

ตาราง I/O Point List

ท่าอากาศยานตรัง

ศูนย์ควบคุมการบินหาดใหญ่

Handwritten signatures and initials in the bottom right corner, including a large signature, a signature with a checkmark, and several smaller initials.

Project: Building Automation System (BAS)  
Location: หอบังคับการบินกรุงเทพ

Date: 29/5/2568

IO List (draft)

| Building | Floor | System/Location          | Equipment                     | Sub-equipment/Code | Signal             | Type                  | IO Type |    |    |    |      | Note | Network<br>ศร.ศร. |
|----------|-------|--------------------------|-------------------------------|--------------------|--------------------|-----------------------|---------|----|----|----|------|------|-------------------|
|          |       |                          |                               |                    |                    |                       | DI      | DO | AI | AO | Comm |      |                   |
| Tower    | 1st   | วัดความชื้นเย็น          | Split Type 30,000 Btu. No.1/1 | SP TW 1/1          | Remote/Local       | dry contact           | 1       |    |    |    |      |      |                   |
|          |       | จุดติดตั้ง Server /      |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                   |
|          |       | Monitor                  |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                   |
|          |       |                          | Split Type XXXXXX Btu. No.1/2 | SP TW 1/2          | Remote/Local       | dry contact           | 1       |    |    |    |      |      |                   |
|          |       | (Spare ขนาดติดตั้งเพิ่ม) |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                   |
|          |       |                          |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                   |
|          |       | Room Temperature         |                               |                    | Temperature        | Temp. Trans. 4-20 mA. |         |    | 2  |    |      |      |                   |
|          | 2nd   | แจ้งเตือน                | Fire Alarm                    |                    | Trouble            | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Alarm              | dry contact           | 1       |    |    |    |      |      |                   |
|          |       | Outdoor                  | Storage Tank (1,100 L)        |                    | Level              | dry contact           | 3       |    |    |    |      |      |                   |
|          |       | Equipment                | Split Type 30,000 Btu. No.2/1 | SP TW 2/1          | Remote/Local       | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                   |
|          |       | ตรวจสอบ Main Breaker     |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                   |
|          |       | เปลี่ยน Type ใหม่        |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                   |
|          |       | (Gen Transfer : Trip)    |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                   |
|          |       |                          | Split Type 30,000 Btu. No.2/2 | SP TW 2/2          | Remote/Local       | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                   |
|          |       |                          |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                   |
|          |       |                          | Split Type 30,000 Btu. No.2/3 | SP TW 2/3          | Remote/Local       | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                   |
|          |       |                          |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                   |
|          |       |                          | Split Type 30,000 Btu. No.2/4 | SP TW 2/4          | Remote/Local       | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                   |
|          |       |                          |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                   |
|          |       |                          |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                   |
|          |       | Room Temperature         |                               |                    | Temperature        | Temp. Trans. 4-20 mA. |         |    | 3  |    |      |      |                   |

*Handwritten signatures and initials at the bottom right of the page.*

Project: Building Automation System (BAS)  
Location: หอบังคับการบินตรง

Date: 29/5/2568

IO List (draft)

| Building                      | Floor              | System/Location | Equipment                                                               | Sub-equipment/Code    | Signal                | Type        | IO Type               |    |    |    |                    | Note               | Network<br>ศว.ศว. |  |              |  |
|-------------------------------|--------------------|-----------------|-------------------------------------------------------------------------|-----------------------|-----------------------|-------------|-----------------------|----|----|----|--------------------|--------------------|-------------------|--|--------------|--|
|                               |                    |                 |                                                                         |                       |                       |             | DI                    | DO | AI | AO | Comm               |                    |                   |  |              |  |
|                               |                    | ติดตั้งตู้ PLC  | Surge 220V                                                              |                       | Surge Alarm           | dry contact | 1                     |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 | UPS (DC)                                                                |                       | Backup (BU)           | dry contact | 1                     |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Trouble (TR)          | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Batt Low (BL)         | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Batt Replacement (WB) | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Discharge Battery     | dry contact           |             | 1                     |    |    |    | Discharge UPS 1 DO |                    |                   |  |              |  |
|                               | Subtotal IO Amount |                 |                                                                         |                       |                       |             | 46                    | 7  | 5  | 0  | 0                  | 58                 |                   |  |              |  |
|                               | Spare Point        |                 |                                                                         |                       |                       |             | 8                     | 8  | 8  |    |                    |                    |                   |  |              |  |
|                               | Subtotal IO Amount |                 |                                                                         |                       |                       |             | 54                    | 15 | 13 | 0  | 0                  | 82                 |                   |  |              |  |
|                               | 4th                | UPS Room        | Split Type 30,000 Btu. No.4/1                                           | SP TW 4/1             | Remote/Local          | dry contact | 1                     |    |    |    |                    |                    | VLAN68            |  |              |  |
|                               |                    |                 |                                                                         |                       | Start-Stop            | dry contact |                       | 1  |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         |                       | On/Off Status         | dry contact | 1                     |    |    |    |                    |                    |                   |  |              |  |
| Overload                      |                    |                 |                                                                         |                       | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
| Status Compressor             |                    |                 |                                                                         |                       | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
| Over/Under Voltage            |                    |                 |                                                                         |                       | dry contact           | 2           |                       |    |    |    |                    |                    |                   |  |              |  |
| Split Type 30,000 Btu. No.4/2 |                    |                 | SP TW 4/2                                                               | Remote/Local          | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Start-Stop            | dry contact           |             | 1                     |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | On/Off Status         | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Overload              | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Status Compressor     | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Over/Under Voltage    | dry contact           | 2           |                       |    |    |    |                    |                    |                   |  |              |  |
| Split Type 36,170 Btu. No.4/3 |                    |                 | SP TW 4/3                                                               | Remote/Local          | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Start-Stop            | dry contact           |             | 1                     |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | On/Off Status         | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Overload              | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Status Compressor     | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Over/Under Voltage    | dry contact           | 2           |                       |    |    |    |                    |                    |                   |  |              |  |
| Split Type 36,170 Btu. No.4/4 |                    |                 | SP TW 4/4                                                               | Remote/Local          | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Start-Stop            | dry contact           |             | 1                     |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | On/Off Status         | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Overload              | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Status Compressor     | dry contact           | 1           |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         | Over/Under Voltage    | dry contact           | 2           |                       |    |    |    |                    |                    |                   |  |              |  |
| ติดตั้งตู้ PLC                |                    |                 | Surge 220V                                                              |                       | Surge Alarm           | dry contact | 1                     |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         |                       | Backup (BU)           | dry contact | 1                     |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         |                       | Trouble (TR)          | dry contact | 1                     |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         |                       | Batt Low (BL)         | dry contact | 1                     |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         |                       | Batt Replacement (WB) | dry contact | 1                     |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 |                                                                         |                       | Discharge Battery     | dry contact |                       | 1  |    |    |                    | Discharge UPS 1 DO |                   |  |              |  |
|                               |                    |                 | Room Temperature                                                        |                       |                       | Temperature | Temp. Trans. 4-20 mA. |    |    | 2  |                    |                    |                   |  |              |  |
|                               |                    |                 | ติดตั้ง Wireless ส่งสัญญาณไปที่อาคาร Tower (Generator) / บ้านพักพนักงาน |                       |                       |             |                       |    |    |    |                    |                    |                   |  |              |  |
|                               |                    |                 | Outdoor                                                                 | Wireless              |                       |             |                       |    |    |    |                    |                    |                   |  | สัญญาณ / Gen |  |

*[Handwritten signatures and initials]*

Project: Building Automation System (BAS)  
 Location: หอบังคับการบินตรง

Date: 29/5/2568

IO List (draft)

| Building                | Floor | System/Location                          | Equipment                     | Sub-equipment/Code | Signal                | Type                  | IO Type |    |    |    |      | Note               | Network<br>ศร.พว. |
|-------------------------|-------|------------------------------------------|-------------------------------|--------------------|-----------------------|-----------------------|---------|----|----|----|------|--------------------|-------------------|
|                         |       |                                          |                               |                    |                       |                       | DI      | DO | AI | AO | Comm |                    |                   |
|                         | 5th   | Control Room                             | Split Type 30,000 Btu. No.5/1 | SP TW 5/1          | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |
|                         |       |                                          | Split Type 30,000 Btu. No.5/2 | SP TW 5/2          | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |
|                         |       |                                          | Split Type 30,000 Btu. No.5/3 | SP TW 5/3          | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |
|                         |       |                                          | Room Temperature              |                    | Temperature           | Temp. Trans. 4-20 mA. |         |    | 2  |    |      |                    |                   |
|                         |       |                                          | Rotating Beacon               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       | Subtotal IO Amount                       |                               |                    |                       |                       | 49      | 8  | 4  | 0  | 0    | 61                 |                   |
|                         |       | Spare Point                              |                               |                    |                       |                       | 8       | 8  | 8  |    |      |                    |                   |
|                         |       | Subtotal IO Amount                       |                               |                    |                       |                       | 57      | 16 | 12 | 0  | 0    | 85                 |                   |
| Tower<br>(Generator)    | 1st   | Generator Room                           | ATS                           | Power Meter        | Input Normal/Gen      | RS485                 |         |    |    |    | 2    | (PEA / GEN)        |                   |
|                         |       | ติดตั้งตู้ PLC                           | Surge 220V                    |                    | Output ATS            | RS485                 |         |    |    |    | 1    |                    |                   |
|                         |       |                                          | UPS (DC)                      |                    | Surge Alarm           | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Backup (BU)           | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Trouble (TR)          | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Batt Low (BL)         | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Batt Replacement (WB) | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          |                               |                    | Discharge Battery     | dry contact           |         | 1  |    |    |      | Discharge UPS 1 DO |                   |
|                         |       | ติดตั้ง Wireless ส่งสัญญาณไปห้องฯ ชั้น 4 |                               |                    |                       |                       |         |    |    |    |      |                    |                   |
|                         |       | Outdoor                                  | Wireless                      |                    |                       |                       |         |    |    |    |      |                    |                   |
|                         |       | Subtotal IO Amount                       |                               |                    |                       |                       | 5       | 1  | 0  | 0  | 3    | 9                  |                   |
|                         |       | Spare Point                              |                               |                    |                       |                       | 8       | 8  | 8  |    |      |                    |                   |
|                         |       | Subtotal IO Amount                       |                               |                    |                       |                       | 13      | 9  | 8  | 0  | 3    | 33                 |                   |
| อาคารบ้านพัก<br>พนักงาน | 1st   | โรงสูบน้ำ                                | Transfer Pump                 |                    | On/Off Status         | dry contact           | 1       |    |    |    |      | เปลี่ยนตู้ใหม่     | ไม่มี             |
|                         |       |                                          |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|                         |       |                                          | Storage Tank (ใต้ดิน)         |                    | Level                 | dry contact           | 3       |    |    |    |      |                    |                   |

