4. INSPECT FLANGE CONNECTION ( CHECK LEAK )                       | <u>1</u>  | <u>1</u> | <u>1</u> |
| 5. DIAGNOSTIC TEST AND CHECK CONDITION OF PRESSURE                | <u>1</u>  | <u>1</u> | <u>1</u> |
| RUN <input checked="" type="checkbox"/> SET POINT : <u>5</u> barg | RUN <input checked="" type="checkbox"/> SET POINT : <u>5</u> barg |          |          |
| FOUND : <u>5</u> barg   | FOUND : <u>5</u> barg   |          |          |
| LEFT : <u>5</u> barg  | LEFT : <u>5</u> barg  |          |          |
| 6. IF APPLICABLE, CHECK PROXIMITY SWITCH AND WIRING               | <u>1</u>  | <u>1</u> | <u>1</u> |
| 7. CHECK LOCK UP  | <u>1</u>  | <u>1</u> | <u>1</u> |
| ACTIVE LOCK UP : <u>0.15</u> barg                                 | STAND-BY LOCK UP : <u>0.10</u> barg                               |          |          |
| 8. CHECK AND SOLVE CORROSION OF BOLTS & NUTS                      | <u>1</u>  | <u>1</u> | <u>1</u> |
| 9. CORRECT PCV OPERATE (NOT MONITOR)                              | <u>1</u>  | <u>1</u> | <u>1</u> |
| 10. IF APPLICABLE, INSPECT FILTER AT RESTRICTOR                   | <u>1</u>  | <u>1</u> | <u>1</u> |
| COMMENT :   |   |          |          |

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 22/2/68 INSPECTED BY : WES

TASK No. : Q 005

PERIOD : 3 MONTH

EQUIPMENT: INLET PRESSURE INDICATOR

☐ OTS ☐ PRS ☒ MRS MANUFACTURER : PRV

TAG No. : 21120039 TYPE/SPEC. : PRV

LOCATION/CUSTOMER : PRV SERIAL No. : 14.6

AREA/ESTATE : PRV INLET / OUTLET PRESSURE (barg) : 14.6

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                      | AS SEEN  | ACTION   | RESULT   |
|--|----------|----------|----------|
| 1. CHECK GENERAL CONDITION OF PRESSURE INDICATOR | <u>1</u> | <u>1</u> | <u>1</u> |
| 2. CHECK LEAK AT CONNECTION OR THREAD            | <u>1</u> | <u>1</u> | <u>1</u> |
| 3. DIAGNOSTIC TEST                               | <u>1</u> | <u>1</u> | <u>1</u> |
| 4. ZERO RESULT BY BLOW OFF                       | <u>1</u> | <u>1</u> | <u>1</u> |

| TEST No. | TEST POINT | SET POINT (barg) | ASFOUND (barg) |
|----------|------------|------------------|----------------|
| 1        | ZERO       | 0                | 0              |
| 2        | READING    | 14.6             | 14.6           |

|                    |  |
|--------------------|--|
| 6. TEST CONCLUSION | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> NOT PASS |
| 7. TEST EQUIPMENT  |  |
| EQUIPMENT NAME     | <u>Pressure gauge</u>  |
| MANUFACTURER       | <u>PRV</u>   |
| MODEL              | <u>PRV</u>   |
| SERIAL No.         | <u>21120039</u>  |

REMARKS :

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 22/2/68 INSPECTED BY : WES

TASK No. : Q 006

PERIOD : 3 MONTH

|  |  | OTS / PRS / MRS PM REPORT FORM   |   |
|--|--|--|---|
| Customer / Location : <span style="float: right;">Panasonic</span>   |  |  |   |
| Area : <span style="float: right;">205</span>  |  |  |   |
| Date of Maintenance : <span style="float: right;">8/2/65</span>  |  | Time : <span style="float: right;">09.30 - 11.40</span>  |   |
| Type of Maintenance :  |  | 3/5 Year PM <input type="checkbox"/> 1 Year PM <input type="checkbox"/> 6 Month PM <input type="checkbox"/> 3 Month PM <input checked="" type="checkbox"/> 1 Month PM <input type="checkbox"/> |   |
| DIAGNOSTIC & RECORD PARTS  |  |  |   |
| Inlet Pressure : <span style="float: right;">4.9</span>  |  | a) Index at gas meter (V) <span style="float: right;">5268135</span> Turbine G <span style="float: right;">250</span>  |   |
| Outlet Pressure : <span style="float: right;">1.621</span>   |  | b) Corrected volume at EVC (Vb) <span style="float: right;">5947975</span>   |   |
| Set Point  | Stream 1                               | Stream 2   | c) Uncorrected volume at EVC <span style="float: right;">0268136</span> |
|  | (Bar g. / mbar g.)                     | (Bar g. / mbar g.)   | d) Pressure (BarA) <span style="float: right;">2.621</span>             |
| PCV 1st state  | <span style="float: right;">1.6</span> | <span style="float: right;">1.5</span>   | e) Temperature (°C) <span style="float: right;">33.21</span>            |
| PCV override mon.  | <span style="float: right;">-</span>   | <span style="float: right;">-</span>   | f) Correction Factor <span style="float: right;">2.4381</span>          |
| PCV 2nd state  | <span style="float: right;">-</span>   | <span style="float: right;">-</span>   | g) Qmax, Max Flow <span style="float: right;">61 803/h</span>           |
| PSV  | <span style="float: right;">2.0</span> | <span style="float: right;">2.0</span>   | h) Qb, Flow Rates <span style="float: right;">58.4 803/h</span>         |
| SSV 1st  | <span style="float: right;">2.4</span> | <span style="float: right;">2.6</span>   | i) Alarm Shown <span style="float: right;">00</span>                    |
| SSV 2nd  | <span style="float: right;">-</span>   | <span style="float: right;">-</span>   | j) Battery Shown <span style="float: right;">250 days</span>            |
| Pulse Inspection from Gas Meter to Volume Corrector : <span style="float: right;">2 min</span>   |  |  | <input type="checkbox"/> hi EVC   |
| Turbine/Rotary Gas Meter Rotating Check : <span style="float: right;">2 min</span>   |  |  |   |
| CP System : Inlet Flange Voltage <span style="float: right;">1.913 V</span> , Outlet Flange Voltage <span style="float: right;">1.913 V</span> , DC Decoupler <span style="float: right;">-</span> |  |  |   |
| Details :  |  |  |   |
|  |  |  |   |
|  |  |  |   |
|  |  |  |   |
| REPAIRED/CHANGED/REQUIRED PARTS  |  |  |   |
| Item   | Overhaul/Take-off Equipment            | Change Part Detail   | Code  |
|  |  |  |   |
|  |  |  |   |
|  |  |  |   |
|  |  |  |   |
| Gas Oderization Present : <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO  |  |  |   |
| Complete of Visual Check : <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO   |  |  |   |
| PTT NGD Staff Signed : <span style="float: right;">[Signature]</span>  |  | Date : <span style="float: right;">8/2/65</span>   |   |
| PTT NGD Engineer Signed : <span style="float: right;">[Signature]</span>   |  | Date : <span style="float: right;">28/2/65</span>  |   |
| PTT NGD Manager Signed : <span style="float: right;">[Signature]</span>  |  | Date : <span style="float: right;">28/2/65</span>  |   |





OP-FO-036-03

|                               |                              |   |                |
|-------------------------------|------------------------------|---|----------------|
| EQUIPMENT:                    |                              | HAND VALVE                              |                |
| <input type="checkbox"/> OTS  | <input type="checkbox"/> PRS | <input checked="" type="checkbox"/> MRS | MANUFACTURER : |
| TAG No. :                     |                              | TYPE/SPEC. : BV, BF                     |                |
| LOCATION/CUSTOMER : Panasonic |                              | SERIAL No. : -                          |                |
| AREA/ESTATE : ROS             |                              |   |                |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. CHECK AND CLEAN GENERAL OF HV                        | 6       | 5      | 13     |
| 2. PERFORM OPERATE OPEN/CLOSE (DIRECTION)               | 7       | 12     | 13     |
| 3. IF APPLICABLE, INSPECT GEAR BOX / GREASE AS REQUIRED | -       | -      | -      |
| 4. DRAIN BODY   | -       | -      | -      |
| 5. CHECK LEAK AT SEAT, STEM AND FLANGES OR THREAD       | 1       | 12     | 13     |
| 6. CHECK AND SOLVE CORROSION OF BOLTS & NUTS            | 6       | 12     | 13     |
| 7. INJECT SEALANT IF NECESSARY                          | -       | -      | -      |
| 8. CHECK CLEANING AND PAINTING OF HV                    | 6       | 12     | 13     |
| 9. _____  | _____   | _____  | _____  |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |

INSPECTION DATE : 8/2/05 INSPECTED BY : B. J. H. S.

TASK No. : Q 001

PERIOD : 3 MONTH



OP-FO-036-03

|                               |                              |   |                        |
|-------------------------------|------------------------------|---|------------------------|
| EQUIPMENT:                    |                              | FILTER                                  |                        |
| <input type="checkbox"/> OTS  | <input type="checkbox"/> PRS | <input checked="" type="checkbox"/> MRS | MANUFACTURER : PARTIAL |
| TAG No. :                     |                              | TYPE/SPEC. : PAG-A/2                    |                        |
| LOCATION/CUSTOMER : Panasonic |                              | SERIAL No. : -                          |                        |
| AREA/ESTATE : ROS             |                              |   |                        |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. INSPECT CASE OF FILTER                                 | 6       | 5      | 13     |
| 2. DIFFERENTIAL PRESSURE ACROSS FILTER                    | 7       | 12     | 13     |
| 2.1 BEFORE INSPECT FILTER                                 | 7       | 12     | 13     |
| DIFF PRESSURE : 0 mbarg                                   |         |        |        |
| 2.2 INSPECT FILTER (IF DIFF PRESSURE OVER THAN 200 mbarg) | 7       | 12     | 13     |
| 2.3 AFTER INSPECT FILTER                                  | 7       | 12     | 13     |
| DIFF PRESSURE : 0 mbarg                                   |         |        |        |
| 3. CLEAN AND GREASE O-RING AND GASKET                     | -       | 12     | 13     |
| 4. LEAK CHECK AT FLANGE                                   | 7       | 12     | 13     |
| 5. DRAIN THE DIRT FROM FILTER                             | 7       | 12     | 13     |
| 6. _____  | _____   | _____  | _____  |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |

INSPECTION DATE : 8/2/05 INSPECTED BY : B. J. H. S.

TASK No. : Q 002

PERIOD : 3 MONTH



OP-FO-036-03

| EQUIPMENT: SAFETY SHUT-OFF VALVE     |                              |   |                                 |
|--------------------------------------|------------------------------|---|---------------------------------|
| <input type="checkbox"/> OTS         | <input type="checkbox"/> PRS | <input checked="" type="checkbox"/> MRS | MANUFACTURER : <u>PARFABEEM</u> |
| TAG No. : _____                      |                              | TYPE/SPEC. : <u>08/bb AP</u>            |                                 |
| LOCATION/CUSTOMER : <u>Panasonic</u> |                              | SERIAL No. : _____                      |                                 |
| AREA/ESTATE : <u>BOJ</u>             |                              |   |                                 |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN   | ACTION    | RESULT    |
|---|---|-----------|-----------|
| 1. CHECK GENERAL CONDITION OF VALVE/PILOT                           | <u>1</u>  | <u>12</u> | <u>13</u> |
| 2. CHECK TUBE FITTING / TIGHTEN AS REQUIRE                          | <u>1</u>  | <u>12</u> | <u>13</u> |
| 3. CLEAN AND PAINTING   | <u>1</u>  | <u>12</u> | <u>13</u> |
| 4. INSPECT FLANGE CONNECTION ( CHECK LEAK)                          | <u>1</u>  | <u>12</u> | <u>13</u> |
| 5. DIAGNOSTIC TEST  | <u>1</u>  | <u>12</u> | <u>13</u> |
| RUN <input checked="" type="checkbox"/> SET POINT : <u>2.4</u> barg | RUN <input checked="" type="checkbox"/> SET POINT : <u>2.4</u> barg |           |           |
| FOUND : <u>2.4</u> barg   | FOUND : <u>2.4</u> barg   |           |           |
| LEFT : <u>2.4</u> barg  | LEFT : <u>2.4</u> barg  |           |           |
| 6. IF APPLICABLE, CHECK PROXIMITY SWITCH AND WIRING                 | <u>1</u>  | <u>12</u> | <u>13</u> |
| 7. CHECK LOCK UP  | <u>1</u>  | <u>12</u> | <u>13</u> |
| ACTIVE LOCK UP : <u>0.0</u> barg                                    | STAND BY LOCK UP : <u>0.0</u> barg                                  |           |           |
| 8. CHECK AND SOLVE CORROSION OF BOLTS & NUTS                        | <u>1</u>  | <u>12</u> | <u>13</u> |
| 9. SSV ARE NORMALLY IN OPEN DIRECTION                               | <u>1</u>  | <u>12</u> | <u>13</u> |
| COMMENT :   |   |           |           |

| MATERIAL / PART USED |               |                |               |
|----------------------|---------------|----------------|---------------|
| STOCK No.            | DESCRIPTION   | MANUFACTURER   | QUANTITY      |
|                      |               |                |               |
|                      |               |                |               |
|                      |               |                |               |
|                      |               |                |               |
| INSPECTION DATE :    | <u>8/2/60</u> | INSPECTED BY : | <u>Shahid</u> |

TASK No. : Q 003

PERIOD : 3 MONTH



OP-FO-036-03

| EQUIPMENT: PRESSURE SAFETY VALVE (RELIEF VALVE) |                              |   |                                 |
|---|------------------------------|---|---------------------------------|
| <input type="checkbox"/> OTS                    | <input type="checkbox"/> PRS | <input checked="" type="checkbox"/> MRS         | MANUFACTURER : <u>PARFABEEM</u> |
| TAG No. : _____                                 |                              | TYPE/SPEC. : <u>V/62</u>                        |                                 |
| LOCATION/CUSTOMER : <u>Panasonic</u>            |                              | SERIAL No. : _____                              |                                 |
| AREA/ESTATE : <u>BOJ</u>                        |                              | INLET / OUTLET PRESSURE (barg) : <u>0.0/1.6</u> |                                 |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                       | AS SEEN  | ACTION               | RESULT         |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |
|---|--|----------------------|----------------|----------------|------------------|----------------|---------------|--------------------------------|-------------|----------------------|----------------|---|------------|------------|---|------------|------------|
| 1. CHECK GENERAL CONDITION OF PSV                 | <u>1</u>   | <u>12</u>            | <u>13</u>      |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |
| 2. THERE ARE NOT ANY OBSTRUCTION ON THE VENT LINE | <u>1</u>   | <u>12</u>            | <u>13</u>      |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |
| 3. CHECK LEAK AT CONNECTION OR FLANGE             | <u>1</u>   | <u>12</u>            | <u>13</u>      |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |
| 4. DIAGNOSTIC TEST                                | <u>1</u>   | <u>12</u>            | <u>13</u>      |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |
| 5. TEST RESULT                                    | <table border="1"><thead><tr><th>TEST No.</th><th>SET POINT (barg)</th><th>ASFOUND (barg)</th><th>ASLEFT (barg)</th></tr></thead><tbody><tr><td>1</td><td rowspan="3"><u>2.0</u></td><td><u>2.0</u></td><td><u>2.0</u></td></tr><tr><td>2</td><td><u>2.0</u></td><td><u>2.0</u></td></tr><tr><td>3</td><td><u>2.0</u></td><td><u>2.0</u></td></tr></tbody></table> |                      |                | TEST No.       | SET POINT (barg) | ASFOUND (barg) | ASLEFT (barg) | 1                              | <u>2.0</u>  | <u>2.0</u>           | <u>2.0</u>     | 2 | <u>2.0</u> | <u>2.0</u> | 3 | <u>2.0</u> | <u>2.0</u> |
| TEST No.  | SET POINT (barg)   | ASFOUND (barg)       | ASLEFT (barg)  |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |
| 1   | <u>2.0</u>   | <u>2.0</u>           | <u>2.0</u>     |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |
| 2   |  | <u>2.0</u>           | <u>2.0</u>     |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |
| 3   |  | <u>2.0</u>           | <u>2.0</u>     |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |
| 7. TEST CONCLUSION                                | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> NOT PASS   |                      |                |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |
| 8. TEST EQUIPMENT                                 | <table border="1"><thead><tr><th>EQUIPMENT NAME</th><th>MANUFACTURER</th><th>MODEL</th><th>SERIAL No.</th></tr></thead><tbody><tr><td><u>Pressure Digital gauge.</u></td><td><u>BEGA</u></td><td><u>BGPR-PRO-01X.</u></td><td><u>1835071</u></td></tr></tbody></table>   |                      |                | EQUIPMENT NAME | MANUFACTURER     | MODEL          | SERIAL No.    | <u>Pressure Digital gauge.</u> | <u>BEGA</u> | <u>BGPR-PRO-01X.</u> | <u>1835071</u> |   |            |            |   |            |            |
| EQUIPMENT NAME                                    | MANUFACTURER   | MODEL                | SERIAL No.     |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |
| <u>Pressure Digital gauge.</u>                    | <u>BEGA</u>  | <u>BGPR-PRO-01X.</u> | <u>1835071</u> |                |                  |                |               |                                |             |                      |                |   |            |            |   |            |            |

REMARKS : \_\_\_\_\_

| MATERIAL / PART USED |               |                 |               |
|----------------------|---------------|-----------------|---------------|
| STOCK No.            | DESCRIPTION   | MANUFACTURER    | QUANTITY      |
|                      |               |                 |               |
|                      |               |                 |               |
|                      |               |                 |               |
|                      |               |                 |               |
| INSPECTION DATE :    | <u>8/2/60</u> | INSPECTED BY :  | <u>Shahid</u> |
|                      |               | CUSTOMER SIGN : | <u>gnw</u>    |

TASK No. : Q 004

PERIOD : 3 MONTH





OP-FO-036-03

EQUIPMENT: PRESSURE CONTROL VALVE

☐ OTS ☐ PRS ☒ MRS MANUFACTURER: PANASONIC

TAG No.: PL-8P-BP/29, PS 2-2 TYPE/SPEC.: PL-8P-BP/29, PS 2-2

LOCATION/CUSTOMER: Panasonic SERIAL No.: -

AREA/ESTATE: BOJ

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN                                  | ACTION | RESULT |
|---|--|--------|--------|
| 1. CHECK GENERAL CONDITION OF VALVE/PILOT           | 1  | 12     | 13     |
| 2. INSPECT TUBE FITTING / TIGHTEN AS REQUIRE        | 1  | 12     | 13     |
| 3. CLEAN AND PAINTING                               | 1  | 9      | 13     |
| 4. INSPECT FLANGE CONNECTION ( CHECK LEAK )         | 1  | 12     | 13     |
| 5. DIAGNOSTIC TEST AND CHECK CONDITION OF PRESSURE  | 1  | 12     | 13     |
| RUN <u>A</u> SET POINT : <u>1.6</u> barg            | RUN <u>B</u> SET POINT : <u>1.6</u> barg |        |        |
| FOUND : <u>1.6</u> barg                             | FOUND : <u>1.6</u> barg                  |        |        |
| LEFT : <u>1.6</u> barg                              | LEFT : <u>1.6</u> barg                   |        |        |
| 6. IF APPLICABLE, CHECK PROXIMITY SWITCH AND WIRING | 1  | 12     | 13     |
| 7. CHECK LOCK UP                                    | 1  | 12     | 13     |
| ACTIVE LOCK UP : <u>0.020</u> barg                  | STAND-BY LOCK UP : <u>0.020</u> barg     |        |        |
| 8. CHECK AND SOLVE CORROSION OF BOLTS & NUTS        | 1  | 9      | 13     |
| 9. CORRECT PCV OPERATE (NOT MONITOR)                | 1  | 12     | 13     |
| 10. IF APPLICABLE, INSPECT FILTER AT RESTRICTOR     | 1  | 12     | 13     |

COMMENT :

| MATERIAL / PART USED |               |                |                    |
|----------------------|---------------|----------------|--------------------|
| STOCK No.            | DESCRIPTION   | MANUFACTURER   | QUANTITY           |
|                      |               |                |                    |
|                      |               |                |                    |
|                      |               |                |                    |
| INSPECTION DATE :    | <u>8/2/05</u> | INSPECTED BY : | <u>[Signature]</u> |

TASK No.: Q 005

PERIOD : 3 MONTH



OP-FO-036-03

EQUIPMENT: INLET PRESSURE INDICATOR

☐ OTS ☐ PRS ☒ MRS MANUFACTURER : ASHCROFT

TAG No.: 0-10 TYPE/SPEC.: 0-10

LOCATION/CUSTOMER : Panasonic SERIAL No.: -

AREA/ESTATE : BOJ INLET / OUTLET PRESSURE (barg) : 4.9

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |


| DESCRIPTION                                      | AS SEEN  | ACTION           | RESULT         |
|--|--|------------------|----------------|
| 1. CHECK GENERAL CONDITION OF PRESSURE INDICATOR | 1  | 12               | 13             |
| 2. CHECK LEAK AT CONNECTION OR THREAD            | 1  | 12               | 13             |
| 3. DIAGNOSTIC TEST                               | 1  | 12               | 13             |
| 4. ZERO RESULT BY BLOW OFF                       | 1  | 12               | 13             |
| 5. READING RESULT                                |  |                  |                |
| TEST No.   | TEST POINT   | SET POINT (barg) | ASFOUND (barg) |
| 1  | ZERO   | 0                | 0              |
| 2  | READING  | 4.9              | 4.9            |
| 6. TEST CONCLUSION                               | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> NOT PASS |                  |                |
| 7. TEST EQUIPMENT                                |  |                  |                |
| EQUIPMENT NAME                                   | <u>Pressure Digital gauge.</u>   |                  |                |
| MANUFACTURER                                     | <u>BEA</u>   |                  |                |
| MODEL  | <u>BA92-920-012.</u>   |                  |                |
| SERIAL No.                                       | <u>1836071</u>   |                  |                |

REMARKS :

| MATERIAL / PART USED |               |                |                    |
|----------------------|---------------|----------------|--------------------|
| STOCK No.            | DESCRIPTION   | MANUFACTURER   | QUANTITY           |
|                      |               |                |                    |
|                      |               |                |                    |
|                      |               |                |                    |
| INSPECTION DATE :    | <u>8/2/05</u> | INSPECTED BY : | <u>[Signature]</u> |
|                      |               | VERIFIED BY :  | <u>[Signature]</u> |