Project: Building Automation System (BAS)  
 Location: หอบังคับการบินจริง

Date: 29/5/2568

IO List (draft)

| Building | Floor              | System/Location | Equipment                                | Sub-equipment/Code | Signal                | Type                  | IO Type     |    |    |    |      | Note               | Network<br>ศว.สว.                            |  |
|----------|--------------------|-----------------|------------------------------------------|--------------------|-----------------------|-----------------------|-------------|----|----|----|------|--------------------|----------------------------------------------|--|
|          |                    |                 |                                          |                    |                       |                       | DI          | DO | AI | AO | Comm |                    |                                              |  |
|          | 3rd                | ติดตั้งตู้ PLC  | Surge 220V                               |                    | Surge Alarm           | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 | UPS (DC)                                 |                    | Backup (BU)           | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Trouble (TR)          | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Batt Low (BL)         | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Batt Replacement (WB) | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Discharge Battery     | dry contact           |             | 1  |    |    |      | Discharge UPS 1 DO |                                              |  |
|          |                    |                 | ติดตั้ง Wireless ส่งสัญญาณไปห้องฯ ชั้น 4 |                    |                       |                       |             |    |    |    |      |                    |                                              |  |
|          | คาน้ำฟ้า           | Outdoor         | Wireless                                 |                    |                       |                       |             |    |    |    |      |                    | ถังน้ำถึงกัน<br>(ทำฝาใหม่)<br>ติด Electrode) |  |
|          |                    |                 | Storage Tank#1                           |                    | Level                 | dry contact           | 3           |    |    |    |      |                    |                                              |  |
|          |                    |                 | Storage Tank#2                           |                    |                       |                       |             |    |    |    |      |                    |                                              |  |
|          |                    |                 | Storage Tank#3                           |                    |                       |                       |             |    |    |    |      |                    |                                              |  |
|          |                    |                 | Storage Tank#4                           |                    |                       |                       |             |    |    |    |      |                    |                                              |  |
|          | Subtotal IO Amount |                 |                                          |                    |                       |                       |             | 13 | 1  | 0  | 0    | 0                  | 14                                           |  |
|          | Spare Point        |                 |                                          |                    |                       |                       |             | 8  | 8  | 8  |      |                    |                                              |  |
|          | Subtotal IO Amount |                 |                                          |                    |                       |                       |             | 21 | 9  | 8  | 0    | 0                  | 38                                           |  |
| DVOR     | 1st                | Equipment       | Split Type 30,000 Btu. No.1/1            | SP DVOR 1/1        | Remote/Local          | dry contact           | 1           |    |    |    |      |                    | มี<br>VLAN68                                 |  |
|          |                    |                 |                                          |                    | Start-Stop            | dry contact           |             | 1  |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | On/Off Status         | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Overload              | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Status Compressor     | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Over/Under Voltage    | dry contact           | 2           |    |    |    |      |                    |                                              |  |
|          |                    |                 | Split Type 30,000 Btu. No.1/2            | SP DVOR 1/2        | Remote/Local          | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Start-Stop            | dry contact           |             | 1  |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | On/Off Status         | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Overload              | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Status Compressor     | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Over/Under Voltage    | dry contact           | 2           |    |    |    |      |                    |                                              |  |
|          |                    |                 | Split Type 30,000 Btu. No.1/3            | SP DVOR 1/3        | Remote/Local          | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Start-Stop            | dry contact           |             | 1  |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | On/Off Status         | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Overload              | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Status Compressor     | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Over/Under Voltage    | dry contact           | 2           |    |    |    |      |                    |                                              |  |
|          |                    |                 | ติดตั้งตู้ PLC                           | Smoke Detector     | Alarm                 | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Surge 220V            | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | UPS (DC)              | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    |                       | Backup (BU)           | dry contact | 1  |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    |                       | Trouble (TR)          | dry contact | 1  |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    |                       | Batt Low (BL)         | dry contact | 1  |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Batt Replacement (WB) | dry contact           | 1           |    |    |    |      |                    |                                              |  |
|          |                    |                 |                                          |                    | Discharge Battery     | dry contact           |             | 1  |    |    |      | Discharge UPS 1 DO |                                              |  |
|          |                    |                 | Room Temperature                         |                    | Temperature           | Temp. Trans. 4-20 mA. |             |    | 2  |    |      |                    |                                              |  |
|          |                    | Generator Room  | ATS                                      | Power Meter        | Input Normal/Gen      | RS485                 |             |    |    |    | 2    | (PEA / GEN)        |                                              |  |
|          |                    |                 |                                          |                    | Output ATS            | RS485                 |             |    |    |    | 1    |                    |                                              |  |
|          |                    |                 |                                          |                    | Heat Detector         | Alarm                 | dry contact | 1  |    |    |      |                    |                                              |  |

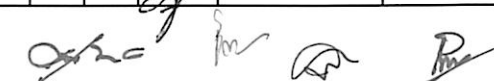
*[Handwritten signatures and initials]*

Project: Building Automation System (BAS)  
 Location: หอบังคับการบินตรง

Date: 29/5/2568

IO List (draft)

| Building           | Floor | System/Location    | Equipment                     | Sub-equipment/Code | Signal                        | Type                  | IO Type      |             |    |    |      | Note               | Network<br>ศร.ศว. |
|--------------------|-------|--------------------|-------------------------------|--------------------|-------------------------------|-----------------------|--------------|-------------|----|----|------|--------------------|-------------------|
|                    |       |                    |                               |                    |                               |                       | DI           | DO          | AI | AO | Comm |                    |                   |
|                    |       | ห้องเก็บของ#1      | Smoke Detector                |                    | Alarm                         | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       | ห้องเก็บของ#2      | Smoke Detector                |                    | Alarm                         | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       | โถงอาคาร           | Smoke Detector                |                    | Alarm                         | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       | Outdoor            | Storage Tank (น้ำใช้)         |                    | Level                         | dry contact           | 3            |             |    |    |      |                    |                   |
|                    |       | Subtotal IO Amount |                               |                    |                               |                       | 31           | 4           | 2  | 0  | 3    | 40                 |                   |
| Spare Point        |       |                    |                               |                    | 8                             | 8                     | 8            |             |    |    |      |                    |                   |
| Subtotal IO Amount |       |                    |                               |                    | 39                            | 12                    | 10           | 0           | 3  | 64 |      |                    |                   |
| LOC                | 1st   | Equipment          | Split Type 30,000 Btu. No.1/1 | SP LOC 1/1         | Remote/Local                  | dry contact           | 1            |             |    |    |      |                    | มี<br>VLAN68      |
|                    |       |                    |                               |                    | Start-Stop                    | dry contact           |              | 1           |    |    |      |                    |                   |
|                    |       |                    |                               |                    | On/Off Status                 | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Overload                      | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Status Compressor             | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Over/Under Voltage            | dry contact           | 2            |             |    |    |      |                    |                   |
|                    |       |                    | Split Type 30,000 Btu. No.1/2 | SP LOC 1/2         | Remote/Local                  | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Start-Stop                    | dry contact           |              | 1           |    |    |      |                    |                   |
|                    |       |                    |                               |                    | On/Off Status                 | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Overload                      | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Status Compressor             | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Over/Under Voltage            | dry contact           | 2            |             |    |    |      |                    |                   |
|                    |       |                    | Smoke Detector                |                    | Alarm                         | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       | ติดตั้งตู้ PLC     | Surge 220V                    |                    | Surge Alarm                   | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    | UPS (DC)                      |                    | Backup (BU)                   | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Trouble (TR)                  | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Batt Low (BL)                 | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Batt Replacement (WB)         | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Discharge Battery             | dry contact           |              | 1           |    |    |      | Discharge UPS 1 DO |                   |
|                    |       |                    | Room Temperature              |                    | Temperature                   | Temp. Trans. 4-20 mA. |              |             | 2  |    |      |                    |                   |
|                    |       | Generator Room     | ATS                           | Power Meter        | Input Normal/Gen              | RS485                 |              |             |    |    | 2    | (PEA / GEN)        |                   |
|                    |       |                    |                               |                    | Output ATS                    | RS485                 |              |             |    |    | 1    |                    |                   |
|                    |       |                    | Heat Detector                 |                    | Alarm                         | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       | ห้องเก็บของ        | Smoke Detector                |                    | Alarm                         | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       | โถงอาคาร           | Smoke Detector                |                    | Alarm                         | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       | Outdoor            | Storage Tank#1 – 1,500 L      |                    |                               |                       |              |             |    |    |      |                    |                   |
|                    |       |                    | Storage Tank#2 – 1,500 L      |                    | Level                         | dry contact           | 3            |             |    |    |      | ถังน้ำถึงก้น       |                   |
|                    |       | Subtotal IO Amount |                               |                    |                               |                       | 24           | 3           | 2  | 0  | 3    | 32                 |                   |
|                    |       | Spare Point        |                               |                    |                               |                       | 8            | 8           | 8  |    |      |                    |                   |
|                    |       | Subtotal IO Amount |                               |                    |                               |                       | 32           | 11          | 10 | 0  | 3    | 56                 |                   |
|                    |       | GP                 | 1st                           | Equipment          | Split Type 30,000 Btu. No.1/1 | SP GS 1/1             | Remote/Local | dry contact | 1  |    |      |                    |                   |
|                    |       |                    |                               |                    | Start-Stop                    | dry contact           |              | 1           |    |    |      |                    |                   |
|                    |       |                    |                               |                    | On/Off Status                 | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Overload                      | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Status Compressor             | dry contact           | 1            |             |    |    |      |                    |                   |
|                    |       |                    |                               |                    | Over/Under Voltage            | dry contact           | 2            |             |    |    |      |                    |                   |



Project: Building Automation System (BAS)  
 Location: หอบังคับการบินตรง

Date: 29/5/2568

IO List (draft)

| Building | Floor | System/Location    | Equipment                     | Sub-equipment/Code | Signal                | Type                  | IO Type |    |    |    |      | Note               | Network<br>ศว.ศว. |
|----------|-------|--------------------|-------------------------------|--------------------|-----------------------|-----------------------|---------|----|----|----|------|--------------------|-------------------|
|          |       |                    |                               |                    |                       |                       | DI      | DO | AI | AO | Comm |                    |                   |
|          |       |                    | Split Type 30,000 Btu. No.1/2 | SP GS 1/2          | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |
|          |       |                    |                               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |
|          |       |                    | Split Type 18,900 Btu. No.1/3 | SP GS 1/3          | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |
|          |       |                    |                               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |
|          |       |                    | Smoke Detector                |                    | Alarm                 | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       | ติดตั้งตู้ PLC     | Surge 220V                    |                    | Surge Alarm           | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    | UPS (DC)                      |                    | Backup (BU)           | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Trouble (TR)          | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Batt Low (BL)         | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Batt Replacement (WB) | dry contact           | 1       |    |    |    |      |                    |                   |
|          |       |                    |                               |                    | Discharge Battery     | dry contact           |         | 1  |    |    |      | Discharge UPS 1 DO |                   |
|          |       |                    | Room Temperature              |                    | Temperature           | Temp. Trans. 4-20 mA. |         |    | 2  |    |      |                    |                   |
|          |       |                    | Water leakage                 | Water leakage      | On/off status         | Water leakage sensor  | 2       |    |    |    |      |                    |                   |
|          |       | Subtotal IO Amount |                               |                    |                       |                       | 26      | 4  | 2  | 0  | 0    | 32                 |                   |
|          |       | Spare Point        |                               |                    |                       |                       | 8       | 8  | 8  |    |      |                    |                   |
|          |       | Subtotal IO Amount |                               |                    |                       |                       | 34      | 12 | 10 | 0  | 0    | 56                 |                   |
|          |       | IO Sum Total       |                               |                    |                       |                       | 250     | 84 | 71 | 0  | 9    | 414                |                   |

ตาราง I/O Point List

ท่าอากาศยานเบตง

ศูนย์ควบคุมการบินหาดใหญ่

  
2020-10-10 P

Project: Building Automation System (BAS)  
 Location: หอบังคับการบินเบตง

Date: 29/5/2568

IO List (draft)

| Building | Floor | System/Location                                       | Equipment                     | Sub-equipment/Code | Signal             | Type                  | IO Type |    |    |    |      | Note | Network<br>ศร.ศร.         |
|----------|-------|-------------------------------------------------------|-------------------------------|--------------------|--------------------|-----------------------|---------|----|----|----|------|------|---------------------------|
|          |       |                                                       |                               |                    |                    |                       | DI      | DO | AI | AO | Comm |      |                           |
| Tower    | 1st   | ห้องวิศวกรหมุนเวียน<br>จุดติดตั้ง Server /<br>Monitor | Split Type 30,000 Btu. No.1/1 | SP TW 1/1          | Remote/Local       | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                           |
|          |       |                                                       |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                           |
|          |       |                                                       | Split Type 30,000 Btu. No.1/2 | SP TW 1/2          | Remote/Local       | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                           |
|          |       |                                                       |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                           |
|          |       | Room Temperature<br>Fire Alarm                        |                               |                    | Temperature        | Temp. Trans. 4-20 mA. |         |    | 2  |    |      |      | VLAN68<br>(Aruba #9, #10) |
|          |       |                                                       |                               |                    | Trouble            | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Alarm              | dry contact           | 1       |    |    |    |      |      |                           |
|          |       | ห้อง Equipment                                        | Split Type 51,500 Btu. No.1/3 | SP TW 1/3          | Remote/Local       | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                           |
|          |       |                                                       |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                           |
|          |       | Split Type 51,500 Btu. No.1/4                         | SP TW 1/4                     | Remote/Local       | dry contact        | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                           |
|          |       |                                                       |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                           |
|          |       | Split Type 51,500 Btu. No.1/5                         | SP TW 1/5                     | Remote/Local       | dry contact        | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                           |
|          |       |                                                       |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                           |
|          |       | Split Type 51,500 Btu. No.1/6                         | SP TW 1/6                     | Remote/Local       | dry contact        | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                           |
|          |       |                                                       |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                           |
|          |       | Room Temperature                                      |                               |                    | Temperature        | Temp. Trans. 4-20 mA. |         |    | 3  |    |      |      |                           |
|          |       |                                                       |                               |                    |                    |                       |         |    |    |    |      |      |                           |
|          |       | ห้อง UPS                                              | Split Type 51,500 Btu. No.1/7 | SP TW 1/7          | Remote/Local       | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Start-Stop         | dry contact           |         | 1  |    |    |      |      |                           |
|          |       |                                                       |                               |                    | On/Off Status      | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Overload           | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Status Compressor  | dry contact           | 1       |    |    |    |      |      |                           |
|          |       |                                                       |                               |                    | Over/Under Voltage | dry contact           | 2       |    |    |    |      |      |                           |

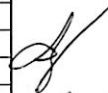
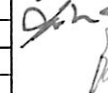
Project: Building Automation System (BAS)

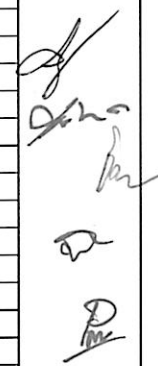
Location: หอบังคับการบินเบตง

Date: 29/5/2568

## IO List (draft)

| Building           | Floor        | System/Location                                                                  | Equipment                     | Sub-equipment/Code | Signal                | Type                  | IO Type |    |    |    |      | Note               | Network<br>ศว.สว. |              |
|--------------------|--------------|----------------------------------------------------------------------------------|-------------------------------|--------------------|-----------------------|-----------------------|---------|----|----|----|------|--------------------|-------------------|--------------|
|                    |              |                                                                                  |                               |                    |                       |                       | DI      | DO | AI | AO | Comm |                    |                   |              |
|                    |              |                                                                                  | Split Type 51,500 Btu. No.1/8 | SP TW 1/8          | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |              |
|                    |              | ติดตั้งตู้ PLC                                                                   | Surge 220V                    |                    | Surge Alarm           | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              | ติดตั้งตู้ Starter                                                               | UPS (DC)                      |                    | Backup (BU)           | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              | -6 ชุด : 1 ตู้                                                                   |                               |                    | Trouble (TR)          | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              | -2 ชุด : 1 ตู้ (UPS)                                                             |                               |                    | Batt Low (BL)         | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              | ติดตั้งตู้ Load Consumer                                                         |                               |                    | Batt Replacement (WB) | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Discharge Battery     | dry contact           |         | 1  |    |    |      | Discharge UPS 1 DO |                   |              |
|                    |              |                                                                                  | Room Temperature              |                    | Temperature           | Temp. Trans. 4-20 mA. |         |    | 2  |    |      |                    |                   |              |
|                    |              | ติดตั้ง Ethernet Managed Switch : 8 Ports (ที่ตู้ PLC) พร้อมเดินสาย LAN เข้า UPS |                               |                    |                       |                       |         |    |    |    |      |                    |                   |              |
|                    |              | Outdoor                                                                          | Storage Tank#1 (2,500 L)      |                    | Level                 | dry contact           | 3       |    |    |    |      |                    |                   | ถังน้ำถึงกัน |
|                    |              |                                                                                  | Storage Tank#2 (2,500 L)      |                    |                       |                       |         |    |    |    |      |                    |                   |              |
| Subtotal IO Amount |              |                                                                                  |                               |                    |                       |                       | 58      | 9  | 7  | 0  | 0    | 74                 |                   |              |
| Spare Point        |              |                                                                                  |                               |                    |                       |                       | 8       | 8  | 8  |    |      |                    |                   |              |
| Subtotal IO Amount |              |                                                                                  |                               |                    |                       |                       | 66      | 17 | 15 | 0  | 0    | 98                 |                   |              |
| 2nd                | Control Room |                                                                                  | Split Type 60,000 Btu. No.2/1 | SP TW 2/1          | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  | Split Type 60,000 Btu. No.2/2 | SP TW 2/2          | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  | Split Type 60,000 Btu. No.2/3 | SP TW 2/3          | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  | Split Type 60,000 Btu. No.2/4 | SP TW 2/4          | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  | Room Temperature              |                    | Temperature           | Temp. Trans. 4-20 mA. |         |    | 4  |    |      |                    |                   |              |
|                    |              |                                                                                  | Rotating Beacon               |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |              |
|                    |              |                                                                                  |                               |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |              |