TASK No.: Q 006

PERIOD : 3 MONTH

|  |                 |  |                         |
|--|-----------------|--|-------------------------|
|  <b>PM / Work Order</b> |                 | Work Order: PM22-000574<br>Work Order Date: 10/03/2022<br>Work Request No:<br>Maintenance Dept: NZ ST<br>Gas Station: Inland |                         |
| Customer / Tag: SOONTHORN<br>Code: 930210201<br>Name: 604 Station  |                 | Request Dept:<br>Work Type: PM<br>Case Code: 100-001-0112-000<br>Priority:   |                         |
| Problem / Job Detail:<br>PM SOONTHORN 3 MONTH  |                 |  |                         |
| Estimate Start   | Estimate Finish | PM Code  | Person                  |
| 01/04/2022   | 30/04/2022      | PM-001-001-0112-000  | Technician: 604 Station |
| Actual Start   | Actual Finish   | Turbine/Rotary Gas Meter Index   |                         |
| 19/4/65  | 19/4/65         | 19994664 M <sup>3</sup>  |                         |
| Case Code  |                 | Corrected Volume Index   |                         |
|  |                 | 1566679 SM   |                         |
| Case Code  |                 | Action Code  |                         |
| Code/Name  | Normal          | Abnormal   | Remarks                 |
| 1) HV011A-Q001 Hand Valve  |                 |  |                         |
| 2) HV011B-Q001 Hand Valve  |                 |  |                         |
| 3) HV021A-Q001 Hand Valve  |                 |  |                         |
| 4) HV021B-Q001 Hand Valve  |                 |  |                         |
| 5) HV022A-Q001 Hand Valve  |                 |  |                         |
| 6) HV022B-Q001 Hand Valve  |                 |  |                         |
| 7) HV024-Q001 Hand Valve   |                 |  |                         |
| 8) HV025-Q001 Hand Valve   |                 |  |                         |
| 9) F001A-Q002 Filter   |                 |  |                         |
| 10) F001B-Q002 Filter  |                 |  |                         |
| 11) PCV001A-Q005 Pressure Control Valve  |                 |  |                         |
| 12) PCV001B-Q005 Pressure Control Valve  |                 |  |                         |
| 13) SSV001A-Q003 Safety Shut-off Valve   |                 |  |                         |
| 14) SSV001B-Q003 Safety Shut-off Valve   |                 |  |                         |
| 15) PSV001-Q004 Pressure Safety Valve  |                 |  |                         |
| 16) P1001-Q006 Pressure Indicator  |                 |  |                         |
| 17) P1004-Q006 Pressure Indicator  |                 |  |                         |
| 18) FE001-Q010 Turbine Meter   |                 |  |                         |
| 19) EQ1001-Q011 Volume Converter   |                 |  |                         |
| 20) M001-Q013 Station  |                 |  |                         |

- ตรวจวัดระดับ pressure gauge  
 ตรวจวัด Due calibrate  
 SM, NOD 00595  
 SM, NOD 00585  
 - รอส่งใบแจ้งให้ช่างมาตรวจ

|               |                |           |                  |
|---------------|----------------|-----------|------------------|
| PTT NGD Staff | Customer Staff | Signature | Division Manager |
| 19/4/65       | 19/4/65        | 2/5/65    | 2/5/65           |

|  |                             |   |                                      |
|--|-----------------------------|---|--------------------------------------|
|   |                             | <b>OTS / PRS / MRS PM REPORT FORM</b>           |                                      |
| Customer / Location: Southorn  |                             |   |                                      |
| Area: 703  |                             |   |                                      |
| Date of Maintenance: 19/4/65   |                             | Time: 13.20-15.00                               |                                      |
| Type of Maintenance: <div> <input type="checkbox"/> 3/5 Year PM         <input type="checkbox"/> 1 Year PM         <input type="checkbox"/> 6 Month PM         <input checked="" type="checkbox"/> 3 Month PM         <input type="checkbox"/> 1 Month PM </div> |                             |   |                                      |
| <b>DIAGNOSTIC &amp; RECORD PARTS</b>   |                             |   |                                      |
| Inlet Pressure: 0.95 Bar g.  |                             | a) Index at gas meter (V) 19994664 Turbine G100 |                                      |
| Outlet Pressure: 1.052 Bar g.  |                             | b) Corrected volume at EVC (Vb) 1566679         |                                      |
| Set Point<br>(Bar g. / mbar g.)  | Stream 1                    | Stream 2  | c) Uncorrected volume at EVC 1999465 |
|  |                             |   | d) Pressure (BarA) 2.052             |
| PCV 1st state  | 1.0                         | 0.8   | e) Temperature (°C) 33.71            |
| PCV override mon.  | -                           | -   | f) Correction Factor 1.908           |
| PCV 2nd state  | -                           | -   | g) Qmax, Max Flow -                  |
| PSV  | 1.5                         | 1.5   | h) Qb, Flow Rates 29.78              |
| SSV 1st  | 1.4                         | 2.0   | i) Alarm Shown OK                    |
| SSV 2nd  | -                           | -   | j) Battery Shown 45 Months           |
| Pulse Inspection from Gas Meter to Volume Corrector: normal <input type="checkbox"/> ไม่ดี EVC   |                             |   |                                      |
| Turbine/Rotary Gas Meter Rotating Check: normal  |                             |   |                                      |
| CP System: Inlet Flange Voltage 1.994 V, Outlet Flange Voltage - V, DC Decoupler -   |                             |   |                                      |
| <b>Details:</b>  |                             |   |                                      |
| <b>REPAIRED/CHANGED/REQUIRED PARTS</b>   |                             |   |                                      |
| Item   | Overhaul/Take-off Equipment | Change Part Detail                              | Code                                 |
|  |                             |   |                                      |
|  |                             |   |                                      |
|  |                             |   |                                      |
|  |                             |   |                                      |
| Gas Oderization Present: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO   |                             |   |                                      |
| Complete of Visual Check: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO  |                             |   |                                      |
| PTT NGD Staff Signed:  |                             |   | Date: 19/4/65                        |
| PTT NGD Engineer Signed:   |                             |   | Date: 2/5/65                         |
| PTT NGD Manager Signed:  |                             |   | Date: 02/05/65                       |



OP-FO-036-03

|                                      |                              |   |                      |
|--------------------------------------|------------------------------|---|----------------------|
| EQUIPMENT:                           |                              | HAND VALVE                              |                      |
| <input type="checkbox"/> OTS         | <input type="checkbox"/> PRS | <input checked="" type="checkbox"/> MRS | MANUFACTURER : _____ |
| TAG No. : _____                      |                              | TYPE/SPEC. : <u>BV, BF</u>              |                      |
| LOCATION/CUSTOMER : <u>Soonthorn</u> |                              | SERIAL No. : _____                      |                      |
| AREA/ESTATE : <u>RoJ</u>             |                              |   |                      |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN   | ACTION    | RESULT    |
|---|-----------|-----------|-----------|
| 1. CHECK AND CLEAN GENERAL OF HV                        | <u>CP</u> | <u>S</u>  | <u>13</u> |
| 2. PERFORM OPERATE OPEN/CLOSE (DIRECTION)               | <u>1</u>  | <u>N</u>  | <u>13</u> |
| 3. IF APPLICABLE, INSPECT GEAR BOX / GREASE AS REQUIRED | <u>-</u>  | <u>-</u>  | <u>-</u>  |
| 4. DRAIN BODY   | <u>-</u>  | <u>-</u>  | <u>-</u>  |
| 5. CHECK LEAK AT SEAT, STEM AND FLANGES OR THREAD       | <u>1</u>  | <u>12</u> | <u>13</u> |
| 6. CHECK AND SOLVE CORROSION OF BOLTS & NUTS            | <u>4</u>  | <u>S</u>  | <u>13</u> |
| 7. INJECT SEALANT IF NECESSARY                          | <u>-</u>  | <u>-</u>  | <u>-</u>  |
| 8. CHECK CLEANING AND PAINTING OF HV                    | <u>4</u>  | <u>S</u>  | <u>13</u> |
| 9. _____  | _____     | _____     | _____     |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |

INSPECTION DATE :

19/01/15

INSPECTED BY :

สมชาย

TASK No. : Q 001

PERIOD : 3 MONTH



OP-FO-036-03

|                                      |                              |   |                          |
|--------------------------------------|------------------------------|---|--------------------------|
| EQUIPMENT:                           |                              | FILTER                                  |                          |
| <input type="checkbox"/> OTS         | <input type="checkbox"/> PRS | <input checked="" type="checkbox"/> MRS | MANUFACTURER : <u>CH</u> |
| TAG No. : _____                      |                              | TYPE/SPEC. : <u>CH</u>                  |                          |
| LOCATION/CUSTOMER : <u>Soonthorn</u> |                              | SERIAL No. : _____                      |                          |
| AREA/ESTATE : <u>RoJ</u>             |                              |   |                          |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN  | ACTION   | RESULT    |
|---|----------|----------|-----------|
| 1. INSPECT CASE OF FILTER                                 | <u>4</u> | <u>S</u> | <u>13</u> |
| 2. DIFFERENTIAL PRESSURE ACROSS FILTER                    | <u>1</u> | <u>N</u> | <u>13</u> |
| 2.1 BEFORE INSPECT FILTER                                 | <u>1</u> | <u>N</u> | <u>13</u> |
| DIFF PRESSURE : <u>0.0</u> mbarg                          |          |          |           |
| 2.2 INSPECT FILTER (IF DIFF PRESSURE OVER THAN 200 mbarg) | <u>1</u> | <u>N</u> | <u>13</u> |
| 2.3 AFTER INSPECT FILTER                                  | <u>1</u> | <u>N</u> | <u>13</u> |
| DIFF PRESSURE : <u>0.0</u> mbarg                          |          |          |           |
| 3. CLEAN AND GREASE O-RING AND GASKET                     | <u>-</u> | <u>T</u> | <u>-</u>  |
| 4. LEAK CHECK AT FLANGE                                   | <u>1</u> | <u>N</u> | <u>13</u> |
| 5. DRAIN THE DIRT FROM FILTER                             | <u>1</u> | <u>N</u> | <u>13</u> |
| 6. _____  | _____    | _____    | _____     |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |

INSPECTION DATE :

19/01/15

INSPECTED BY :

สมชาย

TASK No. : Q 002

PERIOD : 3 MONTH





OP-FO-036-03

|   |                           |
|---|---------------------------|
| EQUIPMENT: SAFETY SHUT-OFF VALVE  |                           |
| <input type="checkbox"/> OTS <input type="checkbox"/> PRS <input checked="" type="checkbox"/> MRS | MANUFACTURER : <u>ICA</u> |
| TAG No. : _____   | TYPE/SPEC. : <u>3-100</u> |
| LOCATION/CUSTOMER : <u>Soonthorn</u>  | SERIAL No. : _____        |
| AREA/ESTATE : <u>Po</u>   |                           |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN                                  | ACTION   | RESULT   |
|---|--|----------|----------|
| 1. CHECK GENERAL CONDITION OF VALVE/PILOT           | <u>1</u>                                 | <u>N</u> | <u>N</u> |
| 2. CHECK TUBE FITTING / TIGHTEN AS REQUIRE          | <u>1</u>                                 | <u>N</u> | <u>N</u> |
| 3. CLEAN AND PAINTING                               | <u>4</u>                                 | <u>S</u> | <u>N</u> |
| 4. INSPECT FLANGE CONNECTION ( CHECK LEAK )         | <u>1</u>                                 | <u>N</u> | <u>N</u> |
| 5. DIAGNOSTIC TEST                                  | <u>1</u>                                 | <u>N</u> | <u>N</u> |
| RUN <u>A</u> SET POINT : <u>1.8</u> barg            | RUN <u>B</u> SET POINT : <u>2.0</u> barg |          |          |
| FOUND : <u>1.82</u> barg                            | FOUND : <u>2.04</u> barg                 |          |          |
| LEFT : <u>1.42</u> barg                             | LEFT : <u>2.104</u> barg                 |          |          |
| 6. IF APPLICABLE, CHECK PROXIMITY SWITCH AND WIRING | <u>-</u>                                 | <u>N</u> | <u>N</u> |
| 7. CHECK LOCK UP                                    | <u>1</u>                                 | <u>N</u> | <u>N</u> |
| ACTIVE LOCK UP : <u>0.0</u> barg                    | STAND BY LOCK UP : <u>0.0</u> barg       |          |          |
| 8. CHECK AND SOLVE CORROSION OF BOLTS & NUTS        | <u>4</u>                                 | <u>S</u> | <u>N</u> |
| 9. SSV ARE NORMALLY IN OPEN DIRECTION               | <u>1</u>                                 | <u>N</u> | <u>N</u> |
| COMMENT :   |  |          |          |

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE :

19/4/65

INSPECTED BY :

Prin-Sun

TASK No. : Q 003

PERIOD : 3 MONTH



OP-FO-036-03

|   |   |
|---|---|
| EQUIPMENT: PRESSURE SAFETY VALVE (RELIEF VALVE)   |   |
| <input type="checkbox"/> OTS <input type="checkbox"/> PRS <input checked="" type="checkbox"/> MRS | MANUFACTURER : <u>ICA</u>                       |
| TAG No. : _____   | TYPE/SPEC. : <u>HPR 15</u>                      |
| LOCATION/CUSTOMER : <u>Soonthorn</u>  | SERIAL No. : _____                              |
| AREA/ESTATE : <u>Po</u>   | INLET / OUTLET PRESSURE (barg) : <u>5.0/1.0</u> |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                       | AS SEEN  | ACTION   | RESULT   |
|---|----------|----------|----------|
| 1. CHECK GENERAL CONDITION OF PSV                 | <u>1</u> | <u>N</u> | <u>N</u> |
| 2. THERE ARE NOT ANY OBSTRUCTION ON THE VENT LINE | <u>1</u> | <u>N</u> | <u>N</u> |
| 3. CHECK LEAK AT CONNECTION OR FLANGE             | <u>1</u> | <u>N</u> | <u>N</u> |
| 4. DIAGNOSTIC TEST                                | <u>1</u> | <u>N</u> | <u>N</u> |

## 5. TEST RESULT

| TEST No. | SET POINT (barg) | ASFOUND (barg) | ASLEFT (barg) |
|----------|------------------|----------------|---------------|
| 1        | <u>1.5</u>       | <u>1.5</u>     | <u>1.5</u>    |
| 2        |                  | <u>1.5</u>     | <u>1.5</u>    |
| 3        |                  | <u>1.5</u>     | <u>1.5</u>    |

## 7. TEST CONCLUSION

☒ PASS ☐ NOT PASS

## 8. TEST EQUIPMENT

|                |                               |
|----------------|-------------------------------|
| EQUIPMENT NAME | <u>Pressure Digital gauge</u> |
| MANUFACTURER   | <u>Druck</u>                  |
| MODEL          | <u>DPI 104-15</u>             |
| SERIAL No.     | <u>5452092</u>                |

## REMARKS :

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE :

19/4/65

INSPECTED BY :

Prin-SunCUSTOMER SIGN : Bar

TASK No. : Q 004

PERIOD : 3 MONTH



OP-FO-036-03

EQUIPMENT: **PRESSURE CONTROL VALVE**

☐ OTS ☐ PRS ☒ MRS MANUFACTURER: American meter

TAG No.: \_\_\_\_\_ TYPE/SPEC.: APV

LOCATION/CUSTOMER: Seonthom SERIAL No.: \_\_\_\_\_

AREA/ESTATE: P-01

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN   | ACTION | RESULT |
|---|---|--------|--------|
| 1. CHECK GENERAL CONDITION OF VALVE/PILOT                           | 1   | u      | u      |
| 2. INSPECT TUBE FITTING / TIGHTEN AS REQUIRE                        | 1   | u      | u      |
| 3. CLEAN AND PAINTING   | 4   | 3      | u      |
| 4. INSPECT FLANGE CONNECTION ( CHECK LEAK )                         | 1   | u      | u      |
| 5. DIAGNOSTIC TEST AND CHECK CONDITION OF PRESSURE                  | 1   | u      | u      |
| RUN <input checked="" type="checkbox"/> SET POINT : <u>1.0</u> barg | RUN <input checked="" type="checkbox"/> SET POINT : <u>0.8</u> barg |        |        |
| FOUND : <u>1.1</u> barg   | FOUND : <u>0.9</u> barg   |        |        |
| LEFT : <u>1.1</u> barg  | LEFT : <u>0.9</u> barg  |        |        |
| 6. IF APPLICABLE, CHECK PROXIMITY SWITCH AND WIRING                 | -   | -      | -      |
| 7. CHECK LOCK UP  | 1   | u      | u      |
| ACTIVE LOCK UP : <u>0.1</u> barg                                    | STAND-BY LOCK UP : <u>0.1</u> barg                                  |        |        |
| 8. CHECK AND SOLVE CORROSION OF BOLTS & NUTS                        | 4   | 5      | u      |
| 9. CORRECT PCV OPERATE (NOT MONITOR)                                | 1   | u      | u      |
| 10. IF APPLICABLE, INSPECT FILTER AT RESTRICTOR                     | 1   | u      | u      |

COMMENT : \_\_\_\_\_

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE :

11/4/15

INSPECTED BY :

W. N. N. N. N.

TASK No.: Q 005

PERIOD : 3 MONTH



OP-FO-036-03

EQUIPMENT: **INLET PRESSURE INDICATOR**

☐ OTS ☐ PRS ☒ MRS MANUFACTURER: KUEBER

TAG No.: \_\_\_\_\_ TYPE/SPEC.: 0-10

LOCATION/CUSTOMER: Seonthom SERIAL No.: NAD 00995

AREA/ESTATE: P-01 INLET / OUTLET PRESSURE (barg): 9.0/1.0

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                      | AS SEEN | ACTION | RESULT |
|--|---------|--------|--------|
| 1. CHECK GENERAL CONDITION OF PRESSURE INDICATOR | 1       | u      | u      |
| 2. CHECK LEAK AT CONNECTION OR THREAD            | 1       | u      | u      |
| 3. DIAGNOSTIC TEST                               | 1       | u      | u      |
| 4. ZERO RESALT BY BLOW OFF                       | 1       | u      | u      |

| TEST No. | TEST POINT | SET POINT (barg) | ASFOUND (barg) |
|----------|------------|------------------|----------------|
| 1        | ZERO       | 0                | 0              |
| 2        | READING    | 9.0              | 0.95           |

6. TEST CONCLUSION ☒ PASS ☐ NOT PASS

|                   |                |                               |
|-------------------|----------------|-------------------------------|
| 7. TEST EQUIPMENT | EQUIPMENT NAME | <u>Pressure Digital gauge</u> |
|                   | MANUFACTURER   | <u>Druck</u>                  |
|                   | MODEL          | <u>DP1 104-15</u>             |
|                   | SERIAL No.     | <u>545 2492</u>               |

REMARKS : \_\_\_\_\_

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |






INSPECTION DATE :

11/4/15INSPECTED BY : W. N. N. N. N.VERIFIED BY : W. N. N. N. N.

TASK No.: Q 006

PERIOD : 3 MONTH



| PIT NCD Staff  | Customer Staff   |               | Division Manager   |
|--|--|--|--|
| <br>(20 3 65) | <br>(24 3 65) | <br>(30 3 65) | <br>(07 04 65) |

| <b>OTS / PRS / MRS PM REPORT FORM</b>  |   |                        |      |
|--|---|------------------------|------|
| Customer / Location : <u>PeD91</u>   |   |                        |      |
| Area : <u>PeD</u>  |   |                        |      |
| Date of Maintenance : <u>29/3/65</u> Time : <u>10.00 - 12.00</u>   |   |                        |      |
| Type of Maintenance : <span style="margin-left: 20px;">3/5 Year PM <input type="checkbox"/></span> <span style="margin-left: 20px;">1 Year PM <input type="checkbox"/></span> <span style="margin-left: 20px;">6 Month PM <input type="checkbox"/></span> <span style="margin-left: 20px;">3 Month PM <input checked="" type="checkbox"/></span> <span style="margin-left: 20px;">1 Month PM <input type="checkbox"/></span> |   |                        |      |
| DIAGNOSTIC & RECORD PARTS  |   |                        |      |
| Inlet Pressure : <u>5.0</u>  | Bar g. a) Index at gas meter (V) <u>8725303</u> Turbine <u>6650</u> |                        |      |
| Outlet Pressure : <u>1.534</u>   | Bar g. b) Corrected volume at EVC (Vb) <u>71389832</u>              |                        |      |
| Set Point  | Stream 1 (Bar g. / mbar g.)   |                        |      |
|  | Stream 2 (Bar g. / mbar g.)   |                        |      |
|  | c) Uncorrected volume at EVC <u>8725306</u>                         |                        |      |
|  | d) Pressure (BarA) <u>2.978</u>                                     |                        |      |
| PCV 1st state <u>1.5</u> <u>1.4</u>  | e) Temperature (°C) <u>31.64</u>                                    |                        |      |
| PCV override mon. <u>-</u> <u>-</u>  | f) Correction Factor <u>2.76</u>                                    |                        |      |
| PCV 2nd state <u>2.0</u> <u>-</u>  | g) Qmax, Max Flow <u>-</u>  |                        |      |
| PSV <u>2.0</u> <u>2.0</u>  | h) Qb, Flow Rates <u>1059.6 gcmh</u>                                |                        |      |
| SSV 1st <u>2.2</u> <u>2.4</u>  | i) Alarm Shown <u>00</u>  |                        |      |
| SSV 2nd <u>-</u> <u>-</u>  | j) Battery Shown <u>9987 days</u>                                   |                        |      |
| Pulse Inspection from Gas Meter to Volume Corrector : <u>normal</u> <input type="checkbox"/> High EVC  |   |                        |      |
| Turbine/Rotary Gas Meter Rotating Check : <u>normal</u>  |   |                        |      |
| CP System : Inlet Flange Voltage <u>1.626</u> V., Outlet Flange Voltage <u>-</u> V., DC Decoupler <u>-</u>   |   |                        |      |
| Details : <u>as shown EVC</u>  |   |                        |      |
| REPAIRED/CHANGED/REQUIRED PARTS  |   |                        |      |
| Item   | Overhaul/Take-off Equipment   | Change Part Detail     | Code |
|  |   |                        |      |
|  |   |                        |      |
|  |   |                        |      |
|  |   |                        |      |
| Gas Oderization Present : <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO  |   |                        |      |
| Complete of Visual Check : <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO   |   |                        |      |
| PTT NGD Staff Signed : <u>[Signature]</u>  |   | Date : <u>29/3/65</u>  |      |
| PTT NGD Engineer Signed : <u>[Signature]</u>   |   | Date : <u>30/3/65</u>  |      |
| PTT NGD Manager Signed : <u>[Signature]</u>  |   | Date : <u>01/04/65</u> |      |