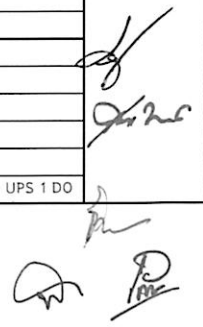



Project: Building Automation System (BAS)  
 Location: หอบังคับการบินเบตง

Date: 29/5/2568

IO List (draft)

| Building                | Floor      | System/Location          | Equipment                     | Sub-equipment/Code | Signal                | Type        | IO Type          |       |    |    |      | Note               | Network<br>ศว.สว. |    |
|-------------------------|------------|--------------------------|-------------------------------|--------------------|-----------------------|-------------|------------------|-------|----|----|------|--------------------|-------------------|----|
|                         |            |                          |                               |                    |                       |             | DI               | DO    | AI | AO | Comm |                    |                   |    |
|                         |            | ติดตั้งตู้ PLC           | Surge 220V                    |                    | Surge Alarm           | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          | UPS (DC)                      |                    | Backup (BU)           | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Trouble (TR)          | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Batt Low (BL)         | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Batt Replacement (WB) | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Discharge Battery     | dry contact |                  | 1     |    |    |      | Discharge UPS 1 DO |                   |    |
|                         |            | Subtotal IO Amount       |                               |                    |                       |             |                  | 31    | 5  | 4  | 0    | 0                  |                   | 40 |
|                         |            | Spare Point              |                               |                    |                       |             |                  | 8     | 8  | 8  |      |                    |                   |    |
|                         |            | Subtotal IO Amount       |                               |                    |                       |             |                  | 39    | 13 | 12 | 0    | 0                  |                   | 64 |
|                         |            | Tower<br>(Generator)     | 1st                           | Generator Room     | ATS                   | Power Meter | Input Normal/Gen | RS485 |    |    |      |                    |                   | 2  |
|                         |            |                          |                               |                    | Output ATS            | RS485       |                  |       |    |    | 1    |                    |                   |    |
| ติดตั้งตู้ PLC          | Surge 220V |                          |                               |                    | Surge Alarm           | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         | UPS (DC)   |                          |                               |                    | Backup (BU)           | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Trouble (TR)          | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Batt Low (BL)         | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Batt Replacement (WB) | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Discharge Battery     | dry contact |                  | 1     |    |    |      | Discharge UPS 1 DO |                   |    |
| Subtotal IO Amount      |            |                          |                               |                    |                       | 5           | 1                | 0     | 0  | 3  | 9    |                    |                   |    |
| Spare Point             |            |                          |                               |                    |                       | 8           | 8                | 8     |    |    |      |                    |                   |    |
| Subtotal IO Amount      |            |                          |                               |                    |                       | 13          | 9                | 8     | 0  | 3  | 33   |                    |                   |    |
| อาคารบ้านพัก<br>พนักงาน | 1st        | Outdoor                  | Storage Tank#1 (2,500 L)      |                    | Level                 | dry contact | 3                |       |    |    |      | ถึงน้ำถึงก้น       | มี<br>VLAN68      |    |
|                         |            |                          | Storage Tank#2 (2,500 L)      |                    |                       |             |                  |       |    |    |      |                    |                   |    |
|                         |            |                          | Storage Tank#3 (2,500 L)      |                    |                       |             |                  |       |    |    |      |                    |                   |    |
|                         |            | ห้องควบคุมระบบไฟฟ้า      | Split Type 25,000 Btu. No.1/1 | SP RS 2/1          | Remote/Local          | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          | (Spare อนาคตติดตั้งเพิ่ม)     |                    | Start-Stop            | dry contact |                  | 1     |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | On/Off Status         | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Overload              | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Status Compressor     | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Over/Under Voltage    | dry contact | 2                |       |    |    |      |                    |                   |    |
|                         |            |                          | Split Type 25,000 Btu. No.1/2 | SP RS 2/2          | Remote/Local          | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          | (Spare อนาคตติดตั้งเพิ่ม)     |                    | Start-Stop            | dry contact |                  | 1     |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | On/Off Status         | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Overload              | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Status Compressor     | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Over/Under Voltage    | dry contact | 2                |       |    |    |      |                    |                   |    |
|                         |            | ติดตั้งตู้ PLC           | Surge 220V                    |                    | Surge Alarm           | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          | UPS (DC)                      |                    | Backup (BU)           | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            | ติดตั้งตู้ Load Consumer |                               |                    | Trouble (TR)          | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Batt Low (BL)         | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Batt Replacement (WB) | dry contact | 1                |       |    |    |      |                    |                   |    |
|                         |            |                          |                               |                    | Discharge Battery     | dry contact |                  | 1     |    |    |      | Discharge UPS 1 DO |                   |    |



Project: Building Automation System (BAS)  
 Location: หอบังคับการบินเบตง

Date: 29/5/2568

IO List (draft)

| Building           | Floor                           | System/Location | Equipment                     | Sub-equipment/Code | Signal                | Type                  | IO Type               |    |    |    |      | Note               | Network<br>พว.สว.                |
|--------------------|---------------------------------|-----------------|-------------------------------|--------------------|-----------------------|-----------------------|-----------------------|----|----|----|------|--------------------|----------------------------------|
|                    |                                 |                 |                               |                    |                       |                       | DI                    | DO | AI | AO | Comm |                    |                                  |
|                    |                                 |                 | Room Temperature              |                    | Temperature           | Temp. Trans. 4-20 mA. |                       |    | 2  |    |      |                    |                                  |
|                    |                                 |                 | Fire Alarm                    |                    | Trouble               | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Alarm                 | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    | Subtotal IO Amount              |                 |                               |                    |                       |                       | 22                    | 3  | 2  | 0  | 0    | 27                 |                                  |
|                    | Spare Point                     |                 |                               |                    |                       |                       | 8                     | 8  | 8  |    |      |                    |                                  |
| Subtotal IO Amount |                                 |                 |                               |                    |                       | 30                    | 11                    | 10 | 0  | 0  | 51   |                    |                                  |
| DVOR               | 1st                             | Equipment       | Split Type 36,000 Btu. No.1/1 | SP DVOR 1/1        | Remote/Local          | dry contact           | 1                     |    |    |    |      |                    | ตู้<br>VLAN68<br>(Aruba #9, #10) |
|                    |                                 |                 |                               |                    | Start-Stop            | dry contact           |                       | 1  |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | On/Off Status         | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Overload              | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Status Compressor     | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Over/Under Voltage    | dry contact           | 2                     |    |    |    |      |                    |                                  |
|                    |                                 |                 | Split Type 36,000 Btu. No.1/2 | SP DVOR 1/2        | Remote/Local          | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Start-Stop            | dry contact           |                       | 1  |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | On/Off Status         | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Overload              | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Status Compressor     | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Over/Under Voltage    | dry contact           | 2                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Alarm                 | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 | ติดตั้งตู้ PLC  | Surge 220V                    |                    | Surge Alarm           | dry contact           | 1                     |    |    |    |      | ตู้ PLC            |                                  |
|                    |                                 |                 | UPS (DC)                      |                    | Backup (BU)           | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Trouble (TR)          | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Batt Low (BL)         | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Batt Replacement (WB) | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Discharge Battery     | dry contact           |                       | 1  |    |    |      | Discharge UPS 1 DO |                                  |
|                    |                                 |                 |                               | Room Temperature   |                       | Temperature           | Temp. Trans. 4-20 mA. |    |    | 2  |      |                    |                                  |
|                    |                                 | ห้องเก็บของ     | Smoke Detector                |                    | Alarm                 | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 | โรงอาหาร        | Smoke Detector                |                    | Alarm                 | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 | Generator Room  | ATS                           | Power Meter        | Input Normal/Gen      | RS485                 |                       |    |    |    | 2    | (PEA / GEN)        |                                  |
|                    |                                 |                 |                               |                    | Output ATS            | RS485                 |                       |    |    |    | 1    |                    |                                  |
|                    |                                 |                 |                               | Heat Detector      |                       | Alarm                 | dry contact           | 2  |    |    |      |                    |                                  |
| Outdoor            | Storage Tank - 1,600 L (น้ำใช้) |                 | Level                         | dry contact        | 3                     |                       |                       |    |    |    |      |                    |                                  |
| Subtotal IO Amount |                                 |                 |                               |                    |                       |                       | 25                    | 3  | 2  | 0  | 3    | 33                 |                                  |
| Spare Point        |                                 |                 |                               |                    |                       |                       | 8                     | 8  | 8  |    |      |                    |                                  |
| Subtotal IO Amount |                                 |                 |                               |                    |                       |                       | 33                    | 11 | 10 | 0  | 3    | 57                 |                                  |
| โรงสูบน้ำ          | 1st                             | Pump Room       | Transfer Pump                 |                    | On/Off Status         | dry contact           | 2                     |    |    |    |      |                    | ตู้<br>9/25                      |
|                    |                                 |                 |                               |                    | Overload              | dry contact           | 2                     |    |    |    |      |                    |                                  |
|                    |                                 | ติดตั้งตู้ PLC  | Surge 220V                    |                    | Surge Alarm           | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 | UPS (DC)                      |                    | Backup (BU)           | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Trouble (TR)          | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Batt Low (BL)         | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Batt Replacement (WB) | dry contact           | 1                     |    |    |    |      |                    |                                  |
|                    |                                 |                 |                               |                    | Discharge Battery     | dry contact           |                       | 1  |    |    |      | Discharge UPS 1 DO |                                  |