OP-FO-036-03

|                                  |                              |   |                      |
|----------------------------------|------------------------------|---|----------------------|
| EQUIPMENT:                       |                              | HAND VALVE                              |                      |
| <input type="checkbox"/> OTS     | <input type="checkbox"/> PRS | <input checked="" type="checkbox"/> MRS | MANUFACTURER : _____ |
| TAG No. : _____                  |                              | TYPE/SPEC. : <u>SV, 8E</u>              |                      |
| LOCATION/CUSTOMER : <u>Pepti</u> |                              | SERIAL No. : _____                      |                      |
| AREA/ESTATE : <u>EOJ</u>         |                              |   |                      |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN  | ACTION    | RESULT    |
|---|----------|-----------|-----------|
| 1. CHECK AND CLEAN GENERAL OF HV                        | <u>6</u> | <u>5</u>  | <u>13</u> |
| 2. PERFORM OPERATE OPEN/CLOSE (DIRECTION)               | <u>7</u> | <u>12</u> | <u>13</u> |
| 3. IF APPLICABLE, INSPECT GEAR BOX / GREASE AS REQUIRED | <u>-</u> | <u>-</u>  | <u>-</u>  |
| 4. DRAIN BODY   | <u>-</u> | <u>-</u>  | <u>-</u>  |
| 5. CHECK LEAK AT SEAT, STEM AND FLANGES OR THREAD       | <u>1</u> | <u>12</u> | <u>13</u> |
| 6. CHECK AND SOLVE CORROSION OF BOLTS & NUTS            | <u>4</u> | <u>5</u>  | <u>13</u> |
| 7. INJECT SEALANT IF NECESSARY                          | <u>-</u> | <u>-</u>  | <u>-</u>  |
| 8. CHECK CLEANING AND PAINTING OF HV                    | <u>4</u> | <u>5</u>  | <u>13</u> |
| 9. _____  | _____    | _____     | _____     |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |

INSPECTION DATE :

24/3/65

INSPECTED BY :

พินิจ

TASK No. : Q 001

PERIOD : 3 MONTH



OP-FO-036-03

|                                  |                              |   |                          |
|----------------------------------|------------------------------|---|--------------------------|
| EQUIPMENT:                       |                              | FILTER                                  |                          |
| <input type="checkbox"/> OTS     | <input type="checkbox"/> PRS | <input checked="" type="checkbox"/> MRS | MANUFACTURER : <u>OT</u> |
| TAG No. : _____                  |                              | TYPE/SPEC. : <u>Q2-S</u>                |                          |
| LOCATION/CUSTOMER : <u>Pepti</u> |                              | SERIAL No. : _____                      |                          |
| AREA/ESTATE : <u>EOJ</u>         |                              |   |                          |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN  | ACTION    | RESULT    |
|---|----------|-----------|-----------|
| 1. INSPECT CASE OF FILTER                                 | <u>4</u> | <u>5</u>  | <u>13</u> |
| 2. DIFFERENTIAL PRESSURE ACROSS FILTER                    | <u>1</u> | <u>12</u> | <u>13</u> |
| 2.1 BEFORE INSPECT FILTER                                 | <u>1</u> | <u>12</u> | <u>13</u> |
| DIFF PRESSURE : <u>0.0</u> mbarg                          |          |           |           |
| 2.2 INSPECT FILTER (IF DIFF PRESSURE OVER THAN 200 mbarg) | <u>1</u> | <u>12</u> | <u>13</u> |
| 2.3 AFTER INSPECT FILTER                                  | <u>1</u> | <u>12</u> | <u>13</u> |
| DIFF PRESSURE : <u>0.0</u> mbarg                          |          |           |           |
| 3. CLEAN AND GREASE O-RING AND GASKET                     | <u>-</u> | <u>-</u>  | <u>-</u>  |
| 4. LEAK CHECK AT FLANGE                                   | <u>1</u> | <u>12</u> | <u>13</u> |
| 5. DRAIN THE DIRT FROM FILTER                             | <u>1</u> | <u>12</u> | <u>13</u> |
| 6. _____  | _____    | _____     | _____     |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |

INSPECTION DATE :

24/3/65

INSPECTED BY :

พินิจ

TASK No. : Q 002

PERIOD : 3 MONTH



OP-FO-036-03

| EQUIPMENT:                       |                              | SAFETY SHUT-OFF VALVE                   |                            |
|----------------------------------|------------------------------|---|----------------------------|
| <input type="checkbox"/> OTS     | <input type="checkbox"/> PRS | <input checked="" type="checkbox"/> MRS | MANUFACTURER : <u>MPON</u> |
| TAG No. : _____                  |                              | TYPE/SPEC. : <u>VDB 8671 ACC</u>        |                            |
| LOCATION/CUSTOMER : <u>PEPSI</u> |                              | SERIAL No. : <u>-</u>                   |                            |
| AREA/ESTATE : <u>PO</u>          |                              |   |                            |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN                                  | ACTION    | RESULT    |
|---|--|-----------|-----------|
| 1. CHECK GENERAL CONDITION OF VALVE/PILOT           | <u>1</u>                                 | <u>12</u> | <u>13</u> |
| 2. CHECK TUBE FITTING / TIGHTEN AS REQUIRE          | <u>1</u>                                 | <u>2</u>  | <u>13</u> |
| 3. CLEAN AND PAINTING                               | <u>4</u>                                 | <u>5</u>  | <u>13</u> |
| 4. INSPECT FLANGE CONNECTION ( CHECK LEAK )         | <u>1</u>                                 | <u>12</u> | <u>13</u> |
| 5. DIAGNOSTIC TEST                                  | <u>1</u>                                 | <u>12</u> | <u>13</u> |
| RUN <u>D</u> SET POINT : <u>2.2</u> barg            | RUN <u>B</u> SET POINT : <u>2.4</u> barg |           |           |
| FOUND : <u>2.2</u> barg                             | FOUND : <u>2.4</u> barg                  |           |           |
| LEFT : <u>2.2</u> barg                              | LEFT : <u>2.4</u> barg                   |           |           |
| 6. IF APPLICABLE, CHECK PROXIMITY SWITCH AND WIRING | <u>-</u>                                 | <u>-</u>  | <u>-</u>  |
| 7. CHECK LOCK UP                                    | <u>1</u>                                 | <u>12</u> | <u>13</u> |
| ACTIVE LOCK UP : <u>0.0</u> barg                    | STAND BY LOCK UP : <u>0.0</u> barg       |           |           |
| 8. CHECK AND SOLVE CORROSION OF BOLTS & NUTS        | <u>4</u>                                 | <u>5</u>  | <u>13</u> |
| 9. SSV ARE NORMALLY IN OPEN DIRECTION               | <u>1</u>                                 | <u>12</u> | <u>13</u> |

COMMENT :

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE :

20/13/65

INSPECTED BY :

Amir

TASK No. : Q 003

PERIOD : 3 MONTH



OP-FO-036-03

| EQUIPMENT:                       |                              | PRESSURE SAFETY VALVE (RELIEF VALVE)            |                            |
|----------------------------------|------------------------------|---|----------------------------|
| <input type="checkbox"/> OTS     | <input type="checkbox"/> PRS | <input checked="" type="checkbox"/> MRS         | MANUFACTURER : <u>MPON</u> |
| TAG No. : _____                  |                              | TYPE/SPEC. : <u>VDB 8671 ACC</u>                |                            |
| LOCATION/CUSTOMER : <u>PEPSI</u> |                              | SERIAL No. : <u>-</u>                           |                            |
| AREA/ESTATE : <u>PO</u>          |                              | INLET / OUTLET PRESSURE (barg) : <u>2.0/1.5</u> |                            |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                       | AS SEEN  | ACTION    | RESULT    |
|---|----------|-----------|-----------|
| 1. CHECK GENERAL CONDITION OF PSV                 | <u>1</u> | <u>12</u> | <u>13</u> |
| 2. THERE ARE NOT ANY OBSTRUCTION ON THE VENT LINE | <u>1</u> | <u>12</u> | <u>13</u> |
| 3. CHECK LEAK AT CONNECTION OR FLANGE             | <u>1</u> | <u>12</u> | <u>13</u> |
| 4. DIAGNOSTIC TEST                                | <u>1</u> | <u>12</u> | <u>13</u> |

## 5. TEST RESULT

| TEST No. | SET POINT (barg) | AS FOUND (barg) | AS LEFT (barg) |
|----------|------------------|-----------------|----------------|
| 1        | <u>2.0</u>       | <u>2.0</u>      | <u>2.0</u>     |
| 2        |                  | <u>2.0</u>      | <u>2.0</u>     |
| 3        |                  | <u>2.0</u>      | <u>2.0</u>     |

## 7. TEST CONCLUSION

☒ PASS ☐ NOT PASS

## 8. TEST EQUIPMENT

|                |                               |
|----------------|-------------------------------|
| EQUIPMENT NAME | <u>Pressure Digital gauge</u> |
| MANUFACTURER   | <u>DWCH</u>                   |
| MODEL          | <u>DP1 104-15</u>             |
| SERIAL No.     | <u>4459092</u>                |

REMARKS :

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE :

20/13/65INSPECTED BY : AmirCUSTOMER SIGN : Amir

TASK No. : Q 004

PERIOD : 3 MONTH





OP-FO-036-03

EQUIPMENT: PRESSURE CONTROL VALVE

☐ OTS ☐ PRS ☒ MRS MANUFACTURER: MTEON

TAG No.: TYPE/SPEC.: RPS 4730

LOCATION/CUSTOMER: Pepsi SERIAL No.: -

AREA/ESTATE: ROJ

## INSPECTION TASK

| AS SEEN:        | ACTION:               | ACTION:          | RESULT:            |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN                     | ACTION | RESULT |
|---|-----------------------------|--------|--------|
| 1. CHECK GENERAL CONDITION OF VALVE/PILOT           | 1                           | 12     | 13     |
| 2. INSPECT TUBE FITTING / TIGHTEN AS REQUIRE        | 1                           | 12     | 13     |
| 3. CLEAN AND PAINTING                               | 4                           | 5      | 13     |
| 4. INSPECT FLANGE CONNECTION ( CHECK LEAK )         | 1                           | 12     | 13     |
| 5. DIAGNOSTIC TEST AND CHECK CONDITION OF PRESSURE  | 1                           | 12     | 13     |
| RUN SET POINT: 1.5 barg                             | RUN SET POINT: 1.4 barg     |        |        |
| FOUND: 1.56 barg                                    | FOUND: 1.46 barg            |        |        |
| LEFT: 1.56 barg                                     | LEFT: 1.46 barg             |        |        |
| 6. IF APPLICABLE, CHECK PROXIMITY SWITCH AND WIRING | -                           | -      | -      |
| 7. CHECK LOCK UP                                    | 1                           | 12     | 13     |
| ACTIVE LOCK UP: 0.06 barg                           | STAND-BY LOCK UP: 0.06 barg |        |        |
| 8. CHECK AND SOLVE CORROSION OF BOLTS & NUTS        | 1                           | 5      | 13     |
| 9. CORRECT PCV OPERATE (NOT MONITOR)                | 1                           | 12     | 13     |
| 10. IF APPLICABLE, INSPECT FILTER AT RESTRICTOR     | 1                           | 12     | 13     |

COMMENT:

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE:

24/3/15

INSPECTED BY:

S. H. H. H.

TASK No.: Q 005

PERIOD: 3 MONTH



OP-FO-036-03

EQUIPMENT: INLET PRESSURE INDICATOR

☐ OTS ☐ PRS ☒ MRS MANUFACTURER: TBC

TAG No.: TYPE/SPEC.: 0-10

LOCATION/CUSTOMER: Pepsi SERIAL No.: 110700050038

AREA/ESTATE: ROJ INLET / OUTLET PRESSURE (barg): 9.0/1.5

## INSPECTION TASK

| AS SEEN:        | ACTION:               | ACTION:          | RESULT:            |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                      | AS SEEN | ACTION | RESULT |
|--|---------|--------|--------|
| 1. CHECK GENERAL CONDITION OF PRESSURE INDICATOR | 1       | 12     | 13     |
| 2. CHECK LEAK AT CONNECTION OR THREAD            | 1       | 12     | 13     |
| 3. DIAGNOSTIC TEST                               | 1       | 12     | 13     |
| 4. ZERO RESULT BY BLOW OFF                       | 1       | 12     | 13     |

| TEST No. | TEST POINT | SET POINT (barg) | AS FOUND (barg) |
|----------|------------|------------------|-----------------|
| 1        | ZERO       | 0                | 0               |
| 2        | READING    | 9.0              | 4.9             |

6. TEST CONCLUSION ☒ PASS ☐ NOT PASS

| EQUIPMENT NAME | Pressure Digital gauge |
|----------------|------------------------|
| MANUFACTURER   | Ducan                  |
| MODEL          | DPI 104-15             |
| SERIAL No.     | 2432                   |

REMARKS:

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE:

24/3/15

INSPECTED BY:


S. H. H. H.


VERIFIED BY:

S. H. H. H.

TASK No.: Q 006

PERIOD: 3 MONTH

|   |                               |   |   |
|---|-------------------------------|---|---|
|  |                               | PM / Work Order                                   |   |
| Customer / Tag : OTS ROJANA   |                               | Work Order : PM422-000915                         |   |
| Code : 91SKN9001<br>Name : Skid/Station   |                               | Work Order Date : 31/05/2022                      |   |
| Work Type : PM  |                               | Work Request No :                                 |   |
| CostCenter : NG-ROJ-00000-P00-01  |                               | Maintenance Dept : NG-ST<br>Gas Station 1300000   |   |
| Priority :  |                               | Request Dept :                                    |   |
| Problem / Job Detail<br>PM OTS ROJANA 3 YEAR                                      |                               |   |   |
| Estimate Start<br>01/06/2022  | Estimate Finish<br>30/06/2022 | PM Code<br>PM-NG-ROJ-00000-P00-01-V3              | Person<br>[Signature]                     |
| Actual Start<br>05/06/22  | Actual Finish<br>16/06/22     | Turbine/Rotary Gas Meter Index : 132228, 0.959106 | Corrected Volume Index : 125153, 0.910090 |
| Cause Code :  |                               | Action Code :                                     |   |
| Code/Name   |                               | Normal  | Abnormal                                  |
| 1) FE010-Y(3002 Turbine Meter   |                               | <input checked="" type="checkbox"/>               | <input type="checkbox"/>                  |
| 2) FE011-Y(3002 Turbine Meter   |                               | <input checked="" type="checkbox"/>               | <input type="checkbox"/>                  |
| - 1000 Run B<br>- 1000 Run A  |                               |   |   |
| PTT NGD Staff   |                               | Customer Staff                                    | Division Manager                          |
| [Signature]   |                               | [Signature]                                       | [Signature]                               |
| 17/06/22  |                               | 17/06/22  | 01/07/22                                  |

|  |  |                                |      |
|--|--|--------------------------------|------|
|   |  | OTS / PRS / MRS PM REPORT FORM |      |
| Customer / Location : OTS ROJANA   |  |                                |      |
| Area : R   |  |                                |      |
| Date of Maintenance : 16/06/22   |  | Time : 17:00                   |      |
| Type of Maintenance : 3/5 Year PM <input checked="" type="checkbox"/> 1 Year PM <input type="checkbox"/> 6 Month PM <input type="checkbox"/> 3 Month PM <input type="checkbox"/> 1 Month PM <input type="checkbox"/> |  |                                |      |
| DIAGNOSTIC & RECORD PARTS  |  |                                |      |
| Inlet Pressure : 16.62 Bar.g   | a) Index at gas meter (V) : 132228         | Turbine G : 1000               |      |
| Outlet Pressure : 5 Bar.g  | b) Corrected volume at EVC (Vb) : 0.959106 |                                |      |
| Set Point  | c) Uncorrected volume at EVC : 132228      |                                |      |
| Stream 1 (Bar.g. / mbar.g.)  | d) Pressure (BarA) : 0.050                 |                                |      |
| Stream 2 (Bar.g. / mbar.g.)  | e) Temperature (°C) : 19.00                |                                |      |
| PCV 1st state : 1  | f) Correction Factor : -                   |                                |      |
| PCV override mon. : -  | g) Qmax, Max Flow : -                      |                                |      |
| PCV 2nd state : -  | h) Qb, Flow Rates : 364.125                |                                |      |
| PSV : 1  | i) Alarm Shown : -                         |                                |      |
| SSV 1st : 0.5  | j) Battery Shown : -                       |                                |      |
| SSV 2nd : 0.5  |  |                                |      |
| Pulse Inspection from Gas Meter to Volume Corrector : 1000 <input type="checkbox"/> 1000 EVC   |  |                                |      |
| Turbine/Rotary Gas Meter Rotating Check : 1000   |  |                                |      |
| CP System : Inlet Flange Voltage : 0.000 V, Outlet Flange Voltage : 1.000 V, DC Decoupler : 0.000  |  |                                |      |
| Details : 1000 Run B, 1000 Run A   |  |                                |      |
| - 1000 Run B, 1000 Run A   |  |                                |      |
| REPAIRED/CHANGED/REQUIRED PARTS  |  |                                |      |
| Item   | Overhaul/Take-off Equipment                | Change Part Detail             | Code |
|  |  |                                |      |
|  |  |                                |      |
|  |  |                                |      |
|  |  |                                |      |
| Gas Oderization Present : <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO  |  |                                |      |
| Complete of Visual Check : <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO   |  |                                |      |
| PTT NGD Staff Signed : [Signature]   |  | Date : 16/06/22                |      |
| PTT NGD Engineer Signed : [Signature]  |  | Date : 17/06/22                |      |
| PTT NGD Manager Signed : [Signature]   |  | Date : 01/07/22                |      |





OP-FO-036-03

|   |                              |                              |                      |
|---|------------------------------|------------------------------|----------------------|
| EQUIPMENT: SKID, PIPING & SURROUNDING   |                              |                              |                      |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : _____ |
| TAG No. : _____                         |                              | TYPE/SPEC. : _____           |                      |
| LOCATION/CUSTOMER : _____               |                              | SERIAL No. : _____           |                      |
| AREA/ESTATE : _____                     |                              | _____                        |                      |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. CHECK SECURITY / GENERAL                               | 1       | ✓      | ✓      |
| 2. INSPECT HOUSING  | 1       | ✓      | ✓      |
| 3. INSPECT WARNING SIGN                                   | 1       | ✓      | ✓      |
| 4. INSPECT FIRE EXTINGUISHER AND BOX (SIGN ON THE TAG)    | 1       | ✓      | ✓      |
| 5. IF APPLICABLE, INSPECT GUARD                           | 1       | ✓      | ✓      |
| 6. INSPECT CONDITION AND CP OF INLET/OUTLET PIPE & FLANGE | 1       | ✓      | ✓      |
| 7. INSPECT GENERAL OF PIPE, FLANGE, BOLT & NUT            | 1       | ✓      | ✓      |
| 8. IF APPLICABLE, CHECK CP SYSTEM AND DC DECOUPER         | 1       | ✓      | ✓      |
| 9. IF APPLICABLE, CHECK VALVE PITCH                       | 1       | ✓      | ✓      |
| 10. CHECK LEAK ALL PARTS WITH SNOOP AND GAS DETECTOR      | 1       | ✓      | ✓      |
| 11. CHECK LEAK ALL PLUGS AND CAPS WITH PRESSURE           | 1       | ✓      | ✓      |
| 12. IF APPLICABLE, CHECK ODORANT SYSTEM                   | 1       | ✓      | ✓      |
| 13. IF APPLICABLE, MONITORING PIPE SETTLEMENT             | 1       | ✓      | ✓      |

COMMENT : \_\_\_\_\_

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 18/6/15 INSPECTED BY : [Signature]

TASK No. : M 001

PERIOD : 1 MONTH



OP-FO-036-03

|   |                              |                              |                      |
|---|------------------------------|------------------------------|----------------------|
| EQUIPMENT: TURBINE GAS METER / ROTARY GAS METER |                              |                              |                      |
| <input checked="" type="checkbox"/> OTS         | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : _____ |
| TAG No. : _____                                 |                              | TYPE/SPEC. : _____           |                      |
| LOCATION/CUSTOMER : _____                       |                              | SERIAL No. : _____           |                      |
| AREA/ESTATE : _____                             |                              | _____                        |                      |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION  | AS SEEN | ACTION | RESULT |
|--|---------|--------|--------|
| 1. LUBRICATE ON TURBINE METER                                | 1       | ✓      | ✓      |
| 2. CLEAN AND PAINT AS REQUIRE                                | 1       | ✓      | ✓      |
| 3. INSPECT ROTATING OF TURBINE/ROTARY INDEX                  | 1       | ✓      | ✓      |
| 4. CHECK AND SOLVE CORROSION OF BOLTS & NUTS                 | 1       | ✓      | ✓      |
| 5. CHECK LEAK AT FLANGE AND SENSING CONNECTOR                | 1       | ✓      | ✓      |
| 6. CHECK DIFF. PRESSURE BETWEEN INLET-OUTLET OF ROTARY METER | 1       | ✓      | ✓      |
| 7. INSPECT OIL LEVEL OF ROTARY METER PARTS AS REQUIRED       | 1       | ✓      | ✓      |
| 8. CHECK NOISE FROM ROTARY METER AND OTHER EQUIPMENT         | 1       | ✓      | ✓      |
| 9. INSPECT PULSE TO THE VOLUME CORRECTOR                     | 1       | ✓      | ✓      |
| 10. INSPECT WIRING   | 1       | ✓      | ✓      |
| 11. CHECK CALIBRATION DUE                                    | 1       | ✓      | ✓      |
| 12. INDEX AT TURBINE/ROTARY GAS METER                        | 1       | ✓      | ✓      |
| 13. TAKE OFF FOR PROVING AND CALIBRATION                     | 1       | ✓      | ✓      |

COMMENT : \_\_\_\_\_

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 18/6/15 INSPECTED BY : [Signature]

TASK No. : Y(3) 002

PERIOD : 3 YEAR

ภาคผนวก ง-4

ตัวอย่างเอกสารใบขออนุญาตให้ทำงานในสถานีก๊าซธรรมชาติ



บริษัท ปตท. จำกัด (มหาชน) จำกัด  
PTT Natural Gas Distribution Co., Ltd.

Permit No. 65 - ROJ - CD - 0033

ใบอนุญาตทำงานทั่วไปไม่มีความร้อน (COLD WORK PERMIT) เขียนวันที่ 23 เดือน มี.ค. พ.ศ. 2565 เวลา 8:30

|                                |   |
|--------------------------------|---|
| 1 ระยะเวลาที่ขออนุญาต          | จากวันที่ 23 เดือน มี.ค. พ.ศ. 2565 เวลา 10:00 ถึงวันที่ 23 เดือน มี.ค. พ.ศ. 2565 เวลา 19:00 |
| สถานที่ (ระบุให้ชัดเจน):       | OTS.ROJ *1  |
| เครื่องมือหรืออุปกรณ์ที่จะใช้: | Multimeter, Pressure calibrator, MilliAmp Meter   |
| รายละเอียดของงาน:              | PM SCADA+RTU zone 3, 6 เดือน  |
|                                | จำนวนผู้ปฏิบัติงาน 1 คน   |

2 การวิเคราะห์การปฏิบัติงานเพื่อความปลอดภัย : JSA (กรอกโดยผู้ขออนุญาต)

| ลำดับ | ขั้นตอนการทำงาน | อันตรายที่อาจเกิดขึ้นได้ | ข้อเสนอแนะเพื่อการปฏิบัติ |
|-------|-----------------|--------------------------|---------------------------|
|       |                 |                          |                           |
|       |                 |                          |                           |
|       |                 |                          |                           |

[ ] ทำ JSA เพิ่มเติมตามเอกสารแนบ [ ] ประชุมชี้แจงอันตรายให้กับผู้ปฏิบัติงานก่อนเริ่มงาน

3 ข้อพึงปฏิบัติในการปฏิบัติงาน (ผู้ขออนุญาตเขียนวงกลมล้อมรอบตัวเลขที่ต้องปฏิบัติ และเขียน ☒ ในช่องที่ดำเนินการแล้วเสร็จ

- |  |  |
|--|--|
| <input type="checkbox"/> 1. ติดแท็กระบบ                      | <input type="checkbox"/> 9. ปิดทองทางด้วยหน้าแปลนที่ <input checked="" type="checkbox"/> 17 แจก GRCC |
| <input type="checkbox"/> 2. ลดความดัน                        | <input type="checkbox"/> 10. ใส่ตัวก๊าซในโครเจน  |
| <input type="checkbox"/> 3. ระบบทั้ง                         | <input type="checkbox"/> 11. ตรวจสอบสภาพพรอยด์ อุปกรณ์ไฟฟ้า  |
| <input type="checkbox"/> 4. ติด/ถอดอุปกรณ์ทางกล              | <input type="checkbox"/> 12. เตรียมพร้อมอุปกรณ์ดับเพลิง  |
| <input type="checkbox"/> 5. ติด/ถอดอุปกรณ์ไฟฟ้า              | <input type="checkbox"/> 13. ใส่ตัวอากาศ   |
| <input type="checkbox"/> 6. ยกเลิกอุปกรณ์ความปลอดภัยชั่วคราว | <input type="checkbox"/> 14. กันบริเวณ   |
| <input type="checkbox"/> 7. ติดแยกอุปกรณ์เครื่องมือวัด       | <input type="checkbox"/> 15. ติดตั้งป้ายเตือน  |
| <input type="checkbox"/> 8. แขนงป้ายห้ามอุปกรณ์ที่ติด/ถอด    | <input type="checkbox"/> 16. ติดตั้งระบบระบายอากาศ   |

ข้อกำหนดเพิ่มเติม: [ ] หมายเหตุ: ให้ใช้ตารางเพิ่มกรณีที่ต้องการ

4 ต้องสวมใส่อุปกรณ์คุ้มครองความปลอดภัยส่วนบุคคล ดังนี้ (กรอกโดยผู้ขออนุญาตหรือผู้ควบคุมงาน)

- |  |  |   |   |  |                                       |
|--|--|---|---|--|---------------------------------------|
| <input checked="" type="checkbox"/> หมวกนิรภัย | <input type="checkbox"/> แวนตาบิรภัย   | <input checked="" type="checkbox"/> ที่ครอบงู/ชุดหู | <input type="checkbox"/> อุปกรณ์ป้องกันทางเดินหายใจ | <input type="checkbox"/> เข็มขัด/เชือกนิรภัย | <input type="checkbox"/> Gas Detector |
| <input type="checkbox"/> ชุดป้องกันผู้/สารเคมี | <input type="checkbox"/> ถุงมือหนังยาง | <input type="checkbox"/> รองเท้าบูทหัวเหล็ก         | <input checked="" type="checkbox"/> รองเท้านิรภัย   | <input type="checkbox"/> อื่นๆ               |                                       |

5 ลงนามใบอนุญาตทำงาน/ต่ออายุ/ปิดงาน

|  |   |
|--|---|
| ข้าพเจ้าเข้าใจในงานที่ปฏิบัติเป็นอย่างดี                     | ขอต่ออายุ   |
| 5.1 ลงชื่อ <u>ศิริวิไล เวียงน</u> ผู้ขออนุญาต โทร 0892010945 | ตั้งแต่ วันที่ ..... เดือน ..... พ.ศ. .... เวลา ..... |
| ( <u>ศิริวิไล เวียงน</u> ) วันที่ 23 มี.ค. 65                | ถึง วันที่ ..... เดือน ..... พ.ศ. .... เวลา .....     |
| หน่วยงาน <u>Operation</u>                                    | 5.4 ลงชื่อ ..... ผู้ขออนุญาต                          |
|  | 5.5 ลงชื่อ ..... ผู้ควบคุมงาน                         |
|  | 5.6 ลงชื่อ ..... ผู้อนุญาต                            |

ข้าพเจ้าได้ตรวจสอบรายการข้างต้น และพิจารณาเห็นว่าปลอดภัยสามารถปฏิบัติงานได้

5.2 ลงชื่อ ..... ผู้ควบคุมงาน โทร .....  
( ) วันที่ .....

5.3 ลงชื่อ   ผู้อนุญาต โทร    
( ) วันที่ 23/03/65

5.7 ลงชื่อ ..... ผู้ขออนุญาต  
5.8 ลงชื่อ ..... ผู้ควบคุมงาน  
วันที่ ..... เดือน ..... พ.ศ. .... เวลา .....

ต้นฉบับ : สำหรับผู้ขออนุญาตนำไปติดแสดงที่หน้างาน  
สำเนา 1 : สำหรับผู้ควบคุมงาน

คำเตือน : ต้องติดแสดงใบอนุญาตฉบับนี้ให้เห็นเด่นชัดในจุดทำงาน  
QM-FO-014-00



บริษัท ปตท. จำกัด (มหาชน) จำกัด  
PTT Natural Gas Distribution Co., Ltd.

Permit No. 65 - ROJ - CD - 0034

ใบอนุญาตทำงานทั่วไปไม่มีความร้อน (COLD WORK PERMIT) เขียนวันที่ 24 เดือน มี.ค. พ.ศ. 2565 เวลา 8:30

|                                |   |
|--------------------------------|---|
| 1 ระยะเวลาที่ขออนุญาต          | จากวันที่ 24 เดือน มี.ค. พ.ศ. 2565 เวลา 10:00 ถึงวันที่ 24 เดือน มี.ค. พ.ศ. 2565 เวลา 19:00 |
| สถานที่ (ระบุให้ชัดเจน):       | OTS.ROJ *2  |
| เครื่องมือหรืออุปกรณ์ที่จะใช้: | Multimeter, Pressure calibrator, MilliAmp Meter   |
| รายละเอียดของงาน:              |   |
|                                | จำนวนผู้ปฏิบัติงาน 1 คน   |

2 การวิเคราะห์การปฏิบัติงานเพื่อความปลอดภัย : JSA (กรอกโดยผู้ขออนุญาต)

| ลำดับ | ขั้นตอนการทำงาน | อันตรายที่อาจเกิดขึ้นได้ | ข้อเสนอแนะเพื่อการปฏิบัติ |
|-------|-----------------|--------------------------|---------------------------|
|       |                 |                          |                           |
|       |                 |                          |                           |
|       |                 |                          |                           |

[ ] ทำ JSA เพิ่มเติมตามเอกสารแนบ [ ] ประชุมชี้แจงอันตรายให้กับผู้ปฏิบัติงานก่อนเริ่มงาน

3 ข้อพึงปฏิบัติในการปฏิบัติงาน (ผู้ขออนุญาตเขียนวงกลมล้อมรอบตัวเลขที่ต้องปฏิบัติ และเขียน ☒ ในช่องที่ดำเนินการแล้วเสร็จ

- |  |  |
|--|--|
| <input type="checkbox"/> 1. ติดแท็กระบบ                      | <input type="checkbox"/> 9. ปิดทองทางด้วยหน้าแปลนที่ <input checked="" type="checkbox"/> 17 แจก GRCC |
| <input type="checkbox"/> 2. ลดความดัน                        | <input type="checkbox"/> 10. ใส่ตัวก๊าซในโครเจน  |
| <input type="checkbox"/> 3. ระบบทั้ง                         | <input type="checkbox"/> 11. ตรวจสอบสภาพพรอยด์ อุปกรณ์ไฟฟ้า  |
| <input type="checkbox"/> 4. ติด/ถอดอุปกรณ์ทางกล              | <input type="checkbox"/> 12. เตรียมพร้อมอุปกรณ์ดับเพลิง  |
| <input type="checkbox"/> 5. ติด/ถอดอุปกรณ์ไฟฟ้า              | <input type="checkbox"/> 13. ใส่ตัวอากาศ   |
| <input type="checkbox"/> 6. ยกเลิกอุปกรณ์ความปลอดภัยชั่วคราว | <input type="checkbox"/> 14. กันบริเวณ   |
| <input type="checkbox"/> 7. ติดแยกอุปกรณ์เครื่องมือวัด       | <input type="checkbox"/> 15. ติดตั้งป้ายเตือน  |
| <input type="checkbox"/> 8. แขนงป้ายห้ามอุปกรณ์ที่ติด/ถอด    | <input type="checkbox"/> 16. ติดตั้งระบบระบายอากาศ   |

ข้อกำหนดเพิ่มเติม: [ ] หมายเหตุ: ให้ใช้ตารางเพิ่มกรณีที่ต้องการ

4 ต้องสวมใส่อุปกรณ์คุ้มครองความปลอดภัยส่วนบุคคล ดังนี้ (กรอกโดยผู้ขออนุญาตหรือผู้ควบคุมงาน)

- |  |  |   |   |  |                                       |
|--|--|---|---|--|---------------------------------------|
| <input checked="" type="checkbox"/> หมวกนิรภัย | <input type="checkbox"/> แวนตาบิรภัย   | <input checked="" type="checkbox"/> ที่ครอบงู/ชุดหู | <input type="checkbox"/> อุปกรณ์ป้องกันทางเดินหายใจ | <input type="checkbox"/> เข็มขัด/เชือกนิรภัย | <input type="checkbox"/> Gas Detector |
| <input type="checkbox"/> ชุดป้องกันผู้/สารเคมี | <input type="checkbox"/> ถุงมือหนังยาง | <input type="checkbox"/> รองเท้าบูทหัวเหล็ก         | <input checked="" type="checkbox"/> รองเท้านิรภัย   | <input type="checkbox"/> อื่นๆ               |                                       |

5 ลงนามใบอนุญาตทำงาน/ต่ออายุ/ปิดงาน

|  |   |
|--|---|
| ข้าพเจ้าเข้าใจในงานที่ปฏิบัติเป็นอย่างดี                     | ขอต่ออายุ   |
| 5.1 ลงชื่อ <u>ศิริวิไล เวียงน</u> ผู้ขออนุญาต โทร 0892010945 | ตั้งแต่ วันที่ ..... เดือน ..... พ.ศ. .... เวลา ..... |
| ( <u>ศิริวิไล เวียงน</u> ) วันที่ 24 มี.ค. 65                | ถึง วันที่ ..... เดือน ..... พ.ศ. .... เวลา .....     |
| หน่วยงาน <u>Operation</u>                                    | 5.4 ลงชื่อ ..... ผู้ขออนุญาต                          |
|  | 5.5 ลงชื่อ ..... ผู้ควบคุมงาน                         |
|  | 5.6 ลงชื่อ ..... ผู้อนุญาต                            |

ข้าพเจ้าได้ตรวจสอบรายการข้างต้น และพิจารณาเห็นว่าปลอดภัยสามารถปฏิบัติงานได้

5.2 ลงชื่อ ..... ผู้ควบคุมงาน โทร .....  
( ) วันที่ .....

5.3 ลงชื่อ   ผู้อนุญาต โทร    
( ) วันที่ 24/03/65

5.7 ลงชื่อ ..... ผู้ขออนุญาต  
5.8 ลงชื่อ ..... ผู้ควบคุมงาน  
วันที่ ..... เดือน ..... พ.ศ. .... เวลา .....

ต้นฉบับ : สำหรับผู้ขออนุญาตนำไปติดแสดงที่หน้างาน  
สำเนา 1 : สำหรับผู้ควบคุมงาน

คำเตือน : ต้องติดแสดงใบอนุญาตฉบับนี้ให้เห็นเด่นชัดในจุดทำงาน  
QM-FO-014-00



บริษัท ปตท. จำกัด (มหาชน) จำกัด  
PTT Natural Gas Distribution Co., Ltd.

Permit No. 65 - RO3 - CD - 0417

ใบอนุญาตทำงานทั่วไปไม่มีความร้อน (COLD WORK PERMIT) เขียนวันที่ 24 เดือน 5.3 พ.ศ. 2565 เวลา 8:30

|                                 |   |
|---------------------------------|---|
| 1. ระยะเวลาที่ขอใบอนุญาต        | จากวันที่ 24 เดือน 5.3 พ.ศ. 2565 เวลา 00:00 ถึงวันที่ 24 เดือน 5.3 พ.ศ. 2565 เวลา 19:00 |
| สถานที่ (ระบุให้ชัดเจน) :       | PRS 5   |
| เครื่องมือหรืออุปกรณ์ที่จะใช้ : | Multimeter, Pressure Calibrator, MilliAmp Meter   |
| รายละเอียดของงาน :              | PM SCADA + RTU รอบ 3, 6 เดือน   |
|                                 | จำนวนผู้ปฏิบัติงาน 1 คน   |

|   |                 |                            |                           |
|---|-----------------|----------------------------|---------------------------|
| 2. การวิเคราะห์การปฏิบัติงานเพื่อความปลอดภัย : JSA (กรอกโดยผู้ขออนุญาต) |                 |                            |                           |
| รายละเอียดงาน :   |                 |                            |                           |
| ลำดับ   | ขั้นตอนการทำงาน | อันตรายที่อาจจะเกิดขึ้นได้ | ข้อเสนอแนะเพื่อการปฏิบัติ |
|   |                 |                            |                           |
|   |                 |                            |                           |
|   |                 |                            |                           |

[ ] ทำ JSA เพิ่มเติมตามเอกสารแนบ [ ] ประชุมชี้แจงอันตรายให้กับผู้ปฏิบัติงานก่อนเริ่มงาน

|  |  |   |              |              |
|--|--|---|--------------|--------------|
| 3. ข้อพึงปฏิบัติในการปฏิบัติงาน (ผู้ขออนุญาตเขียนวงกลมล้อมรอบตัวเลขที่ต้องปฏิบัติ และเขียน [ ] ในข้อที่ดำเนินการแล้วเสร็จ) |  |   |              |              |
| <input type="checkbox"/> 1. ตัดแยกระบบ   | <input type="checkbox"/> 9. ปิดท่อทางด้วยหน้าแปลนเทียบ       | <input checked="" type="checkbox"/> 17. แจ้ง GRCC                             |              |              |
| <input type="checkbox"/> 2. ลดความดัน  | <input type="checkbox"/> 10. ใส่ตัวยักวาล์วไฮดรอลิก          | <input type="checkbox"/> 18. แจ้ง .....                                       |              |              |
| <input type="checkbox"/> 3. ระบายทิ้ง  | <input type="checkbox"/> 11. ตรวจสอบสภาพทรานซ์/ อุปกรณ์ไฟฟ้า | <input type="checkbox"/> 19. ตรวจสอบการติดไฟก่อนปฏิบัติงาน (น้อยกว่า 10% LEL) |              |              |
| <input type="checkbox"/> 4. ตัดล๊อคอุปกรณ์ทางกล  | <input type="checkbox"/> 12. เตรียมพร้อมอุปกรณ์ดับเพลิง      | [ ] ครั้งคราว [ ] ต่อเนื่อง   |              |              |
| <input type="checkbox"/> 5. ตัดล๊อคอุปกรณ์ไฟฟ้า  | <input type="checkbox"/> 13. ใส่ตัวยักอากาศ                  | การติดไฟ  | ก่อนเริ่มงาน | ระหว่างทำงาน |
| <input type="checkbox"/> 6. ยกเลิกอุปกรณ์ความปลอดภัยชั่วคราว   | <input type="checkbox"/> 14. กับบริเวณ                       | %LEL  | ขอต่ออายุ    | หลังเลิกงาน  |
| <input type="checkbox"/> 7. ตัดแยกอุปกรณ์เครื่องมือวัด   | <input type="checkbox"/> 15. ติดตั้งป้ายเตือน                | เวลา  |              |              |
| <input type="checkbox"/> 8. แขนงป้ายห้ามอุปกรณ์ที่ตัด/ล๊อค   | <input type="checkbox"/> 16. ติดตั้งระบบระบายอากาศ           | ผู้ตรวจ   |              |              |
| ข้อกำหนดเพิ่มเติม : [ ] หมายเหตุ : ให้ใช้ตารางเพิ่มกรณีที่ต้องการ  |  |   |              |              |

|   |   |   |   |  |
|---|---|---|---|--|
| 4. ตรวจสอบอุปกรณ์คุ้มครองความปลอดภัยส่วนบุคคล ดังนี้ (กรอกโดยผู้ขออนุญาตหรือผู้ควบคุมงาน) |   |   |   |  |
| <input checked="" type="checkbox"/> หมวกนิรภัย  | <input type="checkbox"/> แวนตาไนท์      | <input checked="" type="checkbox"/> ที่ครอบหู/อุดหู | <input type="checkbox"/> อุปกรณ์ป้องกันทางเดินหายใจ | <input type="checkbox"/> เข็มขัด/เชือกนิรภัย |
| <input type="checkbox"/> ชุดป้องกันฝุ่น/สารเคมี   | <input type="checkbox"/> ถุงมือหนัง/ยาง | <input type="checkbox"/> รองเท้าบูทหัวเหล็ก         | <input checked="" type="checkbox"/> รองเท้านิรภัย   | <input type="checkbox"/> อื่นๆ .....         |
| 5. ลงนามใบอนุญาตทำงาน ต่ออายุ/ ปิดงาน   |   |   |   |  |

|  |                             |                      |
|--|-----------------------------|----------------------|
| ข้าพเจ้าเข้าใจในงานที่ปฏิบัติเป็นอย่างดี |                             | ขอต่ออายุ            |
| 5.1 ลงชื่อ .....                         | ผู้ขออนุญาต โทร 089 2010945 | ตั้งแต่ วันที่ ..... |
| ( <u>สุวิทย์ ใจมั่น</u> )                | วันที่ 24 5.3 65            | ถึง วันที่ .....     |
| หน่วยงาน .....                           | Operator                    | 5.4 ลงชื่อ .....     |
|  |                             | 5.5 ลงชื่อ .....     |
|  |                             | 5.6 ลงชื่อ .....     |

|   |                        |  |
|---|------------------------|--|
| ข้าพเจ้าได้ตรวจสอบรายการข้างต้น และพิจารณาเห็นว่าปลอดภัยสามารถปฏิบัติงานได้ |                        | ก่อนเลิกงาน  |
| 5.2 ลงชื่อ .....  | ผู้ควบคุมงาน โทร ..... | ข้าพเจ้าได้จัดทำสถานที่ทำงานให้มีสภาพปลอดภัยหรือเหมือนเดิมแล้ว |
| ( <u>.....</u> )  | วันที่ .....           | สถานะงาน [ ] แล้วเสร็จ [ ] ยังไม่แล้วเสร็จ [ ] ยกเลิก          |
| 5.3 ลงชื่อ .....  | ผู้ขออนุญาต โทร .....  | หมายเหตุ :   |
| ( <u>ปิณทุส ใจมั่น</u> )  | วันที่ 24 5.3 65       | 5.7 ลงชื่อ .....   |
|   |                        | 5.8 ลงชื่อ .....   |
|   |                        | วันที่ .....   |

ต้นฉบับ : สำหรับผู้ขออนุญาตนำไปติดแสดงที่หน้างาน คำเตือน : ต้องติดแสดงใบอนุญาตฉบับนี้ให้เห็นเด่นชัดในจุดทำงาน  
สำเนา 1 : สำหรับผู้ควบคุมงาน QM-FO-014-00



ภาคผนวก จ

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## การบำรุงรักษาระบบ SCADA และ Flow Computer



ภาคผนวก จ-1

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## สรุปผลการบำรุงรักษาระบบ SCADA และ Flow Computer

**สรุปผลการบำรุงรักษาระบบ SCADA และ Flow Computer**  
**โครงการท่อส่งก๊าซธรรมชาติในพื้นที่สวนอุตสาหกรรมโรจนะ**  
**จำนวน 3 โครงการ**

**บริษัท ปตท. จำกัด (มหาชน) ก๊าซธรรมชาติ จำกัด**  
**ระหว่างเดือนมกราคม ถึงมิถุนายน พ.ศ.2565**

**1. สรุปการดำเนินงานตามแผนบำรุงรักษาเชิงป้องกันระบบ SCADA (ห้องควบคุม และ RTU ของสถานีก๊าซฯ OTS/PRS)**

| Descriptions | Year 2022 |   |   |   |   |   |   |   |   |    |    |    |
|--------------|-----------|---|---|---|---|---|---|---|---|----|----|----|
|              | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| OTS #1       |           |   | ✓ |   |   | ✓ |   |   |   |    |    |    |
| OTS #2       |           |   | ✓ |   |   | ✓ |   |   |   |    |    |    |
| PRS#5        |           |   | ✓ |   |   | ✓ |   |   |   |    |    |    |

- หมายเหตุ : 1. ✓ คือ ดำเนินตามแผนบำรุงรักษาเชิงป้องกัน (PM)
2.  คือ แผนบำรุงรักษาเชิงป้องกันประจำทุก 3 เดือน
3.  คือ แผนบำรุงรักษาเชิงป้องกันประจำทุก 3 เดือน และทุก 6 เดือน