Project: Building Automation System (BAS)  
 Location: หอบังคับการบินเบตง

Date: 29/5/2568

IO List (draft)

| Building | Floor | System/Location                          | Equipment                     | Sub-equipment/Code | Signal                | Type                  | IO Type |     |    |    |                    | Note                      | Network<br>ศว.สว. |           |
|----------|-------|------------------------------------------|-------------------------------|--------------------|-----------------------|-----------------------|---------|-----|----|----|--------------------|---------------------------|-------------------|-----------|
|          |       |                                          |                               |                    |                       |                       | DI      | DO  | AI | AO | Comm               |                           |                   |           |
|          |       | ติดตั้ง Wireless ส่งสัญญาณไปที่อาคาร TX  |                               |                    |                       |                       |         |     |    |    |                    |                           |                   |           |
|          |       | Outdoor                                  | Wireless                      |                    |                       |                       |         |     |    |    |                    |                           |                   |           |
|          |       |                                          | Storage Tank (น้ำใช้)         |                    | Level                 | dry contact           | 3       |     |    |    |                    |                           |                   |           |
|          |       | Subtotal IO Amount                       |                               |                    |                       |                       | 12      | 1   | 0  | 0  | 0                  |                           | 13                |           |
|          |       | Spare Point                              |                               |                    |                       |                       | 8       | 8   | 8  |    |                    |                           |                   |           |
|          |       | Subtotal IO Amount                       |                               |                    |                       |                       | 20      | 9   | 8  | 0  | 0                  |                           | 37                |           |
| TX       | 1st   | Equipment                                | Split Type 51,500 Btu. No.1/1 | SP TX 1/1          | Remote/Local          | dry contact           | 1       |     |    |    |                    | VLAN68<br>(Aruba #9, #10) |                   |           |
|          |       |                                          |                               |                    | Start-Stop            | dry contact           |         | 1   |    |    |                    |                           |                   |           |
|          |       |                                          |                               |                    | On/Off Status         | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       | ตู้ Starter ติดแทน                       |                               |                    | Overload              | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       | ตำแหน่งเดิม                              |                               |                    | Status Compressor     | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       |                                          |                               |                    | Over/Under Voltage    | dry contact           | 2       |     |    |    |                    |                           |                   |           |
|          |       |                                          | Split Type 51,500 Btu. No.1/2 | SP TX 1/2          | Remote/Local          | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       |                                          |                               |                    | Start-Stop            | dry contact           |         | 1   |    |    |                    |                           |                   |           |
|          |       |                                          |                               |                    | On/Off Status         | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       |                                          |                               |                    | Overload              | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       |                                          |                               |                    | Status Compressor     | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       |                                          |                               |                    | Over/Under Voltage    | dry contact           | 2       |     |    |    |                    |                           |                   |           |
|          |       | ติดตั้งตู้ PLC                           | Surge 220V                    |                    | Surge Alarm           | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       |                                          | UPS (DC)                      |                    | Backup (BU)           | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       |                                          |                               |                    | Trouble (TR)          | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       |                                          |                               |                    | Batt Low (BL)         | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       |                                          |                               |                    | Batt Replacement (WB) | dry contact           | 1       |     |    |    |                    |                           |                   |           |
|          |       |                                          |                               |                    | Discharge Battery     | dry contact           |         | 1   |    |    | Discharge UPS 1 DO |                           |                   |           |
|          |       |                                          | Room Temperature              |                    | Temperature           | Temp. Trans. 4-20 mA. |         |     | 2  |    |                    |                           |                   |           |
|          |       | ติดตั้ง Wireless ส่งสัญญาณไปที่โรงสูบน้ำ |                               |                    |                       |                       |         |     |    |    |                    |                           |                   |           |
|          |       |                                          | Outdoor                       | Wireless           |                       |                       |         |     |    |    |                    |                           |                   | โรงสูบน้ำ |
|          |       | Subtotal IO Amount                       |                               |                    |                       |                       |         | 17  | 3  | 2  | 0                  |                           | 0                 | 22        |
|          |       | Spare Point                              |                               |                    |                       |                       |         | 8   | 8  | 8  |                    |                           |                   |           |
|          |       | Subtotal IO Amount                       |                               |                    |                       |                       |         | 25  | 11 | 10 | 0                  |                           | 0                 | 46        |
|          |       | IO Sum Total                             |                               |                    |                       |                       |         | 226 | 81 | 73 | 0                  |                           | 6                 | 386       |

*Handwritten signatures and initials:*  
 29/5/2568  
 [Signature]  
 [Initials]  
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## ตาราง I/O Point List

ท่าอากาศยานนราธิวาส

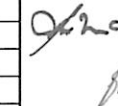
ศูนย์ควบคุมการบินหาดใหญ่

Handwritten signatures and initials in the bottom right corner, including a large signature, a checkmark, and several smaller initials.

Date: 29/5/2568

| Building | Floor | System/Location                                          | Equipment                        | Sub-equipment/Code                                        | Signal             | Type                  | IO Type               |    |    |    |      | Note           | Network<br>ศว.สว.  |    |
|----------|-------|----------------------------------------------------------|----------------------------------|-----------------------------------------------------------|--------------------|-----------------------|-----------------------|----|----|----|------|----------------|--------------------|----|
|          |       |                                                          |                                  |                                                           |                    |                       | DI                    | DO | AI | AO | Comm |                |                    |    |
| Tower    | 1st   | ถังชั้น 1                                                | Fire Alarm                       |                                                           | Trouble            | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Alarm              | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       | หลังหอฯ (นอกอาคาร)                                       | Storage Tank#1 – 1,000 L (บาดาล) |                                                           | Level              | dry contact           | 3                     |    |    |    |      | ถังน้ำถึงกัน   |                    |    |
|          |       |                                                          | Storage Tank#2 – 1,000 L (บาดาล) |                                                           |                    |                       |                       |    |    |    |      |                |                    |    |
|          |       |                                                          | Pump (บาดาล)                     |                                                           | On/Off Status      | dry contact           | 1                     |    |    |    |      | เปลี่ยนตู้ใหม่ |                    |    |
|          |       |                                                          |                                  |                                                           | Overload           | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          | 4th   | ห้องวิศวกรรมเหวินเวียน<br>จุดติดตั้ง Server /<br>Monitor | Split Type 25,300 Btu. No.4/1    | SP TW 4/1                                                 | Remote/Local       | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Start-Stop         | dry contact           |                       | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | On/Off Status      | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Overload           | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Status Compressor  | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Over/Under Voltage | dry contact           | 2                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  | Split Type XXXXXX Btu. No.4/2<br>(Spare ขนาดติดตั้งเพิ่ม) | SP TW 4/2          | Remote/Local          | dry contact           | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Start-Stop         | dry contact           |                       | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | On/Off Status      | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Overload           | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       | ติดตั้งตู้ PLC                                           |                                  | Room Temperature                                          |                    | Temperature           | Temp. Trans. 4-20 mA. |    |    | 2  |      |                |                    |    |
|          |       |                                                          |                                  | Surge 220V                                                |                    | Surge Alarm           | dry contact           | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  | UPS (DC)                                                  |                    | Backup (BU)           | dry contact           | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           |                    | Trouble (TR)          | dry contact           | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           |                    | Batt Low (BL)         | dry contact           | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           |                    | Batt Replacement (WB) | dry contact           | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           |                    | Discharge Battery     | dry contact           |    | 1  |    |      |                | Discharge UPS 1 DO |    |
|          |       |                                                          | Subtotal IO Amount               |                                                           |                    |                       |                       |    | 24 | 3  | 2    | 0              | 0                  | 29 |
|          |       |                                                          | Spare Point                      |                                                           |                    |                       |                       |    | 8  | 8  | 8    |                |                    |    |
|          |       |                                                          | Subtotal IO Amount               |                                                           |                    |                       |                       |    | 32 | 11 | 10   | 0              | 0                  | 53 |
|          | 5th   | Equipment Room                                           | Split Type 33,000 Btu. No.5/1    | SP TW 5/1                                                 | Remote/Local       | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Start-Stop         | dry contact           |                       | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | On/Off Status      | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Overload           | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Status Compressor  | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Over/Under Voltage | dry contact           | 2                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  | Split Type 33,000 Btu. No.5/2                             | SP TW 5/2          | Remote/Local          | dry contact           | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Start-Stop         | dry contact           |                       | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | On/Off Status      | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Overload           | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Status Compressor  | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Over/Under Voltage | dry contact           | 2                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  | Split Type 36,170 Btu. No.5/3                             | SP TW 5/3          | Remote/Local          | dry contact           | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Start-Stop         | dry contact           |                       | 1  |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | On/Off Status      | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Overload           | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           | Status Compressor  | dry contact           | 1                     |    |    |    |      |                |                    |    |
|          |       |                                                          |                                  |                                                           |                    | Over/Under Voltage    | dry contact           | 2  |    |    |      |                |                    |    |