**2. สรุปการดำเนินงานตามแผนบำรุงรักษาเชิงป้องกันระบบ Flow Computer**

| Descriptions | Year 2022 |   |   |   |   |   |   |   |   |    |    |    |
|--------------|-----------|---|---|---|---|---|---|---|---|----|----|----|
|              | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| OTS #1       |           | ✓ |   |   | ✓ |   |   |   |   |    |    |    |
| OTS #2       |           | ✓ |   |   | ✓ |   |   |   |   |    |    |    |

- หมายเหตุ : 1. ✓ คือ ดำเนินตามแผนบำรุงรักษาเชิงป้องกัน (PM)
2.  คือ แผนบำรุงรักษาเชิงป้องกันประจำทุก 3 เดือน

บริษัทฯ ได้ดำเนินการตามแผนบำรุงรักษาเชิงป้องกันระบบ SCADA และ Flow Computer ประจำทุก 3 เดือน และ  
 ประจำทุก 6 เดือน

ภาคผนวก จ-2

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**แผนการบำรุงรักษาระบบ SCADA และ Flow Computer**

For: การบำรุงรักษาระบบ SCADA (ห้องควบคุม และ ระบบ RTU ของสถานีก๊าซ OTS/PRS )

| Code   | Descriptions | Year 2020 |     |     |     |     |   |   |     |     |     |     |    | Year 2021 |     |     |     |     |   |   |     |     |     |     |    | Year 2022 |     |     |   |     |   |   |     |   |     |    |     |  |
|--------|--------------|-----------|-----|-----|-----|-----|---|---|-----|-----|-----|-----|----|-----------|-----|-----|-----|-----|---|---|-----|-----|-----|-----|----|-----------|-----|-----|---|-----|---|---|-----|---|-----|----|-----|--|
|        |              | 1         | 2   | 3   | 4   | 5   | 6 | 7 | 8   | 9   | 10  | 11  | 12 | 1         | 2   | 3   | 4   | 5   | 6 | 7 | 8   | 9   | 10  | 11  | 12 | 1         | 2   | 3   | 4 | 5   | 6 | 7 | 8   | 9 | 10  | 11 | 12  |  |
| 02-000 | BV #10       |           | Q   |     |     | Q,H |   |   | Q   |     |     | Q,H |    |           | Q   |     |     | Q,H |   |   | Q   |     |     | Q,H |    |           | Q   |     |   | Q,H |   |   | Q   |   |     |    | Q,H |  |
| 02-001 | PRS #1       |           | Q   |     |     | Q,H |   |   | Q   |     |     | Q,H |    |           | Q   |     |     | Q,H |   |   | Q   |     |     | Q,H |    |           | Q   |     |   | Q,H |   |   | Q   |   |     |    | Q,H |  |
| 02-002 | PRS #2       |           | Q   |     |     | Q,H |   |   | Q   |     |     | Q,H |    |           | Q   |     |     | Q,H |   |   | Q   |     |     | Q,H |    |           | Q   |     |   | Q,H |   |   | Q   |   |     |    | Q,H |  |
| 04-000 | Bangplee     | Q         |     |     | Q,H |     |   | Q |     |     | Q,H |     |    | Q         |     |     | Q,H |     |   | Q |     |     | Q,H |     | Q  |           |     | Q,H |   |     | Q |   |     |   | Q,H |    |     |  |
| 05-000 | Ladkrabang   |           |     | Q   |     | Q,H |   |   | Q   |     |     | Q,H |    |           |     | Q   |     | Q,H |   |   | Q   |     |     | Q,H |    |           |     | Q   |   | Q,H |   |   | Q   |   |     |    | Q,H |  |
| 05-001 | PRS #3       |           |     | Q   |     | Q,H |   |   | Q   |     |     | Q,H |    |           |     | Q   |     | Q,H |   |   | Q   |     |     | Q,H |    |           |     | Q   |   | Q,H |   |   | Q   |   |     |    | Q,H |  |
| 06-000 | Rangsit      |           | Q,H |     |     | Q   |   |   | Q,H |     |     | Q   |    |           | Q,H |     |     | Q   |   |   | Q,H |     |     | Q   |    |           | Q,H |     |   | Q   |   |   | Q,H |   |     | Q  |     |  |
| 08-000 | Rojana       |           |     | Q,H |     |     | Q |   |     | Q,H |     |     | Q  |           |     | Q,H |     |     | Q |   |     | Q,H |     |     |    |           | Q,H |     |   | Q   |   |   | Q,H |   |     | Q  |     |  |
| 08-001 | Rojana 2     |           |     | Q,H |     |     | Q |   |     | Q,H |     |     | Q  |           |     | Q,H |     |     | Q |   |     | Q,H |     |     |    |           | Q,H |     |   | Q   |   |   | Q,H |   |     | Q  |     |  |
| 10-000 | Navanakorn   | Q         |     |     | Q,H |     |   | Q |     |     | Q,H |     |    | Q         |     |     | Q,H |     |   | Q |     |     | Q,H |     | Q  |           |     | Q,H |   |     | Q |   |     |   | Q,H |    |     |  |

Note: \_\_\_\_\_

Q = 3 Months Preventive Maintenance, H = 6 Months Preventive Maintenance

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| ผู้จัดเตรียม<br>( วาหิต ลิ้มวงศ์จิรัตน์ )<br>วันที่ 28/1/2020 | ผู้ทบทวน<br>( กนกวรรณ พงษ์พัฒน์ )<br>วันที่ 30/01/20 | ผู้อนุมัติ<br>( วิชัย มนูญโย )<br>วันที่ | หน้าที่ 1 of 2<br>แก้ไขครั้งที่ 0 |
|---|--|--|-----------------------------------|

For: การบำรุงรักษาระบบ SCADA (ห้องควบคุม และ ระบบ RTU ของสถานีก๊าซ OTS/PRS )

| Code   | Descriptions         | Year 2020 |     |     |     |   |   |     |     |     |     |    |    | Year 2021 |     |     |     |   |   |     |     |     |     |    |    | Year 2022 |     |     |     |   |   |     |     |     |     |    |    |  |  |
|--------|----------------------|-----------|-----|-----|-----|---|---|-----|-----|-----|-----|----|----|-----------|-----|-----|-----|---|---|-----|-----|-----|-----|----|----|-----------|-----|-----|-----|---|---|-----|-----|-----|-----|----|----|--|--|
|        |                      | 1         | 2   | 3   | 4   | 5 | 6 | 7   | 8   | 9   | 10  | 11 | 12 | 1         | 2   | 3   | 4   | 5 | 6 | 7   | 8   | 9   | 10  | 11 | 12 | 1         | 2   | 3   | 4   | 5 | 6 | 7   | 8   | 9   | 10  | 11 | 12 |  |  |
| 10-001 | PRS #4               | Q,H       |     |     | Q   |   |   | Q,H |     |     | Q   |    |    | Q,H       |     |     | Q   |   |   | Q,H |     |     | Q   |    |    | Q,H       |     |     | Q   |   |   | Q,H |     |     | Q   |    |    |  |  |
| 12-000 | Bangkadi             | Q         |     |     | Q,H |   |   | Q   |     |     | Q,H |    |    | Q         |     |     | Q,H |   |   | Q   |     |     | Q,H |    |    | Q         |     |     | Q,H |   |   | Q   |     |     | Q,H |    |    |  |  |
| 15-000 | WHA Eastern Seaboard |           | Q,H |     |     | Q |   |     | Q,H |     |     | Q  |    |           | Q,H |     |     | Q |   |     | Q,H |     |     | Q  |    |           | Q,H |     |     | Q |   |     | Q,H |     |     | Q  |    |  |  |
| 08-005 | PRS #5               |           |     | Q,H |     |   | Q |     |     | Q,H |     |    | Q  |           |     | Q,H |     |   | Q |     |     | Q,H |     |    | Q  |           |     | Q,H |     |   | Q |     |     | Q,H |     |    | Q  |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |
|        |                      |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |           |     |     |     |   |   |     |     |     |     |    |    |  |  |

Note:

Q = 3 Months Preventive Maintenance, H = 6 Months Preventive Maintenance

|  |  |  |                                   |
|--|--|--|-----------------------------------|
| ผู้จัดเตรียม<br>( วาฑิต ลิ้มวงศ์ศิริรัตน์ )<br>วันที่ 30/01/2020 | ผู้ทบทวน<br>( กนกวรรณ พงษ์พัฒน์ )<br>วันที่ 30/01/20 | ผู้อนุมัติ<br>( วิชัย มนูญโย )<br>วันที่ | หน้าที่ 2 of 2<br>แก้ไขครั้งที่ 0 |
|--|--|--|-----------------------------------|



For: การบำรุงรักษา Flow Computer

| Code   | Descriptions         | Year 2020 |   |   |   |   |   |   |   |   |    |    |    | Year 2021 |   |   |   |   |   |   |   |   |    |    |    | Year 2022 |   |   |   |   |   |   |   |   |    |    |    |   |   |   |  |
|--------|----------------------|-----------|---|---|---|---|---|---|---|---|----|----|----|-----------|---|---|---|---|---|---|---|---|----|----|----|-----------|---|---|---|---|---|---|---|---|----|----|----|---|---|---|--|
|        |                      | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |   |   |   |  |
| 02-000 | BV #10               | Q         |   |   | Q |   |   | Q |   |   | Q  |    |    | Q         |   |   | Q |   |   | Q |   |   | Q  |    |    | Q         |   |   | Q |   |   | Q |   |   | Q  |    |    | Q |   |   |  |
| 04-000 | Bangplee             |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |   | Q |   |  |
| 05-000 | Ladkrabang           |           |   | Q |   |   | Q |   |   | Q |    |    | Q  |           |   | Q |   |   | Q |   |   | Q |    |    | Q  |           |   | Q |   |   | Q |   |   | Q |    |    | Q  |   |   | Q |  |
| 06-000 | Rangsit              |           |   | Q |   |   | Q |   |   | Q |    |    | Q  |           |   | Q |   |   | Q |   |   | Q |    |    | Q  |           |   | Q |   |   | Q |   |   | Q |    |    | Q  |   |   | Q |  |
| 08-000 | Rojana               |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |   | Q |   |  |
| 08-001 | Rojana 2             |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |   | Q |   |  |
| 10-000 | Navanakorn           | Q         |   |   | Q |   |   | Q |   |   | Q  |    |    | Q         |   |   | Q |   |   | Q |   |   | Q  |    |    | Q         |   |   | Q |   |   | Q |   |   | Q  |    |    | Q |   |   |  |
| 12-000 | Bangkadi             | Q         |   |   | Q |   |   | Q |   |   | Q  |    |    | Q         |   |   | Q |   |   | Q |   |   | Q  |    |    | Q         |   |   | Q |   |   | Q |   |   | Q  |    |    | Q |   |   |  |
| 15-000 | WHA Eastern Seaboard |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |           | Q |   |   | Q |   |   | Q |   |    | Q  |    |   | Q |   |  |
|        |                      |           |   |   |   |   |   |   |   |   |    |    |    |           |   |   |   |   |   |   |   |   |    |    |    |           |   |   |   |   |   |   |   |   |    |    |    |   |   |   |  |
|        |                      |           |   |   |   |   |   |   |   |   |    |    |    |           |   |   |   |   |   |   |   |   |    |    |    |           |   |   |   |   |   |   |   |   |    |    |    |   |   |   |  |
|        |                      |           |   |   |   |   |   |   |   |   |    |    |    |           |   |   |   |   |   |   |   |   |    |    |    |           |   |   |   |   |   |   |   |   |    |    |    |   |   |   |  |
|        |                      |           |   |   |   |   |   |   |   |   |    |    |    |           |   |   |   |   |   |   |   |   |    |    |    |           |   |   |   |   |   |   |   |   |    |    |    |   |   |   |  |

Note:

Q = 3 Months Preventive Maintenance, H = 6 Months Preventive Maintenance

|   |   |  |   |
|---|---|--|---|
| ผู้จัดเตรียม<br>( วาทีต ลิ้มวงศ์เจริญ )<br>วันที่ 30 / 1 / 2020 | ผู้ทบทวน<br>( กนกวรรณ พงษ์พัฒน์ )<br>วันที่ 30 / 1 / 20 | ผู้อนุมัติ<br>( วิชัย มนูญโย )<br>วันที่ | หน้าที่..... 1 of 1<br>แก้ไขครั้งที่..... 0 |
|---|---|--|---|

ภาคผนวก จ-3

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## ตัวอย่างการบำรุงรักษาระบบ SCADA และ Flow Computer

## ตัวอย่างการบำรุงรักษาระบบ SCADA



## PM / Work Order

Work Order : PM22-000554

Work Order Date : 07/03/2022

Work Request No :

Customer / Tag : OTS ROJANA

Maintenance Dept. : INS

Flow Computer, SCADA, RTU

Code : 08000-SCADA

Name : SCADA

Request Dept. :

Work Type : PM

CostCenter : NG-ROJ-00000-P00-01

Priority :

Problem / Job Detail

OTS Rojana PM 3 Months (Task no. SQ-001, 002 and 006)

| Estimate Start | Estimate Finish | PM Code                   | Person        |
|----------------|-----------------|---------------------------|---------------|
| 01/03/2022     | 31/03/2022      | PM-NG-ROJ-00000-P00-01-3M | สุวิทย์ เจริญ |

| Actual Start    | Actual Finish   | Turbine/Rotary Gas Meter Index : |
|-----------------|-----------------|----------------------------------|
| 23-3-2022 10:00 | 23-3-2022 17:00 |                                  |
| Cause Code :    |                 | Corrected Volume Index :         |
|                 |                 | Action Code :                    |

| Code/Name                                  | Normal                              | Abnormal                 | Remarks |
|--|-------------------------------------|--------------------------|---------|
| 1) LT-001 Lighting in RTU room             | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 2) LT-002 Lighting in metering skid        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 3) LT-003 Lighting in Odorant room         | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 4) EXF-001 Exhaust Fan #1                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 5) FL-001 Flood Light #1                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 6) FL-002 Flood Light #2                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 7) FL-003 Flood Light #3                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 8) ACU-001 Air Conditioning Unit #1        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 9) ACU-002 Air Conditioning Unit #2        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 10) FQT-001 Turbine Index of Turbine run A | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 11) FQT-002 Turbine Index of Turbine run B | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 12) RDS-001 Room Door Switch #1            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 13) EMS-001 Emergency Switch #1            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 14) PCV-001A Proximity Switch of PCV run A | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 15) PCV-001B Proximity Switch of PCV run B | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 16) SSV-001A Proximity Switch of SSV run A | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 17) SSV-001B Proximity Switch of SSV run B | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 18) UPS-001 UPS #1                         | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |

PTT NGD Staff

Customer Staff

Approve

Division Manager

( 23-3-2022 )  
23/3/2022

( )  
...../...../.....

( 01/04/22 )  
01/04/22

( 12/04/22 )  
12/04/22

PTT Natural Gas Distribution Co., Ltd.

Operation Division / Engineering Department

OP-FO-036-03

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|                                |                              |                              |                    |
|--------------------------------|------------------------------|------------------------------|--------------------|
| EQUIPMENT: RTU / System        |                              |                              |                    |
| <input type="checkbox"/> OTS   | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : B&R |
| TAG No. : RTU-001              |                              | TYPE/SPEC. : X20             |                    |
| LOCATION/CUSTOMER : OTS ROJANA |                              | SERIAL No. :                 |                    |
| AREA/ESTATE : ROJANA           |                              |                              |                    |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. Sanitation of RTU Cabinet                          | 1       | 12     | 12     |
| 2. Date and Time on RTU (Call 181 for reference Time) | 1       | 12     | 12     |
| As Found Reference Time 11:10:00 Unit Time 11:10:00   |         |        |        |
| As Left Reference Time - Unit Time -                  |         |        |        |
| 3. DC 24 Volts Power Supply                           | 1       | 12     | 13     |
| PS.1 DC Voltage 24.03 Volts                           |         |        |        |
| PS.2 DC Voltage 24.01 Volts                           |         |        |        |
| 4. Communication to Master RTU                        | 1       | 12     | 13     |
| 5. Communication to Flow Computer run A               | 1       | 12     | 13     |
| 6. Communication to Flow Computer run B               | 1       | 12     | 13     |

COMMENT :

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE :

23-3-2022

INSPECTED BY :

สุวิทย์ เจริญ

TASK No. : SQ-001-01

PERIOD : 3 Months



แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|  |                              |                              |                    |
|--|------------------------------|------------------------------|--------------------|
| EQUIPMENT: RTU / Digital Input or Status Input |                              |                              |                    |
| <input type="checkbox"/> OTS                   | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : B&R |
| TAG No. : RTU-001                              |                              | TYPE/SPEC. : X20             |                    |
| LOCATION/CUSTOMER : OTS ROJANA                 |                              | SERIAL No. :                 |                    |
| AREA/ESTATE : ROJANA                           |                              |                              |                    |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION  | AS SEEN | ACTION | RESULT |
|--|---------|--------|--------|
| 1. Function test for Inlet Pressure                        | 1       | 12     | 13     |
| 2. Function test for Outlet Pressure                       | 1       | 12     | 13     |
| 3. Function test for Limit or Proximity Switch of SSV-001A | 1       | 12     | 13     |
| 4. Function test for Limit or Proximity Switch of SSV-002A | 1       | 12     | 13     |
| 5. Function test for Limit or Proximity Switch of SSV-001B | 1       | 12     | 13     |
| 6. Function test for Limit or Proximity Switch of SSV-002B | 1       | 12     | 13     |
| 7. Function test for Limit or Proximity Switch of PCV-001A | 1       | 12     | 13     |
| 8. Function test for Limit or Proximity Switch of PCV-001B | 1       | 12     | 13     |
| 9. Function test for Room Door Switch.                     | 1       | 12     | 13     |
| 10. Function test for Emergency Switch.                    | 1       | 12     | 13     |
| 11. Function test for UPS "AC Main Fail"                   | 1       | 12     | 13     |
| 12. Function test for UPS "UPS Fail"                       | 1       | 12     | 13     |
| 13. Function test for UPS "Batt. Low"                      | 1       | 12     | 13     |

COMMENT :

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 23-3-2022 INSPECTED BY : ศิริวิทย์ เจริญพงศ์

TASK No. : SQ-002-01

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|  |                              |                              |                    |
|--|------------------------------|------------------------------|--------------------|
| EQUIPMENT: RTU / Digital Input or Status Input |                              |                              |                    |
| <input checked="" type="checkbox"/> OTS        | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : B&R |
| TAG No. : RTU-001                              |                              | TYPE/SPEC. : X20             |                    |
| LOCATION/CUSTOMER : OTS ROJANA                 |                              | SERIAL No. :                 |                    |
| AREA/ESTATE : ROJANA                           |                              |                              |                    |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                | AS SEEN | ACTION | RESULT |
|----------------------------|---------|--------|--------|
| 14. Alarm bell             | 1       | 12     | 13     |
| 15. Fire alarm panel       | 1       | 12     | 13     |
| 16. Smoke detector#1       | 1       | 12     | 13     |
| 17. CCTV                   |         |        |        |
| Camera Camera              | 1       | 12     | 13     |
| NVR (Network Video Record) | 1       | 12     | 13     |

COMMENT :

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 23-3-2022 INSPECTED BY : ศิริวิทย์ เจริญพงศ์

TASK No. : SQ-002-01

PERIOD : 3 Months

| <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> <p>PM / Work Order</p> </div>  |                                     | Work Order : PM22-000556         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
|--|-------------------------------------|----------------------------------|---|-----------|--------|----------|---------|--------------------------------|-------------------------------------|--------------------------|--|-------------------------------------|-------------------------------------|--------------------------|--|------------------------------------|-------------------------------------|--------------------------|--|---------------------------|-------------------------------------|--------------------------|--|--------------------------|-------------------------------------|--------------------------|--|--------------------------|-------------------------------------|--------------------------|--|--------------------------|-------------------------------------|--------------------------|--|-------------------------------------|-------------------------------------|--------------------------|--|-------------------------------------|-------------------------------------|--------------------------|--|--|-------------------------------------|--------------------------|--|--|-------------------------------------|--------------------------|--|---------------------------------|-------------------------------------|--------------------------|--|---------------------------------|-------------------------------------|--------------------------|--|--|-------------------------------------|--------------------------|--|--|-------------------------------------|--------------------------|--|--|-------------------------------------|--------------------------|--|--|-------------------------------------|--------------------------|--|--------------------|-------------------------------------|--------------------------|--|
|  |                                     | Work Order Date : 07/03/2022     |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
|  |                                     | Work Request No :                |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| Customer / Tag : OTS ROJANA2   |                                     | Maintenance Dept. : INS          |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
|  |                                     | Flow Computer, SCADA, RTU        |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| Code : 08001-SCADA<br>Name : SCADA   |                                     | Request Dept. :                  |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| Work Type : PM   | CostCenter : NG-ROJ-00000-P00-02    | Priority :                       |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| Problem / Job Detail<br>OTS ROJ2PM 3 Months (Task no. SQ-001, 002 and 006)   |                                     |                                  |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| Estimate Start   | Estimate Finish                     | PM Code                          | Person  |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 01/03/2022   | 31/03/2022                          | PM-NG-ROJ-00000-P00-02-3M        | สุวิทย์ เจริญ                                       |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| Actual Start   | Actual Finish                       | Turbine/Rotary Gas Meter Index : |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 24-3-2022 10:00  | 24-3-2022 17:00                     | Corrected Volume Index :         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| Cause Code :   |                                     | Action Code :                    |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Code/Name</th> <th>Normal</th> <th>Abnormal</th> <th>Remarks</th> </tr> </thead> <tbody> <tr><td>1) LT-001 Lighting in RTU room</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>2) LT-002 Lighting in metering skid</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>3) LT-003 Lighting in Odorant room</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>4) EXF-001 Exhaust Fan #1</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>5) FL-001 Flood Light #1</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>6) FL-002 Flood Light #2</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>7) FL-003 Flood Light #3</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>8) ACU-001 Air Conditioning Unit #1</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>9) ACU-002 Air Conditioning Unit #2</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>10) FQT-001 Turbine Index of Turbine run A</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>11) FQT-002 Turbine Index of Turbine run B</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>12) RDS-001 Room Door Switch #1</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>13) EMS-001 Emergency Switch #1</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>14) PCV-001A Proximity Switch of PCV run A</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>15) PCV-001B Proximity Switch of PCV run B</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>16) SSV-001A Proximity Switch of SSV run A</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>17) SSV-001B Proximity Switch of SSV run B</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>18) UPS-001 UPS #1</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> </tbody> </table> |                                     |                                  |   | Code/Name | Normal | Abnormal | Remarks | 1) LT-001 Lighting in RTU room | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 2) LT-002 Lighting in metering skid | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 3) LT-003 Lighting in Odorant room | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 4) EXF-001 Exhaust Fan #1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 5) FL-001 Flood Light #1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 6) FL-002 Flood Light #2 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 7) FL-003 Flood Light #3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 8) ACU-001 Air Conditioning Unit #1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 9) ACU-002 Air Conditioning Unit #2 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 10) FQT-001 Turbine Index of Turbine run A | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 11) FQT-002 Turbine Index of Turbine run B | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 12) RDS-001 Room Door Switch #1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 13) EMS-001 Emergency Switch #1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 14) PCV-001A Proximity Switch of PCV run A | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 15) PCV-001B Proximity Switch of PCV run B | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 16) SSV-001A Proximity Switch of SSV run A | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 17) SSV-001B Proximity Switch of SSV run B | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  | 18) UPS-001 UPS #1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  |
| Code/Name  | Normal                              | Abnormal                         | Remarks   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 1) LT-001 Lighting in RTU room   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 2) LT-002 Lighting in metering skid  | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 3) LT-003 Lighting in Odorant room   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 4) EXF-001 Exhaust Fan #1  | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 5) FL-001 Flood Light #1   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 6) FL-002 Flood Light #2   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 7) FL-003 Flood Light #3   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 8) ACU-001 Air Conditioning Unit #1  | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 9) ACU-002 Air Conditioning Unit #2  | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 10) FQT-001 Turbine Index of Turbine run A   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 11) FQT-002 Turbine Index of Turbine run B   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 12) RDS-001 Room Door Switch #1  | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 13) EMS-001 Emergency Switch #1  | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 14) PCV-001A Proximity Switch of PCV run A   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 15) PCV-001B Proximity Switch of PCV run B   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 16) SSV-001A Proximity Switch of SSV run A   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 17) SSV-001B Proximity Switch of SSV run B   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| 18) UPS-001 UPS #1   | <input checked="" type="checkbox"/> | <input type="checkbox"/>         |   |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| PTT NGD Staff  |                                     | Customer Staff                   | Approve<br><br>(นายสุวิทย์ เจริญ) 07/04/22          |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |
| <br>(สุวิทย์ เจริญ) 24/3/2022  |                                     | <br>( ) / /                      | Division Manager<br><br>(นายสุวิทย์ เจริญ) 17/04/22 |           |        |          |         |                                |                                     |                          |  |                                     |                                     |                          |  |                                    |                                     |                          |  |                           |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                          |                                     |                          |  |                                     |                                     |                          |  |                                     |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                                 |                                     |                          |  |                                 |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |  |                                     |                          |  |                    |                                     |                          |  |

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                    |
|---|------------------------------|------------------------------|--------------------|
| EQUIPMENT: RTU / System                 |                              |                              |                    |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : B&R |
| TAG No. : RTU-001                       |                              | TYPE/SPEC. : X20             |                    |
| LOCATION/CUSTOMER : OTS Rojana. #2      |                              | SERIAL No. :                 |                    |
| AREA/ESTATE : Rojana                    |                              |                              |                    |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. Sanitation of RTU Cabinet                          | 1       | 12     | 13     |
| 2. Date and Time on RTU (Call 181 for reference Time) | 1       | 12     | 13     |
| As Found Reference Time 12:30:00 Unit Time 12:30:00   |         |        |        |
| As Left Reference Time - Unit Time -                  |         |        |        |
| 3. DC 24 Volts Power Supply                           | 1       | 12     | 13     |
| PS.1 DC Voltage 24.02 Volts                           |         |        |        |
| PS.2 DC Voltage 24.01 Volts                           |         |        |        |
| 4. Communication to Master RTU                        | 1       | 12     | 13     |
| 5. Communication to Flow Computer run A               | 1       | 12     | 13     |
| 6. Communication to Flow Computer run B               | 1       | 12     | 13     |

## COMMENT :

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 24-3-2022 INSPECTED BY : สุวิทย์ เจริญ

TASK No. : SQ-001-01

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|  |                              |                              |                    |
|--|------------------------------|------------------------------|--------------------|
| EQUIPMENT: RTU / Digital Input or Status Input |                              |                              |                    |
| <input checked="" type="checkbox"/> OTS        | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : B&R |
| TAG No. : RTU-001                              |                              | TYPE/SPEC. : X20             |                    |
| LOCATION/CUSTOMER : OTS Rojana. #2             |                              | SERIAL No. :                 |                    |
| AREA/ESTATE : Rojana                           |                              |                              |                    |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. Function test for Inlet Pressure                         | 1       | 12     | 13     |
| 2. Function test for Outlet Pressure                        | 1       | 12     | 13     |
| 3. Function test for Limit or Proximity Switch of PCV-001A  | 1       | 12     | 13     |
| 4. Function test for Limit or Proximity Switch of PCV-001B  | 1       | 12     | 13     |
| 5. Function test for Limit or Proximity Switch of PCV-002A  | 1       | 12     | 13     |
| 6. Function test for Limit or Proximity Switch of PCV-002B  | 1       | 12     | 13     |
| 7. Function test for Limit or Proximity Switch of SSV-001A  | 1       | 12     | 13     |
| 8. Function test for Limit or Proximity Switch of SSV-001B  | 1       | 12     | 13     |
| 9. Function test for Limit or Proximity Switch of SSV-002A  | 1       | 12     | 13     |
| 10. Function test for Limit or Proximity Switch of SSV-002B | 1       | 12     | 13     |
| 11. Function test for Limit or Proximity Switch of SSV-003A | 1       | 12     | 13     |
| 12. Function test for Limit or Proximity Switch of SSV-003B | 1       | 12     | 13     |
| 13. Function test for Limit or Proximity Switch of PSV-001A | 1       | 12     | 13     |

COMMENT :

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 24-3-2022 INSPECTED BY : ศักดิ์สิทธิ์ วัฒนศิริ

TASK No. : SQ-002-01

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|  |                              |                              |                    |
|--|------------------------------|------------------------------|--------------------|
| EQUIPMENT: RTU / Digital Input or Status Input |                              |                              |                    |
| <input checked="" type="checkbox"/> OTS        | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : B&R |
| TAG No. : RTU-001                              |                              | TYPE/SPEC. : X20             |                    |
| LOCATION/CUSTOMER : OTS Rojana. #2             |                              | SERIAL No. :                 |                    |
| AREA/ESTATE : Rojana                           |                              |                              |                    |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 14. Function test for Limit or Proximity Switch of PSV-001B | 1       | 12     | 13     |
| 15. Function test for Limit or Proximity Switch of PSV-002A | 1       | 12     | 13     |
| 16. Function test for Limit or Proximity Switch of PSV-002B | 1       | 12     | 13     |
| 17. Function test for PDT001A                               | 1       | 12     | 13     |
| 18. Function test for PDT001B                               | 1       | 12     | 13     |
| 19. Function test for Room Door Switch.                     | 1       | 12     | 13     |
| 20. Function test for Emergency Switch.                     | 1       | 12     | 13     |
| 21. Function test for UPS "AC Main Fail"                    | 1       | 12     | 13     |
| 22. Function test for UPS "UPS Fail"                        | 1       | 12     | 13     |
| 23. Function test for UPS "Batt. Low"                       | 1       | 12     | 13     |
| 24. Alarm bell  | 1       | 12     | 13     |
| 25. Fire alarm panel  | 1       | 12     | 13     |
| 26. Smoke detector#1  | 1       | 12     | 13     |

COMMENT :

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 24-3-2022 INSPECTED BY : ศักดิ์สิทธิ์ วัฒนศิริ

TASK No. : SQ-002-01

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|  |                              |                              |                    |
|--|------------------------------|------------------------------|--------------------|
| EQUIPMENT: RTU / Digital Input or Status Input |                              |                              |                    |
| <input checked="" type="checkbox"/> OTS        | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : B&R |
| TAG No. : RTU-001                              |                              | TYPE/SPEC. : X20             |                    |
| LOCATION/CUSTOMER : OTS Rojana. #2             |                              | SERIAL No. :                 |                    |
| AREA/ESTATE : Rojana                           |                              |                              |                    |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                | AS SEEN | ACTION | RESULT |
|----------------------------|---------|--------|--------|
| 27. CCTV                   |         |        |        |
| Camera                     | 1       | 12     | 13     |
| NVR (Network Video Record) | 1       | 12     | 13     |

COMMENT :

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 24-3-2022 INSPECTED BY : ศิริวิมล วัฒนชัย

TASK No. : SQ-002-01

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                    |
|---|------------------------------|------------------------------|--------------------|
| EQUIPMENT: RTU / Gas Turbine Index      |                              |                              |                    |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : B&R |
| TAG No. : RTU-001                       |                              | TYPE/SPEC. : X20             |                    |
| LOCATION/CUSTOMER : OTS Rojana. #2      |                              | SERIAL No. :                 |                    |
| AREA/ESTATE : Rojana                    |                              |                              |                    |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN      | ACTION       | RESULT |
|---|--------------|--------------|--------|
| 1. Gas Turbine Index number in RTU for meter run A. | 1            | 12           | 13     |
| Gas Turbine s/n 10514446/2010 imp/m3 1              |              |              |        |
| As Found Turbine Index 34226150                     | RTU 34226150 | HMI 34226150 |        |
| As Left Turbine Index -                             | RTU -        | HMI -        |        |
| 2. Gas Turbine Index number in RTU for meter run B. | 1            | 12           | 13     |
| Gas Turbine s/n 10514447/2010 imp/m3 1              |              |              |        |
| As Found Turbine Index 30236300                     | RTU 30236300 | HMI 30236300 |        |
| As Left Turbine Index -                             | RTU -        | HMI -        |        |

COMMENT :

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 24-3-2022 INSPECTED BY : ศิริวิมล วัฒนชัย


TASK No. : SQ-001-01

PERIOD : 3 Months







|  |                                     |  |
|--|-------------------------------------|--|
|  <b>PM / Work Order</b> |                                     | Work Order : PM22-000558                             |
|  |                                     | Work Order Date : 07/03/2022                         |
|  |                                     | Work Request No :                                    |
| Customer / Tag : PRS5 ROJJANA  |                                     | Maintenance Dept. : INS<br>Flow Computer, SCADA, RTU |
| Code : 08005-SCADA<br>Name : SCADA   |                                     | Request Dept. :                                      |
| Work Type : PM   | CostCenter : NG-ROJ-00000-P00-11    | Priority :   |
| Problem / Job Detail<br>PRS5 PM 3 Months (Task no. SQ-001, 002 and 006)                                |                                     |  |
| Estimate Start<br>01/03/2022   | Estimate Finish<br>31/03/2022       | PM Code<br>PM-NG-ROJ-00000-P00-11-3M                 |
| Person<br>สุวิทย์ เจริญ  |                                     |  |
| Actual Start<br>24-3-2022 10:00  | Actual Finish<br>24-3-2022 17:00    | Turbine/Rotary Gas Meter Index : -                   |
| Cause Code :   |                                     | Corrected Volume Index : -                           |
| Action Code :  |                                     |  |
| Code/Name  | Normal                              | Abnormal   |
| 1) LT-001 Lighting in RTU room   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 2) LT-002 Lighting in metering skid  | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 3) LT-003 Lighting in Odorant room   | <input type="checkbox"/>            | <input type="checkbox"/>                             |
| 4) EXF-001 Exhaust Fan #1  | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 5) FL-001 Flood Light #1   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 6) FL-002 Flood Light #2   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 7) FL-003 Flood Light #3   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 8) ACU-001 Air Conditioning Unit #1  | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 9) ACU-002 Air Conditioning Unit #2  | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 10) FQT-001 Turbine Index of Turbine run A   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 11) FQT-002 Turbine Index of Turbine run B   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 12) RDS-001 Room Door Switch #1  | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 13) EMS-001 Emergency Switch #1  | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 14) PCV-001A Proximity Switch of PCV run A   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 15) PCV-001B Proximity Switch of PCV run B   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 16) SSV-001A Proximity Switch of SSV run A   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 17) SSV-001B Proximity Switch of SSV run B   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| 18) UPS-001 UPS #1   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                             |
| Remarks  |                                     |  |

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                    |
|---|--------------------|
| EQUIPMENT: RTU / System   |                    |
| <input type="checkbox"/> OTS <input checked="" type="checkbox"/> PRS <input type="checkbox"/> MRS | MANUFACTURER : B&R |
| TAG No. : RTU-001   | TYPE/SPEC. : X20   |
| LOCATION/CUSTOMER : PRS. 5  | SERIAL No. :       |
| AREA/ESTATE : ROJANA  |                    |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. Sanitation of RTU Cabinet                          | 1       | 12     | 13     |
| 2. Date and Time on RTU (Call 181 for reference Time) | 1       | 12     | 13     |
| As Found Reference Time 15:30:00 Unit Time 15:30:00   |         |        |        |
| As Left Reference Time - Unit Time -                  |         |        |        |
| 3. DC 24 Volts Power Supply                           | 1       | 12     | 13     |
| PS.1 DC Voltage 24.05 Volts                           |         |        |        |
| PS.2 DC Voltage 24.03 Volts                           |         |        |        |
| 4. Communication to Master RTU                        | 1       | 12     | 13     |

COMMENT :

| MATERIAL / PART USED | STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|----------------------|-----------|-------------|--------------|----------|
|                      |           |             |              |          |
|                      |           |             |              |          |
|                      |           |             |              |          |

INSPECTION DATE : 24-3-2022 INSPECTED BY : สุวิทย์ เจริญ

TASK No. : SQ-001-01

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|  |   |                              |                    |
|--|---|------------------------------|--------------------|
| EQUIPMENT: RTU / Digital Input or Status Input |   |                              |                    |
| <input type="checkbox"/> OTS                   | <input checked="" type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : B&R |
| TAG No. : RTU-001                              |   | TYPE/SPEC. : X20             |                    |
| LOCATION/CUSTOMER : PRS. 5                     |   | SERIAL No. :                 |                    |
| AREA/ESTATE : ROJANA                           |   |                              |                    |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. Function test for Inlet Pressure                         | 1       | 12     | 13     |
| 2. Function test for Outlet Pressure                        | 1       | 12     | 13     |
| 3. Function test for Limit or Proximity Switch of SSV-001A  | 1       | 12     | 13     |
| 4. Function test for Limit or Proximity Switch of SSV-002A  | 1       | 12     | 13     |
| 5. Function test for Limit or Proximity Switch of SSV-001B  | 1       | 12     | 13     |
| 6. Function test for Limit or Proximity Switch of SSV-002B  | 1       | 12     | 13     |
| 7. Function test for Limit or Proximity Switch of PCV-001A  | 1       | 12     | 13     |
| 8. Function test for Limit or Proximity Switch of PCV-001B  | 1       | 12     | 13     |
| 9. Function test for Limit or Proximity Switch of PSV-001A  | 1       | 12     | 13     |
| 10. Function test for Limit or Proximity Switch of PSV-001B | 1       | 12     | 13     |
| 11. Function test for Room Door Switch.                     | 1       | 12     | 13     |
| 12. Function test for Emergency Switch.                     | 1       | 12     | 13     |

COMMENT :

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 24-3-2022 INSPECTED BY : สุวิมล เวินน.

TASK No. : SQ-002-01

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|  |   |                              |                    |
|--|---|------------------------------|--------------------|
| EQUIPMENT: RTU / Digital Input or Status Input |   |                              |                    |
| <input type="checkbox"/> OTS                   | <input checked="" type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : B&R |
| TAG No. : RTU-001                              |   | TYPE/SPEC. : X20             |                    |
| LOCATION/CUSTOMER : PRS. 5                     |   | SERIAL No. :                 |                    |
| AREA/ESTATE : ROJANA                           |   |                              |                    |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                              | AS SEEN | ACTION | RESULT |
|--|---------|--------|--------|
| 13. Function test for UPS "AC Main Fail" | 1       | 12     | 13     |
| 14. Function test for UPS "UPS Fail"     | 1       | 12     | 13     |
| 15. Function test for UPS "Batt. Low"    | 1       | 12     | 13     |
| 16. Alarm bell                           | 1       | 12     | 13     |
| 17. Fire alarm panel                     | 1       | 12     | 13     |
| 18. Smok detector#1                      | 1       | 12     | 13     |
| 19. CCTV                                 |         |        |        |
| Camera                                   | 1       | 12     | 13     |
| NVR (Network Video Record)               | 1       | 12     | 13     |

COMMENT :

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 24-3-2022 INSPECTED BY : สุวิมล เวินน.

TASK No. : SQ-002-01

PERIOD : 3 Months





แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|                              |                              |                                  |                         |
|------------------------------|------------------------------|----------------------------------|-------------------------|
| EQUIPMENT: SCADA SYSTEM      |                              |                                  |                         |
| <input type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS     | MANUFACTURER : YOKOGAWA |
| TAG No. : PT-002             |                              | TYPE/SPEC. : EJX530A-JBS7N-012EL |                         |
| LOCATION/CUSTOMER : PRS. 5   |                              | SERIAL No. : 91W444575           |                         |
| AREA/ESTATE : ROJANA         |                              |                                  |                         |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                             | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. Calibration for Pressure Transmitter | 1       | 12     | 13     |

| INPUT |        |        | AS FOUND |        |        |        | AS LEFT |        |       |        |
|-------|--------|--------|----------|--------|--------|--------|---------|--------|-------|--------|
|       |        |        | Current  |        | SCADA  |        | Current |        | SCADA |        |
| %     | mA     | Bar g  | mA       | %Error | Bar g  | %Error | mA      | %Error | Bar g | %Error |
| 0     | 4.000  | 0.000  | 4.000    | 0.000  | 0.000  | 0.000  |         |        |       |        |
| 25    | 8.000  | 5.000  | 8.000    | 0.000  | 5.000  | 0.000  |         |        |       |        |
| 50    | 12.000 | 10.000 | 12.001   | 0.006  | 10.002 | 0.020  |         |        |       |        |
| 75    | 16.000 | 15.000 | 16.001   | 0.006  | 15.002 | 0.020  |         |        |       |        |
| 100   | 20.000 | 20.000 | 20.002   | 0.013  | 20.003 | 0.030  |         |        |       |        |
| 75    | 16.000 | 15.000 | 16.001   | 0.006  | 15.002 | 0.020  |         |        |       |        |
| 50    | 12.000 | 10.000 | 12.000   | 0.000  | 10.000 | 0.000  |         |        |       |        |
| 25    | 8.000  | 5.000  | 8.000    | 0.000  | 5.000  | 0.000  |         |        |       |        |
| 0     | 4.000  | 0.000  | 4.000    | 0.000  | 0.000  | 0.000  |         |        |       |        |

COMMENT : 1.) %error of span is = (reading - desired) / span \* 100%

2.) span = Upper range value - Lower range value 4.) %error of span is = Current Reading must be less than +/- 0.16 mA

3.) %error should be < ± 1.0 % 5.) %error of span is = Pressure Reading must be less than +/- 0.2 bar

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 24-3-2022 INSPECTED BY : ศิริวิทย์ วัฒนศิริ

TASK No. : SH-002-02

PERIOD : 6 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|                              |                              |                                  |                         |
|------------------------------|------------------------------|----------------------------------|-------------------------|
| EQUIPMENT: SCADA SYSTEM      |                              |                                  |                         |
| <input type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS     | MANUFACTURER : YOKOGAWA |
| TAG No. : PT-003             |                              | TYPE/SPEC. : EJX530A-JBS7N-012EL |                         |
| LOCATION/CUSTOMER : PRS. 5   |                              | SERIAL No. : 91W444574           |                         |
| AREA/ESTATE : ROJANA         |                              |                                  |                         |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                             | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. Calibration for Pressure Transmitter | 1       | 12     | 13     |

| INPUT |        |        | AS FOUND |        |        |        | AS LEFT |        |       |        |
|-------|--------|--------|----------|--------|--------|--------|---------|--------|-------|--------|
|       |        |        | Current  |        | SCADA  |        | Current |        | SCADA |        |
| %     | mA     | Bar g  | mA       | %Error | Bar g  | %Error | mA      | %Error | Bar g | %Error |
| 0     | 4.000  | 0.000  | 4.000    | 0.000  | 0.010  | 0.100  |         |        |       |        |
| 25    | 8.000  | 2.500  | 8.001    | 0.006  | 2.505  | 0.050  |         |        |       |        |
| 50    | 12.000 | 5.000  | 12.002   | 0.013  | 5.002  | 0.020  |         |        |       |        |
| 75    | 16.000 | 7.500  | 16.000   | 0.000  | 7.502  | 0.020  |         |        |       |        |
| 100   | 20.000 | 10.000 | 20.001   | 0.013  | 10.003 | 0.030  |         |        |       |        |
| 75    | 16.000 | 7.500  | 16.000   | 0.000  | 7.502  | 0.020  |         |        |       |        |
| 50    | 12.000 | 5.000  | 12.002   | 0.013  | 5.002  | 0.020  |         |        |       |        |
| 25    | 8.000  | 2.500  | 8.001    | 0.006  | 2.503  | 0.030  |         |        |       |        |
| 0     | 4.000  | 0.000  | 4.000    | 0.000  | 0.005  | 0.050  |         |        |       |        |

COMMENT : 1.) %error of span is = (reading - desired) / span \* 100%

2.) span = Upper range value - Lower range value 4.) %error of span is = Current Reading must be less than +/- 0.16 mA

3.) %error should be < ± 1.0 % 5.) %error of span is = Pressure Reading must be less than +/- 0.1 bar