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Project: Building Automation System (BAS)  
 Location: หอบังคับการบินราชาธิวาส

Date: 29/5/2568

IO List (draft)

| Building           | Floor            | System/Location                                                        | Equipment                     | Sub-equipment/Code    | Signal                | Type                  | IO Type |    |    |    |      | Note               | Network<br>ศว.สว. |
|--------------------|------------------|------------------------------------------------------------------------|-------------------------------|-----------------------|-----------------------|-----------------------|---------|----|----|----|------|--------------------|-------------------|
|                    |                  |                                                                        |                               |                       |                       |                       | DI      | DO | AI | AO | Comm |                    |                   |
|                    |                  |                                                                        | Split Type XXXXXX Btu. No.5/4 | SP TW 5/4             | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |
|                    |                  |                                                                        | Split Type 30,000 Btu. No.5/5 | SP TW 5/5             | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       |                       |                       |         |    |    |    |      |                    |                   |
|                    |                  |                                                                        | Room Temperature              |                       | Temperature           | Temp. Trans. 4-20 mA. |         |    | 5  |    |      |                    |                   |
|                    |                  | ติดตั้งตู้ PLC                                                         | Surge 220V                    |                       | Surge Alarm           | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        | UPS (DC)                      |                       | Backup (BU)           | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Trouble (TR)          | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Batt Low (BL)         | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Batt Replacement (WB) | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Discharge Battery     | dry contact           |         | 1  |    |    |      | Discharge UPS 1 DO |                   |
|                    |                  | ติดตั้ง Wireless ส่งสัญญาณไปหิอาคาร Tower (Generator) / บ้านพักพนักงาน |                               |                       |                       |                       |         |    |    |    |      |                    |                   |
|                    |                  | Outdoor                                                                | Wireless                      |                       |                       |                       |         |    |    |    |      | Gen / บ้านพัก      |                   |
|                    | 6th              | Control Room                                                           | Split Type 36,168 Btu. No.6/1 | SP TW 6/1             | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |
|                    |                  |                                                                        | Split Type 36,168 Btu. No.6/2 | SP TW 6/2             | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |
|                    |                  |                                                                        | Split Type 36,168 Btu. No.6/3 | SP TW 6/3             | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Overload              | dry contact           | 1       |    |    |    |      |                    |                   |
|                    |                  |                                                                        |                               |                       | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                   |
| Over/Under Voltage |                  |                                                                        |                               |                       | dry contact           | 2                     |         |    |    |    |      |                    |                   |
|                    | Room Temperature |                                                                        | Temperature                   | Temp. Trans. 4-20 mA. |                       |                       | 2       |    |    |    |      |                    |                   |
|                    | Rotating Beacon  |                                                                        | On/Off Status                 | dry contact           | 1                     |                       |         |    |    |    |      |                    |                   |
|                    |                  |                                                                        | Overload                      | dry contact           | 1                     |                       |         |    |    |    |      |                    |                   |
| Subtotal IO Amount |                  |                                                                        |                               |                       |                       | 55                    | 9       | 7  | 0  | 0  | 71   | for R              |                   |
| Spare Point        |                  |                                                                        |                               |                       |                       | 8                     | 8       | 8  |    |    |      |                    |                   |
| Subtotal IO Amount |                  |                                                                        |                               |                       |                       | 63                    | 17      | 15 | 0  | 0  | 95   |                    |                   |

Project: Building Automation System (BAS)

Location: หอบังคับการบินราชีวาส

Date: 29/5/2568

## IO List (draft)

| Building                | Floor | System/Location                           | Equipment                                 | Sub-equipment/Code | Signal                | Type        | IO Type |    |    |    |      | Note               | Network<br>ศว.พว. |
|-------------------------|-------|-------------------------------------------|-------------------------------------------|--------------------|-----------------------|-------------|---------|----|----|----|------|--------------------|-------------------|
|                         |       |                                           |                                           |                    |                       |             | DI      | DO | AI | AO | Comm |                    |                   |
| Tower<br>(Generator)    | 1st   | Generator Room                            | ATS                                       | Power Meter        | Input Normal/Gen      | RS485       |         |    |    |    | 2    | (PEA / GEN)        | ไม่มี             |
|                         |       |                                           |                                           |                    | Output ATS            | RS485       |         |    |    |    | 1    |                    |                   |
|                         |       | ติดตั้งตู้ PLC                            | Surge 220V                                |                    | Surge Alarm           | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           | UPS (DC)                                  |                    | Backup (BU)           | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Trouble (TR)          | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Batt Low (BL)         | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Batt Replacement (WB) | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Discharge Battery     | dry contact |         | 1  |    |    |      | Discharge UPS 1 DO |                   |
|                         |       | ติดตั้ง Wireless ส่งสัญญาณไปที่หอฯ ชั้น 5 |                                           |                    |                       |             |         |    |    |    |      |                    |                   |
|                         |       | Outdoor                                   | Wireless                                  |                    |                       |             |         |    |    |    |      |                    |                   |
|                         |       | Subtotal IO Amount                        |                                           |                    |                       |             | 5       | 1  | 0  | 0  | 3    | 9                  |                   |
|                         |       | Spare Point                               |                                           |                    |                       |             | 8       | 8  | 8  |    |      |                    |                   |
|                         |       | Subtotal IO Amount                        |                                           |                    |                       |             | 13      | 9  | 8  | 0  | 3    | 33                 |                   |
| อาคารบ้านพัก<br>พนักงาน | 1st   | ฝั่งบ้านพัก 3 หลัง                        | Pump : 5 Sets                             |                    | Start-Stop            | dry contact |         | 5  |    |    |      | บาดาล : 1 ตัว      | ไม่มี             |
|                         |       |                                           | (Wiring เมื่อติดตั้ง Flow Switch ในอนาคต) |                    | On/Off Status         | dry contact | 5       |    |    |    |      | ประปา : 2 ตัว      |                   |
|                         |       |                                           |                                           |                    | Overload              | dry contact | 5       |    |    |    |      | Softener : 2 ตัว   |                   |
|                         |       |                                           | Storage Tank#1 - 2,000 L (หอเก็บน้ำ)      |                    | Level                 | dry contact | 3       |    |    |    |      |                    |                   |
|                         |       |                                           | Storage Tank#2 - 2,000 L (ถังผึ่งน้ำ)     |                    | Level                 | dry contact | 3       |    |    |    |      |                    |                   |
|                         |       |                                           | Storage Tank#3 - 2,000 L (ถังผึ่งน้ำ)     |                    | Level                 | dry contact | 3       |    |    |    |      |                    |                   |
|                         |       |                                           | Storage Tank#4 - 2,000 L (ถังสแตนเลส)     |                    | Level                 | dry contact | 3       |    |    |    |      |                    |                   |
|                         |       | ฝั่งบ้านพัก 1 หลัง                        | Surge 220V                                |                    | Surge Alarm           | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       | ติดตั้งตู้ PLC                            | UPS (DC)                                  |                    | Backup (BU)           | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       | พร้อมทั้งระแนงบังสายตา                    |                                           |                    | Trouble (TR)          | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Batt Low (BL)         | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Batt Replacement (WB) | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Discharge Battery     | dry contact |         | 1  |    |    |      | Discharge UPS 1 DO |                   |
|                         |       |                                           | Storage Tank#5 - 2,000 L (ถังสแตนเลส)     |                    | Level                 | dry contact | 3       |    |    |    |      |                    |                   |
|                         |       | ติดตั้ง Wireless ส่งสัญญาณไปที่หอฯ ชั้น 5 |                                           |                    |                       |             |         |    |    |    |      |                    |                   |
|                         |       | Outdoor                                   | Wireless                                  |                    |                       |             |         |    |    |    |      |                    |                   |
|                         |       | Subtotal IO Amount                        |                                           |                    |                       |             | 30      | 6  | 0  | 0  | 0    | 36                 |                   |
|                         |       | Spare Point                               |                                           |                    |                       |             | 8       | 8  | 8  |    |      |                    |                   |
|                         |       | Subtotal IO Amount                        |                                           |                    |                       |             | 38      | 14 | 8  | 0  | 0    | 60                 |                   |
| DVOR                    | 1st   | Equipment                                 | Split Type 30,000 Btu. No.1/1             | SP DVOR 1/1        | Remote/Local          | dry contact | 1       |    |    |    |      |                    | มี<br>VLAN68      |
|                         |       |                                           |                                           |                    | Start-Stop            | dry contact |         | 1  |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | On/Off Status         | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Overload              | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Status Compressor     | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Over/Under Voltage    | dry contact | 2       |    |    |    |      |                    |                   |
|                         |       |                                           | Split Type 30,000 Btu. No.1/2             | SP DVOR 1/2        | Remote/Local          | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Start-Stop            | dry contact |         | 1  |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | On/Off Status         | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Overload              | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Status Compressor     | dry contact | 1       |    |    |    |      |                    |                   |
|                         |       |                                           |                                           |                    | Over/Under Voltage    | dry contact | 2       |    |    |    |      |                    |                   |