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |


INSPECTION DATE : 24-3-2022 INSPECTED BY : ศิริวิทย์ วัฒนศิริ

TASK No. : SH-002-02

PERIOD : 6 Months



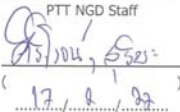


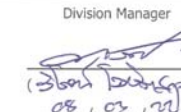
## ตัวอย่างการบำรุงรักษาระบบ Flow Computer

|   |                                  |  |
|---|----------------------------------|--|
|  <b>PM / Work Order</b> |                                  | Work Order : PM22-000340                             |
|   |                                  | Work Order Date : 01/02/2022                         |
|   |                                  | Work Request No :                                    |
| Customer / Tag : OTS ROJANA   |                                  | Maintenance Dept. : INS<br>Flow Computer, SCADA, RTU |
| Code : 08000M001<br>Name : OTS / Flow Computer System   |                                  | Request Dept. :                                      |
| Work Type : PM  | CostCenter : NG-ROJ-00000-P00-01 | Priority :   |
| Problem / Job Detail<br>Flow Com. PM 3 months for OTS Rojana  |                                  |  |

| Estimate Start | Estimate Finish | PM Code                       | Person             |
|----------------|-----------------|-------------------------------|--------------------|
| 01/02/2022     | 28/02/2022      | PM-NG-ROJ-00000-P00-01-Q-FLOW | ศิริโรจน์ แสงวงบุญ |

| Actual Start  | Actual Finish | Turbine/Rotary Gas Meter Index : |
|---------------|---------------|----------------------------------|
| 17/2/22 13.00 | 17/2/22 18.00 | Corrected Volume Index :         |
| Cause Code :  |               | Action Code :                    |

| Code/Name   | Normal                              | Abnormal                 | Remarks |
|---|-------------------------------------|--------------------------|---------|
| 1) FQR-001 Report Printer for Flow Computer Run A | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 2) FQR-002 Report Printer for Flow Computer Run B | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 3) FQY-010 Flow Computer Run A                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 4) FQY-011 Flow Computer Run B                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 5) PT-001A Pressure Tx run A                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 6) PT-001B Pressure Tx run B                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 7) TT-001A Temperature Tx run A                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 8) TT-001B Temperature Tx run B                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |

|   |  |   |  |
|---|--|---|--|
| PTT NGD Staff<br><br>( 17, 2, 22 ) | Customer Staff<br><br>( ..... ) | Approve<br><br>( 17, 2, 22 ) | Division Manager<br><br>( 08, 02, 22 ) |
|---|--|---|--|

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                      |
|---|------------------------------|------------------------------|----------------------|
| EQUIPMENT: Flow Computer Cabinet        |                              |                              |                      |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : _____ |
| TAG No. : _____                         |                              | TYPE/SPEC. : _____           |                      |
| LOCATION/CUSTOMER : OTS, Rojana 1       |                              | SERIAL No. : _____           |                      |
| AREA/ESTATE : Rojana                    |                              |                              |                      |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | AS SEEN | ACTION | RESULT |
|---|---------|--------|--------|
| 1. Sanitation of Cabinet                            | 1       | 12     | 13     |
| 2. Exhaust Fan #1                                   | 1       | 12     | 13     |
| 3. Exhaust Fan #2                                   | 1       | 12     | 13     |
| 4. Grounding system ie. Cable, Termination          | 1       | 12     | 13     |
| 5. 24 Vdc Switching Power Supply #1                 | 1       | 12     | 13     |
| 6. 24 Vdc Switching Power Supply #2                 | 1       | 12     | 13     |
| 7. 24 Vdc Switching Power Supply #3                 | -       | -      | -      |
| 8. 24 Vdc Switching Power Supply #4                 | -       | -      | -      |
| 9. Clamp Diode #1 (Bridge Rectified)                | 1       | 12     | 13     |
| 10. Clamp Diode #2 (Bridge Rectified)               | 1       | 12     | 13     |
| 11. Surge Protection System (Surge protection unit) | 1       | 12     | 13     |
| 12. Cabinet Lighting System (ie. Fluorescent Lamp)  | 1       | 12     | 13     |
| 13. Cabinet Door (ie. Locking, Swing Chamber)       | 1       | 12     | 13     |

COMMENT :

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 17/2/22

INSPECTED BY :

TASK No. : FQ-001-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                      |
|---|------------------------------|------------------------------|----------------------|
| EQUIPMENT: Report Printer Cabinet       |                              |                              |                      |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : _____ |
| TAG No. : _____                         |                              | TYPE/SPEC. : _____           |                      |
| LOCATION/CUSTOMER : OTS. Rojana 1       |                              | SERIAL No. : _____           |                      |
| AREA/ESTATE : Rojana                    |                              |                              |                      |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                  | AS SEEN | ACTION | RESULT |
|--|---------|--------|--------|
| 1. Sanitation of Cabinet                     | 1       | 12     | 13     |
| 2. Cabinet Door                              | 1       | 12     | 13     |
| 3. Sealing                                   | 1       | 12     | 13     |
| 4. AC Outlet Box                             | 1       | 12     | 13     |
| 5. Grounding system (ie. Cable, Termination) | 1       | 12     | 13     |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 17/2/22 INSPECTED BY : 

TASK No. : FQ-002-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                                    |
|---|------------------------------|------------------------------|------------------------------------|
| EQUIPMENT: Flow Computer Unit           |                              |                              |                                    |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : Flow-X Flowcomputer |
| TAG No. : FQY-010                       |                              | TYPE/SPEC. : Flow-X/S        |                                    |
| LOCATION/CUSTOMER : OTS. Rojana 1       |                              | SERIAL No. : 12-30-001-060   |                                    |
| AREA/ESTATE : Rojana                    |                              |                              |                                    |

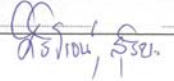
INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION  | AS SEEN            | ACTION      | RESULT |
|--|--------------------|-------------|--------|
| 1. Date and Time (Call 181 for Thai Standard Reference Time) | 1                  | 12          | 13     |
| As Found Reference Time 17:15:00                             | Unit Time 17:15:00 | Deviation - |        |
| As Left Reference Time -                                     | Unit Time -        |             |        |
| 2. LCD Display   | 1                  | 12          | 13     |
| 3. Alarm Display   |                    |             |        |
| 3.1) _____   | -                  | -           | -      |
| 3.2) _____   | -                  | -           | -      |
| 4. Printing Command  |                    |             |        |
| 4.1) Snapshot or Current Report                              | 1                  | 12          | 13     |
| 4.2) Daily Report  | 1                  | 12          | 13     |
| 4.3) Archive Report  | 1                  | 12          | 13     |
| 4.4) Other Report _____                                      | -                  | -           | -      |
| 5. Grounding System  | 1                  | 12          | 13     |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 17/2/22 INSPECTED BY : 

TASK No. : FQ-003-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                                    |
|---|------------------------------|------------------------------|------------------------------------|
| EQUIPMENT: Flow Computer Unit           |                              |                              |                                    |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : Flow-X Flowcomputer |
| TAG No. : FQY-011                       |                              | TYPE/SPEC. : Flow-X/S        |                                    |
| LOCATION/CUSTOMER : OTS, Rojana 1       |                              | SERIAL No. : 12-30-001-080   |                                    |
| AREA/ESTATE : Rojana                    |                              |                              |                                    |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION  | AS SEEN            | ACTION      | RESULT |
|--|--------------------|-------------|--------|
| 1. Date and Time (Call 181 for Thai Standard Reference Time) | 1                  | 12          | 13     |
| As Found Reference Time 14:50:00                             | Unit Time 14:50:00 | Deviation - |        |
| As Left Reference Time -                                     | Unit Time -        |             |        |
| 2. LCD Display   | 1                  | 12          | 13     |
| 3. Alarm Display   |                    |             |        |
| 3.1) _____   | -                  | -           | -      |
| 3.2) _____   | -                  | -           | -      |
| 4. Printing Command  |                    |             |        |
| 4.1) Snapshot or Current Report                              | 1                  | 12          | 13     |
| 4.2) Daily Report  | 1                  | 12          | 13     |
| 4.3) Archive Report  | 1                  | 12          | 13     |
| 4.4) Other Report  | -                  | -           | -      |
| 5. Grounding System  | 1                  | 12          | 13     |

COMMENT :

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 17/2/22

INSPECTED BY : อ.สมาน, ส.สอ.

TASK No. : FQ-003-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                      |
|---|------------------------------|------------------------------|----------------------|
| EQUIPMENT: Dot Matrix Printer           |                              |                              |                      |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : EPSON |
| TAG No. : FQR-001                       |                              | TYPE/SPEC. : LQ-300II        |                      |
| LOCATION/CUSTOMER : OTS, Rojana 1       |                              | SERIAL No. : G84Y185618      |                      |
| AREA/ESTATE : Rojana                    |                              |                              |                      |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION  | AS SEEN | ACTION | RESULT |
|--|---------|--------|--------|
| 1. Sanitation of Printer                               | 1       | 12     | 13     |
| 2. Report Paper  |         |        |        |
| 2.1) Quantity (Must be replace if less than 20 sheets) | 1       | 12     | 13     |
| 2.2) Ready to use                                      | 1       | 12     | 13     |
| 3. Ribbon Ink / Toner                                  |         |        |        |
| 3.1) Printer Image / Quality (Darker or Lighter)       | 1       | 12     | 13     |
| 3.2) Ribbon Status / Toner Status                      | 1       | 12     | 13     |
| 4. Printing (Test print by other machine)              | 1       | 12     | 13     |

COMMENT :

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 17/2/22

INSPECTED BY : อ.สมาน, ส.สอ.

TASK No. : FQ-004-03

PERIOD : 3 Months



แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                      |
|---|------------------------------|------------------------------|----------------------|
| EQUIPMENT: Dot Matrix Printer           |                              |                              |                      |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : EPSON |
| TAG No. : FQR-002                       |                              | TYPE/SPEC. : LQ-300II        |                      |
| LOCATION/CUSTOMER : OTS, Rojana 1       |                              | SERIAL No. : G84Y184323      |                      |
| AREA/ESTATE : Rojana                    |                              |                              |                      |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION  | AS SEEN | ACTION | RESULT |
|--|---------|--------|--------|
| 1. Sanitation of Printer                               | 1       | 12     | 13     |
| 2. Report Paper  |         |        |        |
| 2.1) Quantity (Must be replace if less than 20 sheets) | 1       | 12     | 13     |
| 2.2) Ready to use                                      | 1       | 12     | 13     |
| 3. Ribbon Ink / Tonner                                 |         |        |        |
| 3.1) Printer Image / Quality (Darker or Lighter)       | 1       | 12     | 13     |
| 3.2) Ribbon Status / Tonner Status                     | 1       | 12     | 13     |
| 4. Printing (Test print by other machine)              | 1       | 12     | 13     |

COMMENT :

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 17/2/22

INSPECTED BY : *Adin, Sei*

TASK No. : FQ-004-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |  |                          |
|---|------------------------------|--|--------------------------|
| EQUIPMENT: Pressure Transmitter and Flow Computer Reading |                              |  |                          |
| <input checked="" type="checkbox"/> OTS                   | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS           | MANUFACTURER : ROSEMOUNT |
| TAG No. : PT-001A   |                              | TYPE/SPEC. : 2051TG3A2B31AS5B4K5M5P1Q4 |                          |
| LOCATION/CUSTOMER : OTS, Rojana 1                         |                              | SERIAL No. : 2639409                   |                          |
| AREA/ESTATE : Rojana                                      |                              |  |                          |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                             |  |        | AS SEEN     |        |               |        | ACTION      |        | RESULT        |        |
|---|--|--------|-------------|--------|---------------|--------|-------------|--------|---------------|--------|
| 1. Calibration for Pressure Transmitter |  |        | 1           |        |               |        | 10, 12      |        | 13            |        |
| INPUT / Desired                         |  |        | AS FOUND    |        |               |        | AS LEFT     |        |               |        |
|   |  |        | Transmitter |        | Flow Computer |        | Transmitter |        | Flow Computer |        |
| %                                       |  | Bar g  | Bar g       | %error | Bar g         | %error | Bar g       | %error | Bar g         | %error |
| 0                                       |  | 0.000  | -0.0020     | -0.030 | -0.0020       | -0.030 | 0.0000      | 0.000  | 0.0000        | 0.000  |
| 25                                      |  | 2.500  | 2.4964      | -0.036 | 2.4964        | -0.036 | 2.5003      | 0.003  | 2.5003        | 0.003  |
| 50                                      |  | 5.000  | 4.9966      | -0.034 | 4.9966        | -0.034 | 5.0009      | 0.009  | 5.0009        | 0.009  |
| 75                                      |  | 7.500  | 7.4931      | -0.069 | 7.4931        | -0.069 | 7.5008      | 0.008  | 7.5008        | 0.008  |
| 100                                     |  | 10.000 | 9.9915      | -0.087 | 9.9915        | -0.087 | 10.001      | 0.010  | 10.001        | 0.010  |
| 75                                      |  | 7.500  | 7.4930      | -0.070 | 7.4930        | -0.070 | 7.5001      | 0.001  | 7.5001        | 0.001  |
| 50                                      |  | 5.000  | 4.9966      | -0.034 | 4.9966        | -0.034 | 5.0003      | 0.003  | 5.0003        | 0.003  |
| 25                                      |  | 2.500  | 2.4985      | -0.015 | 2.4985        | -0.015 | 2.4993      | -0.017 | 2.4993        | -0.017 |
| 0                                       |  | 0.000  | -0.0001     | -0.001 | -0.0001       | -0.001 | -0.0018     | -0.018 | -0.0018       | -0.018 |

COMMENT : 1.) %error of span is = (reading - desired) / span \* 100%

2.) span = Upper range value - Lower range value

3.) %error should be < ±0.075 %

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 17/2/22

INSPECTED BY : *Adin, Sei*

TASK No. : FQ-005-03

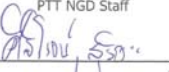
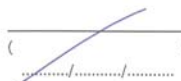


PERIOD : 3 Months

|   |                                  |  |                              |
|---|----------------------------------|--|------------------------------|
|  | PM / Work Order                  |  | Work Order : PM22-000341     |
|   |                                  |  | Work Order Date : 01/02/2022 |
|   |                                  |  | Work Request No :            |
| Customer / Tag : OTS ROJANA2  |                                  | Maintenance Dept. : INS<br>Flow Computer, SCADA, RTU |                              |
| Code : 08002M001<br>Name : OTS / Flow Computer System                           |                                  | Request Dept. :                                      |                              |
| Work Type : PM  | CostCenter : NG-ROJ-00000-P00-02 | Priority :   |                              |
| Problem / Job Detail<br>Flow Com. PM 3 months for OTS Rojana #2                 |                                  |  |                              |

| Estimate Start | Estimate Finish | PM Code                       | Person           |
|----------------|-----------------|-------------------------------|------------------|
| 01/02/2022     | 28/02/2022      | PM-NG-ROJ-00000-P00-02-Q-FLOW | ศิริโรจน์ แสงบุญ |

| Actual Start  | Actual Finish | Turbine/Rotary Gas Meter Index : |
|---------------|---------------|----------------------------------|
| 21/2/22 12.00 | 21/2/22 18.00 | Corrected Volume Index :         |
| Cause Code :  |               | Action Code :                    |

| Code/Name   | Normal                              | Abnormal                 | Remarks |
|---|-------------------------------------|--------------------------|---------|
| 1) FQR-001 Report Printer for Flow Computer Run A | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 2) FQR-002 Report Printer for Flow Computer Run B | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 3) FQY-010 Flow Computer Run A                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 4) FQY-011 Flow Computer Run B                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 5) PT-001A Pressure Tx run A                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 6) PT-001B Pressure Tx run B                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 7) TT-001A Temperature Tx run A                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |
| 8) TT-001B Temperature Tx run B                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |         |

|   |  |  |   |
|---|--|--|---|
| PTT NGD Staff<br><br>( 21/2/22 ) | Customer Staff<br><br>( / / ) | Approve<br><br>( มณัสกร นวรัตน์ )<br>04/03/22 | Division Manager<br><br>( ชลวิทย์ นวรัตน์ )<br>04/03/22 |
|---|--|--|---|

OK.

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                      |
|---|------------------------------|------------------------------|----------------------|
| EQUIPMENT: Flow Computer Cabinet        |                              |                              |                      |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : _____ |
| TAG No. : _____                         |                              | TYPE/SPEC. : _____           |                      |
| LOCATION/CUSTOMER : OTS. Rojana #2      |                              | SERIAL No. : _____           |                      |
| AREA/ESTATE : Rojana                    |                              |                              |                      |

## INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION   | VERIFY | ACTION | RESULT |
|---|--------|--------|--------|
| 1. Sanitation of Cabinet                            | 1      | 12     | 13     |
| 2. Exhaust Fan #1                                   | 1      | 12     | 13     |
| 3. Exhaust Fan #2                                   | 1      | 12     | 13     |
| 4. Grounding system ie. Cable, Termination          | 1      | 12     | 13     |
| 5. 24 Vdc Switching Power Supply #1                 | 1      | 12     | 13     |
| 6. 24 Vdc Switching Power Supply #2                 | 1      | 12     | 13     |
| 7. 24 Vdc Switching Power Supply #3                 | -      | -      | -      |
| 8. 24 Vdc Switching Power Supply #4                 | -      | -      | -      |
| 9. Clamp Diode #1 (Bridge Rectified)                | 1      | 12     | 13     |
| 10. Clamp Diode #2 (Bridge Rectified)               | 1      | 12     | 13     |
| 11. Surge Protection System (Surge protection unit) | 1      | 12     | 13     |
| 12. Cabinet Lighting System (ie. Fluorescent Lamp)  | 1      | 12     | 13     |
| 13. Cabinet Door (ie. Locking, Swing Chamber)       | 1      | 12     | 13     |

 COMMENT : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |
| _____     | _____       | _____        | _____    |

 INSPECTION DATE : 21/2/22  
 INSPECTED BY : 

TASK No. : FQ-001-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                      |
|---|------------------------------|------------------------------|----------------------|
| EQUIPMENT: Report Printer Cabinet       |                              |                              |                      |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : _____ |
| TAG No. : _____                         |                              | TYPE/SPEC. : _____           |                      |
| LOCATION/CUSTOMER : OTS. Rojana #2      |                              | SERIAL No. : _____           |                      |
| AREA/ESTATE : Rojana                    |                              |                              |                      |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                  | VERIFY | ACTION | RESULT |
|--|--------|--------|--------|
| 1. Sanitation of Cabinet                     | 1      | 12     | 13     |
| 2. Cabinet Door                              | 1      | 12     | 13     |
| 3. Sealing                                   | 1      | 12     | 13     |
| 4. AC Outlet Box                             | 1      | 12     | 13     |
| 5. Grounding system (ie. Cable, Termination) | 1      | 12     | 13     |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 21/2/22 INSPECTED BY : 

TASK No. : FQ-002-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                       |
|---|------------------------------|------------------------------|-----------------------|
| EQUIPMENT: Flow Computer Unit           |                              |                              |                       |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : FLOW-X |
| TAG No. : 081-FQY-001A                  |                              | TYPE/SPEC. : FLOW-X/T10203   |                       |
| LOCATION/CUSTOMER : OTS. Rojana #2      |                              | SERIAL No. : 12-30-001-075   |                       |
| AREA/ESTATE : Rojana                    |                              |                              |                       |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION  | VERIFY             | ACTION      | RESULT |
|--|--------------------|-------------|--------|
| 1. Date and Time (Call 181 for Thai Standard Reference Time) | 1                  | 12          | 13     |
| As Found Reference Time 17:30:00                             | Unit Time 17:30:00 | Deviation - |        |
| As Left Reference Time -                                     | Unit Time -        |             |        |
| 2. LCD Display   | 1                  | 12          | 13     |
| 3. Alarm Display   |                    |             |        |
| 3.1)   | -                  | -           | -      |
| 3.2)   | -                  | -           | -      |
| 4. Printing Command  |                    |             |        |
| 4.1) Snapshot or Current Report                              | 1                  | 12          | 13     |
| 4.2) Daily Report  | 1                  | 12          | 13     |
| 4.3) Archive Report  | 1                  | 12          | 13     |
| 4.4) Other Report  | -                  | -           | -      |
| 5. Grounding System  | 1                  | 12          | 13     |

COMMENT : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 21/2/22 INSPECTED BY : 

TASK No. : FQ-003-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                       |
|---|------------------------------|------------------------------|-----------------------|
| EQUIPMENT: Flow Computer Unit           |                              |                              |                       |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : FLOW-X |
| TAG No. : 081-FQY-002B                  |                              | TYPE/SPEC. : FLOW-X/T10203   |                       |
| LOCATION/CUSTOMER : OTS, Rojana #2      |                              | SERIAL No. : 12-11-001-025   |                       |
| AREA/ESTATE : Rojana                    |                              |                              |                       |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION  | VERIFY             | ACTION      | RESULT |
|--|--------------------|-------------|--------|
| 1. Date and Time (Call 181 for Thai Standard Reference Time) | 1                  | 12          | 13     |
| As Found Reference Time 14:05:00                             | Unit Time 14:05:00 | Deviation - |        |
| As Left Reference Time -                                     | Unit Time -        |             |        |
| 2. LCD Display   | 1                  | 12          | 13     |
| 3. Alarm Display   | -                  | -           | -      |
| 3.1)   | -                  | -           | -      |
| 3.2)   | -                  | -           | -      |
| 4. Printing Command  |                    |             |        |
| 4.1) Snapshot or Current Report                              | 1                  | 12          | 13     |
| 4.2) Daily Report  | 1                  | 12          | 13     |
| 4.3) Archive Report  | 1                  | 12          | 13     |
| 4.4) Other Report  | -                  | -           | -      |
| 5. Grounding System  | 1                  | 12          | 13     |

COMMENT :

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 21/2/22

INSPECTED BY : อธิวัฒน์, สิริ

TASK No. : FQ-003-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                      |
|---|------------------------------|------------------------------|----------------------|
| EQUIPMENT: Dot Matrix Printer           |                              |                              |                      |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : EPSON |
| TAG No. : 081-FQR-001                   |                              | TYPE/SPEC. : LQ300+II        |                      |
| LOCATION/CUSTOMER : OTS, Rojana #2      |                              | SERIAL No. : G84Y103496      |                      |
| AREA/ESTATE : Rojana                    |                              |                              |                      |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION  | VERIFY | ACTION | RESULT |
|--|--------|--------|--------|
| 1. Sanitation of Printer                               | 1      | 12     | 13     |
| 2. Report Paper  |        |        |        |
| 2.1) Quantity (Must be replace if less than 20 sheets) | 1      | 12     | 13     |
| 2.2) Ready to use                                      | 1      | 12     | 13     |
| 3. Ribbon Ink / Toner                                  |        |        |        |
| 3.1) Printer Image / Quality (Darker or Lighter)       | 1      | 12     | 13     |
| 3.2) Ribbon Status / Toner Status                      | 1      | 12     | 13     |
| 4. Printing (Test print by other machine)              | 1      | 12     | 13     |

COMMENT :

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 21/2/22

INSPECTED BY : อธิวัฒน์, สิริ

TASK No. : FQ-004-03

PERIOD : 3 Months



แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |                              |                      |
|---|------------------------------|------------------------------|----------------------|
| EQUIPMENT: Dot Matrix Printer           |                              |                              |                      |
| <input checked="" type="checkbox"/> OTS | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS | MANUFACTURER : EPSON |
| TAG No. : 081-FQR-002                   |                              | TYPE/SPEC. : LQ300+II        |                      |
| LOCATION/CUSTOMER : OTS, Rojana #2      |                              | SERIAL No. : G84Y103497      |                      |
| AREA/ESTATE : Rojana                    |                              |                              |                      |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION  | VERIFY | ACTION | RESULT |
|--|--------|--------|--------|
| 1. Sanitation of Printer                               | 1      | 12     | 13     |
| 2. Report Paper  |        |        |        |
| 2.1) Quantity (Must be replace if less than 20 sheets) | 1      | 12     | 13     |
| 2.2) Ready to use                                      | 1      | 12     | 13     |
| 3. Ribbon Ink / Tonner                                 |        |        |        |
| 3.1) Printer Image / Quality (Darker or Lighter)       | 1      | 12     | 13     |
| 3.2) Ribbon Status / Tonner Status                     | 1      | 12     | 13     |
| 4. Printing (Test print by other machine)              | 1      | 12     | 13     |

COMMENT :

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 21/2/22 INSPECTED BY : ศิริโชค, ศิวะ

TASK No. : FQ-004-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|   |                              |  |                         |
|---|------------------------------|--|-------------------------|
| EQUIPMENT: Pressure Transmitter and Flow Computer Reading |                              |  |                         |
| <input checked="" type="checkbox"/> OTS                   | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS               | MANUFACTURER : YOKOGAWA |
| TAG No. : PT-001A   |                              | TYPE/SPEC. : 530A EBS7N-07DF/FW/D3/M15/T07 |                         |
| LOCATION/CUSTOMER : OTS, Rojana #2                        |                              | SERIAL No. : 91K118461 952                 |                         |
| AREA/ESTATE : Rojana                                      |                              |  |                         |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                             |  |        |             | VERIFY | ACTION        | RESULT |
|---|--|--------|-------------|--------|---------------|--------|
| 1. Calibration for Pressure Transmitter |  |        |             | 1      | 12            | 13     |
| INPUT / Desired                         |  |        | AS FOUND    |        | AS LEFT       |        |
|   |  |        | Transmitter |        | Flow Computer |        |
| %                                       |  | Bar g  | Bar g       | %error | Bar g         | %error |
| 0                                       |  | 0.000  | -0.003      | -0.015 | -0.003        | -0.015 |
| 25                                      |  | 5.000  | 4.998       | -0.010 | 4.998         | -0.010 |
| 50                                      |  | 10.000 | 9.999       | -0.005 | 9.999         | -0.005 |
| 75                                      |  | 15.000 | 14.999      | -0.005 | 14.999        | -0.005 |
| 100                                     |  | 20.000 | 20.001      | 0.005  | 20.001        | 0.005  |
| 75                                      |  | 15.000 | 15.000      | 0.000  | 15.000        | 0.000  |
| 50                                      |  | 10.000 | 9.999       | -0.005 | 9.999         | -0.005 |
| 25                                      |  | 5.000  | 4.998       | -0.010 | 4.998         | -0.010 |
| 0                                       |  | 0.000  | -0.002      | -0.010 | -0.002        | -0.010 |

COMMENT : 1.) %error of span is = (reading - desired) / span \* 100%  
2.) span = Upper range value - Lower range value  
3.) %error should be < ±0.075 %

| MATERIAL / PART USED |             |              |          |
|----------------------|-------------|--------------|----------|
| STOCK No.            | DESCRIPTION | MANUFACTURER | QUANTITY |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |
|                      |             |              |          |

INSPECTION DATE : 21/2/22 INSPECTED BY : ศิริโชค, ศิวะ

TASK No. : FQ-005-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

EQUIPMENT: Pressure Transmitter and Flow Computer Reading

☒ OTS ☐ PRS ☐ MRS MANUFACTURER : YOKOGAWA

TAG No. : PT-001B TYPE/SPEC. : 530A EBS7N-07DF/FU/D3M15/T07

LOCATION/CUSTOMER : OTS, Rojana #2 SERIAL No. : 91K118461 952

AREA/ESTATE : Rojana

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                             | VERIFY | ACTION | RESULT |
|---|--------|--------|--------|
| 1. Calibration for Pressure Transmitter | 1      | 12     | 13     |

| INPUT / Desired |  |        | AS FOUND    |        |               |        | AS LEFT     |        |               |        |
|-----------------|--|--------|-------------|--------|---------------|--------|-------------|--------|---------------|--------|
|                 |  |        | Transmitter |        | Flow Computer |        | Transmitter |        | Flow Computer |        |
| %               |  | Bar g  | Bar g       | %error | Bar g         | %error | Bar g       | %error | Bar g         | %error |
| 0               |  | 0.000  | 0.001       | 0.005  | 0.001         | 0.005  |             |        |               |        |
| 25              |  | 5.000  | 5.002       | 0.010  | 5.002         | 0.010  |             |        |               |        |
| 50              |  | 10.000 | 10.002      | 0.010  | 10.002        | 0.010  |             |        |               |        |
| 75              |  | 15.000 | 15.003      | 0.015  | 15.003        | 0.015  |             |        |               |        |
| 100             |  | 20.000 | 20.005      | 0.025  | 20.005        | 0.025  |             |        |               |        |
| 75              |  | 15.000 | 15.003      | 0.015  | 15.003        | 0.015  |             |        |               |        |
| 50              |  | 10.000 | 10.004      | 0.020  | 10.004        | 0.020  |             |        |               |        |
| 25              |  | 5.000  | 5.003       | 0.015  | 5.003         | 0.015  |             |        |               |        |
| 0               |  | 0.000  | 0.001       | 0.005  | 0.001         | 0.005  |             |        |               |        |

COMMENT 1.) %error of span is = (reading - desired) / span \* 100%

2.) span = Upper range value - Lower range value

3.) %error should be < ±0.075 %

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 21/2/22

INSPECTED BY : ศิริสม, ศิษะ

TASK No. : FQ-005-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

EQUIPMENT: Temperature Transmitter and Flow Computer Reading

☒ OTS ☐ PRS ☐ MRS MANUFACTURER : YOKOGAWA

TAG No. : TT-001A TYPE/SPEC. : YTA110-EA2DN/FU1

LOCATION/CUSTOMER : OTS, Rojana #2 SERIAL No. : C2JC10735950

AREA/ESTATE : Rojana

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                | VERIFY | ACTION | RESULT |
|--|--------|--------|--------|
| 1. Calibration for Temperature Transmitter | 1      | 12     | 13     |

| INPUT / Desired |  |        | AS FOUND    |        |               |        | AS LEFT     |        |               |        |
|-----------------|--|--------|-------------|--------|---------------|--------|-------------|--------|---------------|--------|
|                 |  |        | Transmitter |        | Flow Computer |        | Transmitter |        | Flow Computer |        |
| %               |  | Deg. C | deg. C      | %error | deg. C        | %error | deg. C      | %error | deg. C        | %error |
| 0               |  | 0.00   | 0.01        | 0.025  | 0.01          | 0.025  |             |        |               |        |
| 25.000          |  | 10.00  | 10.02       | 0.050  | 10.02         | 0.050  |             |        |               |        |
| 50.000          |  | 20.00  | 20.01       | 0.025  | 20.01         | 0.025  |             |        |               |        |
| 75.000          |  | 30.00  | 30.00       | 0.000  | 30.00         | 0.000  |             |        |               |        |
| 100.000         |  | 40.00  | 40.03       | 0.075  | 40.03         | 0.075  |             |        |               |        |

COMMENT 1.) %error of span is = (reading - desired) / span \* 100%

2.) span = Upper range value - Lower range value

3.) %error should be < ±0.275 %

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 21/2/22

INSPECTED BY : ศิริสม, ศิษะ

TASK No. : FQ-006-03

PERIOD : 3 Months

แบบรายการบำรุงรักษาเชิงป้องกัน/PM TASK

|  |                              |                               |                         |
|--|------------------------------|-------------------------------|-------------------------|
| EQUIPMENT: Temperature Transmitter and Flow Computer Reading |                              |                               |                         |
| <input checked="" type="checkbox"/> OTS                      | <input type="checkbox"/> PRS | <input type="checkbox"/> MRS  | MANUFACTURER : YOKOGAWA |
| TAG No. : TT-001B  |                              | TYPE/SPEC. : YTA110-EA2DN/FU1 |                         |
| LOCATION/CUSTOMER : OTS. Rojana #2                           |                              | SERIAL No. : C2JC10734 950    |                         |
| AREA/ESTATE : Rojana   |                              |                               |                         |

INSPECTION TASK

| AS SEEN :       | ACTION :              | ACTION :         | RESULT :           |
|-----------------|-----------------------|------------------|--------------------|
| 1. SERVICED     | 5. CLEAN              | 9. MODIFY        | 13. READY          |
| 2. OUT OF ORDER | 6. REPAIR             | 10. CALIBRATE    | 14. BE MONITORED   |
| 3. BREAKDOWN    | 7. REPLACED EQUIPMENT | 11. RESET        | 15. PARTS REQUIRED |
| 4. DIRTINESS    | 8. REPLACED PART      | 12. VERIFY/DIAG. | 16. TERMINATED     |

| DESCRIPTION                                | VERIFY | ACTION | RESULT |
|--|--------|--------|--------|
| 1. Calibration for Temperature Transmitter | 1      | 12     | 13     |

| INPUT / Desired |  |        | AS FOUND    |        |               |        | AS LEFT     |        |               |        |
|-----------------|--|--------|-------------|--------|---------------|--------|-------------|--------|---------------|--------|
|                 |  |        | Transmitter |        | Flow Computer |        | Transmitter |        | Flow Computer |        |
| %               |  | Deg. C | deg. C      | %error | deg. C        | %error | deg. C      | %error | deg. C        | %error |
| 0               |  | 0.00   | 0.03        | 0.075  | 0.03          | 0.075  |             |        |               |        |
| 25.000          |  | 10.00  | 10.04       | 0.100  | 10.04         | 0.100  |             |        |               |        |
| 50.000          |  | 20.00  | 20.04       | 0.100  | 20.04         | 0.100  |             |        |               |        |
| 75.000          |  | 30.00  | 30.04       | 0.100  | 30.04         | 0.100  |             |        |               |        |
| 100.000         |  | 40.00  | 40.03       | 0.075  | 40.03         | 0.075  |             |        |               |        |

COMMENT : 1.) %error of span is = (reading - desired) / span \* 100%

2.) span = Upper range value - Lower range value

3.) %error should be < ±0.275 %

MATERIAL / PART USED

| STOCK No. | DESCRIPTION | MANUFACTURER | QUANTITY |
|-----------|-------------|--------------|----------|
|           |             |              |          |
|           |             |              |          |
|           |             |              |          |

INSPECTION DATE : 21/2/22 INSPECTED BY : [Signature]

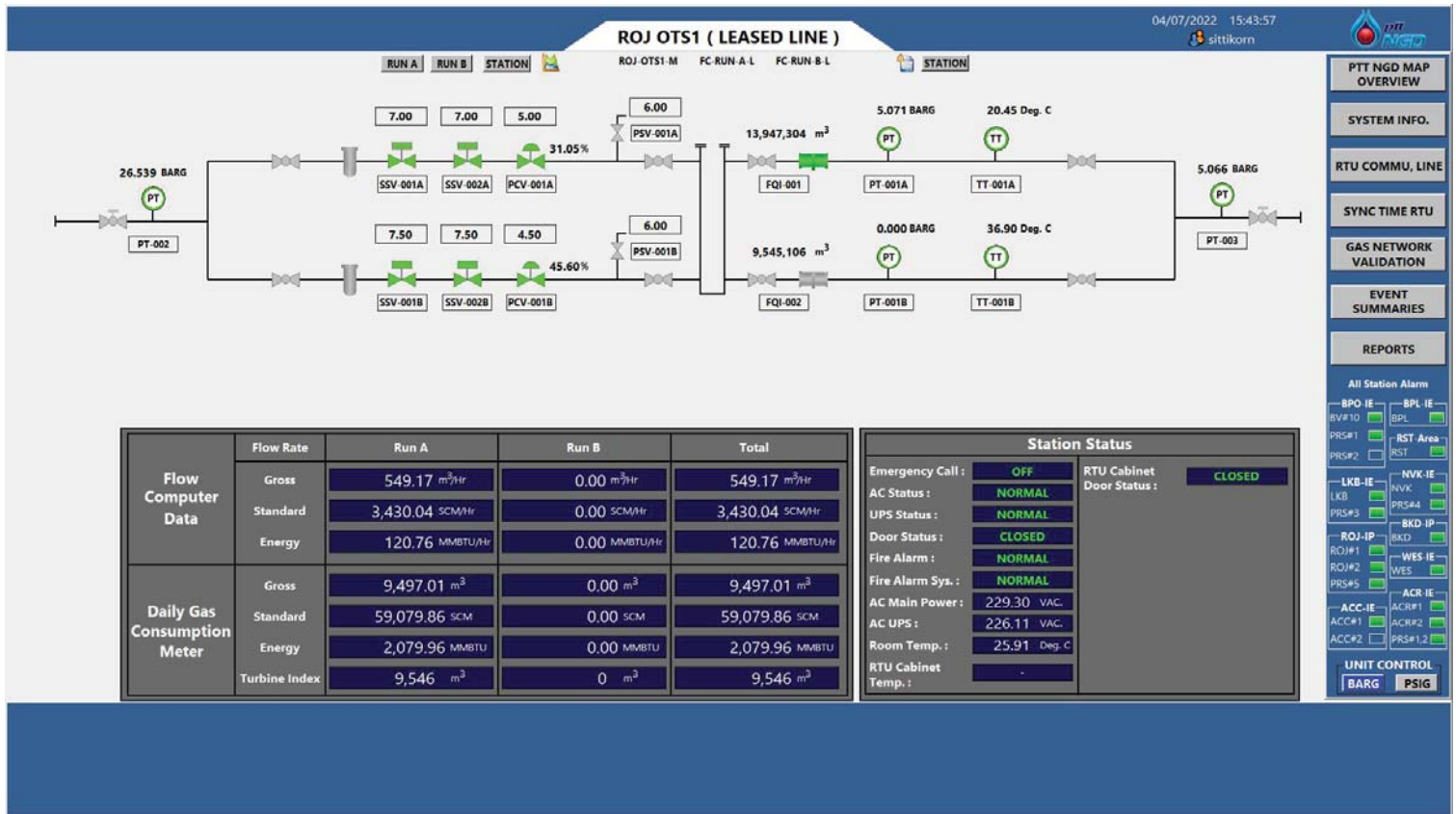
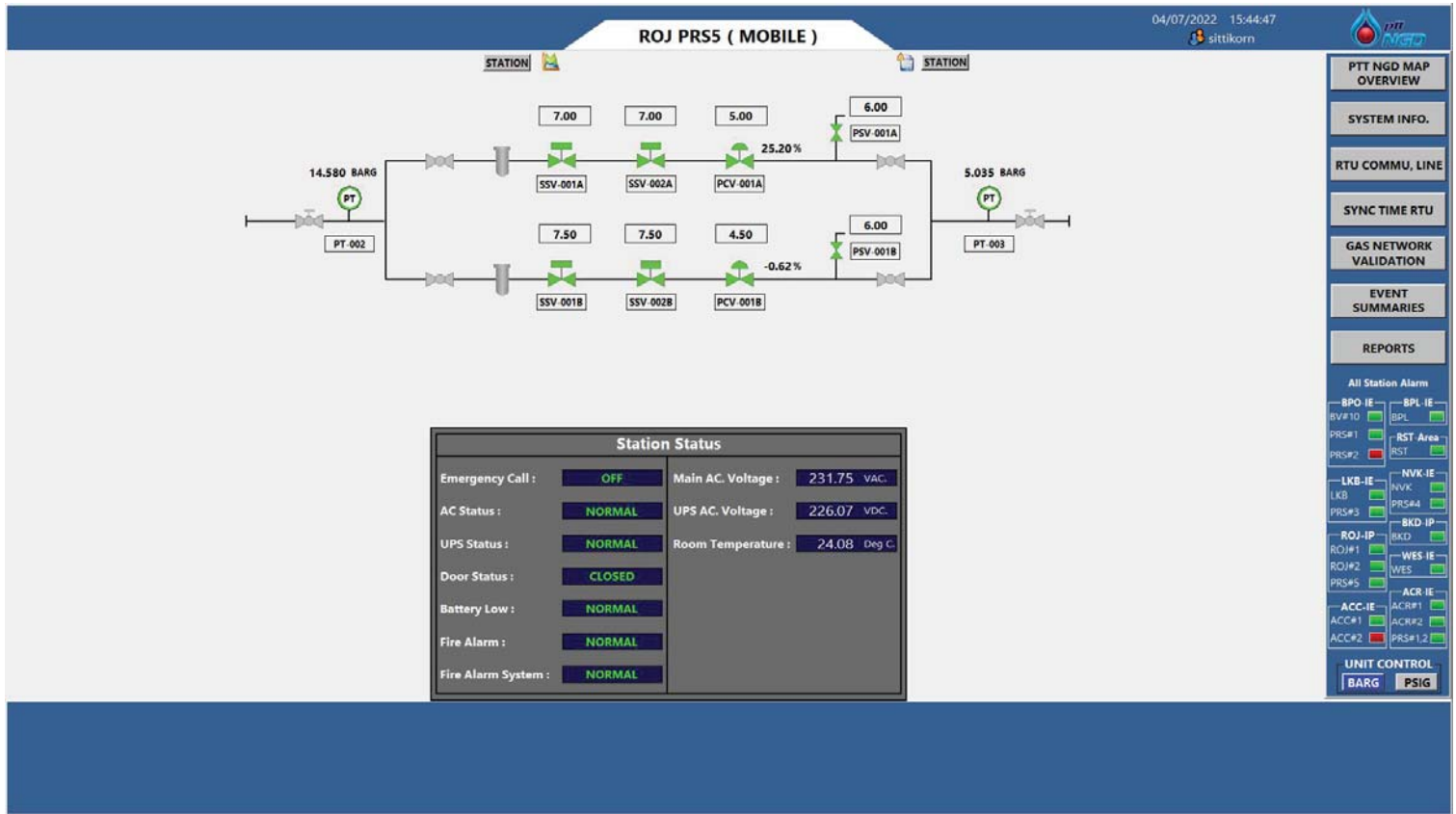
TASK No. : FQ-006-03

PERIOD : 3 Months

ภาคผนวก จ-4

## ตัวอย่างรายงานผลข้อมูลระบบ SCADA





# ROJ OTS2 ( LEASED LINE )

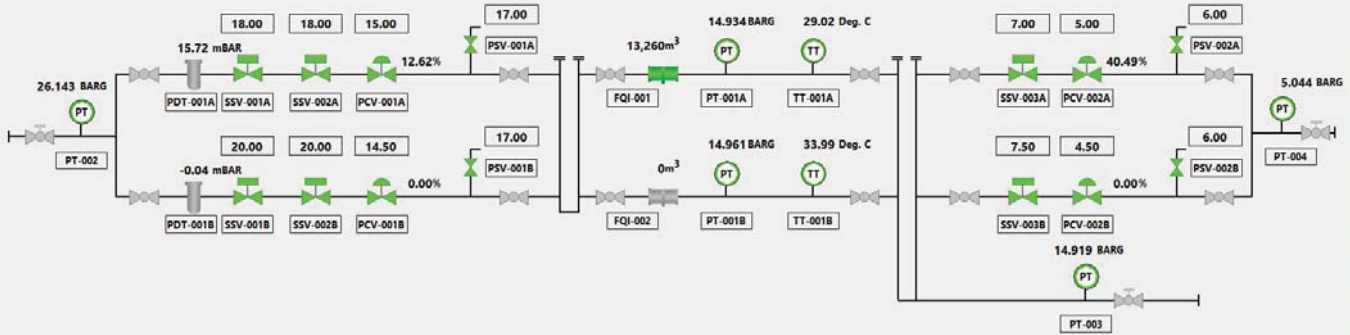
04/07/2022 15:44:24  
sittikorn



RUN A RUN B STATION

ROJ OTS2 M FC RUN A L FC RUN B L

STATION



| Flow Computer Data          | Flow Rate     | Run A                     | Run B                   | Total                     |
|-----------------------------|---------------|---------------------------|-------------------------|---------------------------|
|                             | Gross         | 910.42 m <sup>3</sup> /hr | 0.00 m <sup>3</sup> /hr | 910.42 m <sup>3</sup> /hr |
|                             | Standard      | 14,477.96 SCM/hr          | 0.00 SCM/hr             | 14,477.96 SCM/hr          |
|                             | Energy        | 509.71 MMBTU/hr           | 0.00 MMBTU/hr           | 509.71 MMBTU/hr           |
| Daily Gas Consumption Meter | Gross         | 13,258.95 m <sup>3</sup>  | 0.00 m <sup>3</sup>     | 13,258.95 m <sup>3</sup>  |
|                             | Standard      | 211,918.84 SCM            | 0.00 SCM                | 211,918.84 SCM            |
|                             | Energy        | 7,460.79 MMBTU            | 0.00 MMBTU              | 7,460.79 MMBTU            |
|                             | Turbine Index | 13,260 m <sup>3</sup>     | 0 m <sup>3</sup>        | 13,260 m <sup>3</sup>     |

| Station Status    |             |
|-------------------|-------------|
| Emergency Call :  | OFF         |
| AC Status :       | NORMAL      |
| UPS Status :      | NORMAL      |
| Door Status :     | CLOSED      |
| Fire Alarm :      | NORMAL      |
| Fire Alarm Sys. : | NORMAL      |
| AC Main Power :   | 234.14 VAC  |
| AC UPS :          | 214.93 VAC  |
| Room Temp. :      | 23.15 Deg C |

PTT NGD MAP OVERVIEW

SYSTEM INFO.

RTU COMMU. LINE

SYNC TIME RTU

GAS NETWORK VALIDATION

EVENT SUMMARIES

REPORTS

All Station Alarm

|        |          |
|--------|----------|
| BPO-IE | BPL-IE   |
| RV#10  | BPL      |
| PRS#1  | RST Area |
| PRS#2  | RST      |
| LKB-IE | NVK-IE   |
| LKB    | NVK      |
| PRS#3  | PRS#4    |
| PRS#5  | PRS#6    |
| ROJ-IP | BKD-IP   |
| ROJ#1  | WES-IE   |
| ROJ#2  | WES      |
| PRS#5  | WES      |
| ACC-IE | ACR-IE   |
| ACC#1  | ACR#1    |
| ACC#2  | ACR#2    |
| ACC#2  | PRS#1.2  |

UNIT CONTROL

BARG PSIG