Project: Building Automation System (BAS)  
Location: หอบังคับการบินพาณิชย์

Date: 29/5/2568

IO List (draft)

| Building | Floor              | System/Location                          | Equipment                     | Sub-equipment/Code            | Signal                | Type                  | IO Type     |    |    |    |      | Note               | Network<br>พว.สว. |              |
|----------|--------------------|------------------------------------------|-------------------------------|-------------------------------|-----------------------|-----------------------|-------------|----|----|----|------|--------------------|-------------------|--------------|
|          |                    |                                          |                               |                               |                       |                       | DI          | DO | AI | AO | Comm |                    |                   |              |
|          |                    |                                          | Split Type 26,000 Btu. No.1/3 | SP DVOR 1/3                   | Remote/Local          | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Start-Stop            | dry contact           |             | 1  |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | On/Off Status         | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Overload              | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Status Compressor     | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Over/Under Voltage    | dry contact           | 2           |    |    |    |      |                    |                   |              |
|          |                    |                                          | Smoke Detector                |                               | Alarm                 | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    | ติดตั้งตู้ PLC                           | Surge 220V                    |                               | Surge Alarm           | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          | UPS (DC)                      |                               | Backup (BU)           | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Trouble (TR)          | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Batt Low (BL)         | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Batt Replacement (WB) | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Discharge Battery     | dry contact           |             | 1  |    |    |      | Discharge UPS 1 DO |                   |              |
|          |                    |                                          | Room Temperature              |                               | Temperature           | Temp. Trans. 4-20 mA. |             |    | 2  |    |      |                    |                   |              |
|          |                    | ติดตั้ง Wireless ส่งสัญญาณไปที่สถานี NDB |                               |                               |                       |                       |             |    |    |    |      |                    |                   |              |
|          |                    | Outdoor                                  | Storage Tank (น้ำใช้)         |                               | Level                 | dry contact           | 3           |    |    |    |      | ไม่มีค่าส่ง        |                   |              |
|          |                    |                                          | Wireless                      |                               |                       |                       |             |    |    |    |      | NDB                |                   |              |
|          |                    |                                          | ห้องเก็บของ#1                 | Smoke Detector                |                       | Alarm                 | dry contact | 1  |    |    |      |                    |                   |              |
|          |                    |                                          | ห้องเก็บของ#2                 | Smoke Detector                |                       | Alarm                 | dry contact | 1  |    |    |      |                    |                   |              |
|          |                    | โรงอาคาร                                 | Smoke Detector                |                               | Alarm                 | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    | Generator Room                           | ATS                           | Power Meter                   | Input Normal/Gen      | RS485                 |             |    |    |    | 2    | (PEA / GEN)        |                   |              |
|          |                    |                                          |                               |                               | Output ATS            | RS485                 |             |    |    |    | 1    |                    |                   |              |
|          |                    |                                          | Heat Detector                 |                               | Alarm                 | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          | Subtotal IO Amount |                                          |                               |                               |                       |                       |             | 31 | 4  | 2  | 0    | 3                  | 40                |              |
|          | Spare Point        |                                          |                               |                               |                       |                       |             | 8  | 8  | 8  |      |                    |                   |              |
|          | Subtotal IO Amount |                                          |                               |                               |                       |                       |             | 39 | 12 | 10 | 0    | 3                  | 64                |              |
|          | LOC                | 1st                                      | Equipment                     | Split Type 30,000 Btu. No.1/1 | SP LOC 1/1            | Remote/Local          | dry contact | 1  |    |    |      |                    |                   | มี<br>VLAN68 |
|          |                    |                                          |                               |                               |                       | Start-Stop            | dry contact |    | 1  |    |      |                    |                   |              |
|          |                    |                                          |                               |                               |                       | On/Off Status         | dry contact | 1  |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               |                       | Overload              | dry contact | 1  |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               |                       | Status Compressor     | dry contact | 1  |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               |                       | Over/Under Voltage    | dry contact | 2  |    |    |      |                    |                   |              |
|          |                    |                                          |                               | Split Type 30,000 Btu. No.1/2 | SP LOC 1/2            | Remote/Local          | dry contact | 1  |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Start-Stop            | dry contact           |             | 1  |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | On/Off Status         | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Overload              | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Status Compressor     | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Status Compressor     | dry contact           | 1           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               |                               | Over/Under Voltage    | dry contact           | 2           |    |    |    |      |                    |                   |              |
|          |                    |                                          |                               | Smoke Detector                |                       | Alarm                 | dry contact | 1  |    |    |      |                    |                   |              |

*[Handwritten signatures and initials]*

Project: Building Automation System (BAS)

Location: หอบังคับการบินราชิวาส

Date: 29/5/2568

## IO List (draft)

| Building           | Floor | System/Location                   | Equipment                         | Sub-equipment/Code | Signal                | Type                  | IO Type |    |    |    |      | Note               | Network<br>ศว.สว.  |   |    |
|--------------------|-------|-----------------------------------|-----------------------------------|--------------------|-----------------------|-----------------------|---------|----|----|----|------|--------------------|--------------------|---|----|
|                    |       |                                   |                                   |                    |                       |                       | DI      | DO | AI | AO | Comm |                    |                    |   |    |
|                    |       | ติดตั้งตู้ PLC                    | Surge 220V                        |                    | Surge Alarm           | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   | UPS (DC)                          |                    | Backup (BU)           | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Trouble (TR)          | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Batt Low (BL)         | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Batt Replacement (WB) | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Discharge Battery     | dry contact           |         | 1  |    |    |      | Discharge UPS 1 DO |                    |   |    |
|                    |       |                                   | Room Temperature                  |                    | Temperature           | Temp. Trans. 4-20 mA. |         |    | 2  |    |      |                    |                    |   |    |
|                    |       | Generator Room                    | ATS                               | Power Meter        | Input Normal/Gen      | RS485                 |         |    |    |    | 2    | (PEA / GEN)        |                    |   |    |
|                    |       |                                   |                                   |                    | Output ATS            | RS485                 |         |    |    |    | 1    |                    |                    |   |    |
|                    |       |                                   | Heat Detector                     |                    | Alarm                 | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       | โรงอาหาร                          | Smoke Detector                    |                    | Alarm                 | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       | คานนอกอาคาร                       | Storage Tank#1 – 1,500 L (น้ำใช้) |                    | Level                 | dry contact           | 3       |    |    |    |      | ถึงน้ำถึงกัน       |                    |   |    |
|                    |       |                                   | Storage Tank#2 – 1,500 L (น้ำใช้) |                    |                       |                       |         |    |    |    |      |                    |                    |   |    |
|                    |       | Subtotal IO Amount                |                                   |                    |                       |                       |         |    | 24 | 3  | 2    | 0                  |                    | 3 | 32 |
|                    |       | Spare Point                       |                                   |                    |                       |                       |         |    | 8  | 8  | 8    |                    |                    |   |    |
| Subtotal IO Amount |       |                                   |                                   |                    |                       |                       | 32      | 11 | 10 | 0  | 3    | 56                 |                    |   |    |
| GP                 | 1st   | Equipment                         | Split Type 24,230 Btu. No.1/1     | SP GP 1/1          | Remote/Local          | dry contact           | 1       |    |    |    |      | มี<br>VLAN68       |                    |   |    |
|                    |       |                                   |                                   |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       | ตู้ Starter ติดแทน<br>ตำแหน่งเดิม |                                   |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   | Split Type 24,230 Btu. No.1/2     | SP GP 1/2          | Remote/Local          | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       | Start-Stop                        |                                   |                    | dry contact           |                       | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   | Smoke Detector                    |                    | Alarm                 | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       | ติดตั้งตู้ PLC                    | Surge 220V                        |                    | Surge Alarm           | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   | UPS (DC)                          |                    | Backup (BU)           | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Trouble (TR)          | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Batt Low (BL)         | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Batt Replacement (WB) | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Discharge Battery     | dry contact           |         | 1  |    |    |      |                    | Discharge UPS 1 DO |   |    |
|                    |       |                                   | Room Temperature                  |                    | Temperature           | Temp. Trans. 4-20 mA. |         |    | 2  |    |      |                    |                    |   |    |
|                    |       |                                   | Water leakage                     | Water leakage      | On/off status         | Water leakage sensor  | 3       |    |    |    |      |                    |                    |   |    |
| Subtotal IO Amount |       |                                   |                                   |                    |                       |                       | 21      | 3  | 2  | 0  | 0    | 26                 |                    |   |    |
| Spare Point        |       |                                   |                                   |                    |                       |                       | 8       | 8  | 8  |    |      |                    |                    |   |    |
| Subtotal IO Amount |       |                                   |                                   |                    |                       |                       | 29      | 11 | 10 | 0  | 0    | 50                 |                    |   |    |
| NDB                | 1st   | Equipment                         | Split Type 30,000 Btu. No.1/1     | SP NDB 1/1         | Remote/Local          | dry contact           | 1       |    |    |    |      | ไม่มี              |                    |   |    |
|                    |       |                                   |                                   |                    | Start-Stop            | dry contact           |         | 1  |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | On/Off Status         | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Overload              | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Status Compressor     | dry contact           | 1       |    |    |    |      |                    |                    |   |    |
|                    |       |                                   |                                   |                    | Over/Under Voltage    | dry contact           | 2       |    |    |    |      |                    |                    |   |    |

Project: Building Automation System (BAS)  
 Location: หอบังคับการบินราชีวาส

Date: 29/5/2568

IO List (draft)

| Building | Floor | System/Location | Equipment                     | Sub-equipment/Code                        | Signal             | Type                  | IO Type               |    |     |    |      | Note               | Network<br>ศว.สว. |    |     |
|----------|-------|-----------------|-------------------------------|-------------------------------------------|--------------------|-----------------------|-----------------------|----|-----|----|------|--------------------|-------------------|----|-----|
|          |       |                 |                               |                                           |                    |                       | DI                    | DO | AI  | AO | Comm |                    |                   |    |     |
|          |       |                 | Split Type 30,000 Btu. No.1/2 | SP NDB 1/2                                | Remote/Local       | dry contact           | 1                     |    |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           | Start-Stop         | dry contact           |                       | 1  |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           | On/Off Status      | dry contact           | 1                     |    |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           | Overload           | dry contact           | 1                     |    |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           | Status Compressor  | dry contact           | 1                     |    |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           | Over/Under Voltage | dry contact           | 2                     |    |     |    |      |                    |                   |    |     |
|          |       |                 | Split Type XXXXXX Btu. No.1/3 | SP NDB 1/3                                | Remote/Local       | dry contact           | 1                     |    |     |    |      |                    |                   |    |     |
|          |       |                 | (Spare ขนาดติดตั้งเพิ่ม)      |                                           | Start-Stop         | dry contact           |                       | 1  |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           | On/Off Status      | dry contact           | 1                     |    |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           | Overload           | dry contact           | 1                     |    |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           | Status Compressor  | dry contact           | 1                     |    |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           | Over/Under Voltage | dry contact           | 2                     |    |     |    |      |                    |                   |    |     |
|          |       |                 |                               | Smoke Detector                            |                    | Alarm                 | dry contact           | 1  |     |    |      |                    |                   |    |     |
|          |       |                 | ติดตั้งตู้ PLC                | Surge 220V                                |                    | Surge Alarm           | dry contact           | 1  |     |    |      |                    |                   |    |     |
|          |       |                 |                               | UPS (DC)                                  |                    | Backup (BU)           | dry contact           | 1  |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           |                    | Trouble (TR)          | dry contact           | 1  |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           |                    | Batt Low (BL)         | dry contact           | 1  |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           |                    | Batt Replacement (WB) | dry contact           | 1  |     |    |      |                    |                   |    |     |
|          |       |                 |                               |                                           |                    | Discharge Battery     | dry contact           |    | 1   |    |      | Discharge UPS 1 DO |                   |    |     |
|          |       |                 |                               | Room Temperature                          |                    | Temperature           | Temp. Trans. 4-20 mA. |    |     | 2  |      |                    |                   |    |     |
|          |       |                 | UPS                           | Smoke Detector                            |                    | Alarm                 | dry contact           | 1  |     |    |      |                    |                   |    |     |
|          |       |                 |                               | Room Temperature                          |                    | Temperature           | Temp. Trans. 4-20 mA. |    |     | 1  |      |                    |                   |    |     |
|          |       |                 | Generator Room                | ATS                                       | Power Meter        | Input Normal/Gen      | RS485                 |    |     |    |      | 2 (PEA / GEN)      |                   |    |     |
|          |       |                 |                               |                                           |                    | Output ATS            | RS485                 |    |     |    |      | 1                  |                   |    |     |
|          |       |                 |                               | Heat Detector                             |                    | Alarm                 | dry contact           | 1  |     |    |      |                    |                   |    |     |
|          |       |                 |                               | ติดตั้ง Wireless ส่งสัญญาณไปที่สถานี DVOR |                    |                       |                       |    |     |    |      |                    |                   |    |     |
|          |       |                 | Outdoor                       | Wireless                                  |                    |                       |                       |    |     |    |      |                    |                   |    |     |
|          |       |                 |                               | Subtotal IO Amount                        |                    |                       |                       |    | 26  | 4  | 3    | 0                  |                   | 3  | 36  |
|          |       |                 |                               | Spare Point                               |                    |                       |                       |    | 8   | 8  | 8    |                    |                   |    |     |
|          |       |                 |                               | Subtotal IO Amount                        |                    |                       |                       |    | 34  | 12 | 11   | 0                  |                   | 3  | 60  |
|          |       |                 |                               | IO Sum Total                              |                    |                       |                       |    | 280 | 97 | 82   | 0                  |                   | 12 | 471 |



ตาราง I/O Point List

ท่าอากาศยานปัตตานี

ศูนย์ควบคุมการบินหาดใหญ่

Handwritten signatures and initials in the bottom right corner, including a large signature at the top, followed by 'Jin', 'Pm', and 'Rm'.

Project: Building Automation System (BAS)  
 Location: หอบังคับการบินปัตตานี

Date: 29/5/2568

IO List (draft)

| Building | Floor | System/Location       | Equipment                     | Sub-equipment/Code    | Signal                        | Type                 | IO Type           |                    |             |    |      | Note               | Network<br>พว.สว.<br>VLAN68 |  |
|----------|-------|-----------------------|-------------------------------|-----------------------|-------------------------------|----------------------|-------------------|--------------------|-------------|----|------|--------------------|-----------------------------|--|
|          |       |                       |                               |                       |                               |                      | DI                | DO                 | AI          | AO | Comm |                    |                             |  |
| Tower    | 4th   | ห้อง Equipment        | Split Type 30,000 Btu. No.4/1 | SP TW 4/1             | Remote/Local                  | dry contact          | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Start-Stop                    | dry contact          |                   | 1                  |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | On/Off Status                 | dry contact          | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Overload                      | dry contact          | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Status Compressor             | dry contact          | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Over/Under Voltage            | dry contact          | 2                 |                    |             |    |      |                    |                             |  |
|          |       |                       | Split Type 26,120 Btu. No.4/2 | SP TW 4/2             | Remote/Local                  | dry contact          | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Start-Stop                    | dry contact          |                   | 1                  |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | On/Off Status                 | dry contact          | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Overload                      | dry contact          | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Status Compressor             | dry contact          | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Over/Under Voltage            | dry contact          | 2                 |                    |             |    |      |                    |                             |  |
|          |       |                       | Water leakage                 | Water leakage         | On/off status                 | Water leakage sensor | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Split Type 26,120 Btu. No.4/3 | SP TW 4/3            | Remote/Local      | dry contact        | 1           |    |      |                    |                             |  |
|          |       |                       |                               |                       | Start-Stop                    | dry contact          |                   | 1                  |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | On/Off Status                 | dry contact          | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Overload                      | dry contact          | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Status Compressor             | dry contact          | 1                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Over/Under Voltage            | dry contact          | 2                 |                    |             |    |      |                    |                             |  |
|          |       |                       |                               |                       | Split Type 13,000 Btu. No.4/4 | SP TW 4/4            | Remote/Local      | dry contact        | 1           |    |      |                    |                             |  |
|          |       |                       |                               |                       |                               |                      | Start-Stop        | dry contact        |             | 1  |      |                    |                             |  |
|          |       |                       |                               |                       |                               |                      | On/Off Status     | dry contact        | 1           |    |      |                    |                             |  |
|          |       |                       |                               |                       |                               |                      | Overload          | dry contact        | 1           |    |      |                    |                             |  |
|          |       |                       |                               |                       |                               |                      | Status Compressor | dry contact        | 1           |    |      |                    |                             |  |
|          |       |                       |                               |                       |                               |                      |                   | Over/Under Voltage | dry contact | 2  |      |                    |                             |  |
|          |       | Room Temperature      | Temperature                   | Temp. Trans. 4-20 mA. |                               |                      |                   |                    |             | 2  |      |                    |                             |  |
|          |       | Smoke Detector        | Alarm                         | dry contact           |                               |                      |                   | 2                  |             |    |      |                    |                             |  |
|          |       | Surge 220V            | Surge Alarm                   | dry contact           |                               |                      |                   | 1                  |             |    |      |                    | ตู้ PLC                     |  |
|          |       | UPS (DC)              | Backup (BU)                   | dry contact           |                               |                      |                   | 1                  |             |    |      |                    |                             |  |
|          |       | Trouble (TR)          | dry contact                   | 1                     |                               |                      |                   |                    |             |    |      |                    |                             |  |
|          |       | Batt Low (BL)         | dry contact                   | 1                     |                               |                      |                   |                    |             |    |      |                    |                             |  |
|          |       | Batt Replacement (WB) | dry contact                   | 1                     |                               |                      |                   |                    |             |    |      |                    |                             |  |
|          |       | Discharge Battery     | dry contact                   |                       |                               |                      |                   | 1                  |             |    |      | Discharge UPS 1 DO |                             |  |
|          |       | ATS                   | Power Meter                   | Input Normal/Gen      |                               |                      |                   | RS485              |             |    |      |                    | 2 (PEA / GEN)               |  |
|          |       |                       |                               | Output ATS            |                               |                      |                   | RS485              |             |    |      |                    | 1                           |  |
|          |       | Subtotal IO Amount    |                               |                       |                               |                      |                   | 32                 | 5           | 2  | 0    | 3                  | 42                          |  |
|          |       | Spare Point           |                               |                       |                               |                      |                   | 8                  | 8           | 8  |      |                    |                             |  |
|          |       | Subtotal IO Amount    |                               |                       |                               |                      |                   | 40                 | 13          | 10 | 0    | 3                  | 66                          |  |
|          |       | IO Sum Total          |                               |                       |                               |                      |                   | 40                 | 13          | 10 | 0    | 3                  | 66                          |  |

*[Handwritten signatures and initials]*