

# Remote Instrument Enclosure Checklist

## 1. General

Location of the site City:  Project Name:

Ambient weather design conditions:

Size of RIE

- Standard 12' W X 11'7" by  26'L  32'L  
 56'L  
 Custom Size\*

NOTE: Standard dimensions are overall outside

Electrical Area  
Classification

- General Purpose  Class 1 Division 2  
 Other

Seismic Requirements?

Zone

HVAC Required?

- Yes  No

PE Stamp Required?

- Yes  No

UPS Required?

- Yes  No

Fire Detection Required?

- Yes  No

Fire Suppression System  
Required?

- Yes  No

Gas Detection System  
Required?

- Yes  No

Combustible Gas?

- Yes  No

Toxic Gas?

- Yes  No

Air Lock Required?

- Yes  No

Controller Cabinet  
Enclosures

- Rittal  Markhon  
 Other

Total Number of cabinets  
mounted in RIE

Marshalling Cabinet  
Required?

- Yes  No

\*Additional Equipment within the RIE

- Workstation
- Coat Racks  Other - Fire Extinguishers
- Humidity sensor as analog input to DCS
- Temperature sensor as digital input to DCS

Equipment to be installed within the RIE?

Yes  No

- SIS Cabinets
- Vibration Monitoring Cabinets
- Auxiliary Cabinet
- Other.
- DCS Cab

## 2. Basic Structure

Computer Floor Height  8" (std)  Other

Insulation Requirements

Roof  R-21(std)  Other

Floor  R-19(std)  Other

Walls  R-11(std)  Other

Gauge Requirements

Sub-floor  1/4" steel(std)  Other

Walls Panels  18 gauge steel(std)  Other

Roof Panels  18 gauge steel  Other

Painting:

Colors: Inside  White(std)  Other

Outside  White  Other

Stairs (one per door)  Yes  No

(Painted)  Yes  No

(Galvanized)  Yes  No

### 3. Main Electrical Distribution

Main RIE Power Feed	<input type="checkbox"/> 480 3 ph Wye	<input type="checkbox"/> 480 3 ph Delta	<input type="checkbox"/> 240 3 ph
	<input type="checkbox"/> 208 3 ph	<input type="checkbox"/> Other	<input type="text"/>
Feed Frequency	<input type="checkbox"/> 60HZ(std)	<input type="checkbox"/> 50HZ	<input type="checkbox"/> Other <input type="text"/>
Redundant Main Power Panels	<input type="checkbox"/> Yes	<input type="checkbox"/> No (225 Amp std)	
Single Main Power Panels	<input type="checkbox"/> Yes	<input type="checkbox"/> No (225 Amp std)	
Utility Distribution Panel	<input type="checkbox"/> Yes(std)	<input type="checkbox"/> No (30 Amp std)	
(Standard utility panel is 120/208 "Y")			
Step Down Transformer (9KVA std)	<input type="checkbox"/> Yes(std)	<input type="checkbox"/> No (for utility power)	
(Standard step down transformer is 480 V 3P/120/208 3P)			
DCS Power Distribution Panel (Primary)			
Circuit Breaker Type	<input type="checkbox"/> 1 phase	<input type="checkbox"/> 3 phase	
Fusible Switch Type	<input type="checkbox"/> 1 phase	<input type="checkbox"/> 3 phase	
DCS Power Distribution Panel (Secondary)			
Circuit Breaker Type	<input type="checkbox"/> 1 phase	<input type="checkbox"/> 3 phase	
Fusible Switch Type	<input type="checkbox"/> 1 phase	<input type="checkbox"/> 3 phase	
480v 3 P Auto Transfer Switch	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Isolation Transformers	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Inside Conduit Type	<input type="checkbox"/> EMT(std)	<input type="checkbox"/> Other	<input type="text"/>
Exterior Conduit Type	<input type="checkbox"/> EMT(std)	<input type="checkbox"/> Other	<input type="text"/>
Wire Gauge	<input type="checkbox"/> Per NEC requirements	<input type="checkbox"/> Other	<input type="text"/>
Wire Type	<input type="checkbox"/> THHN/THWN(120V)	<input type="checkbox"/> Other	<input type="text"/>

Panelmatic standard transformers are rated for 150 degree C temperature rise

### 4. HVAC Requirements

Redundant HVAC Units	<input type="checkbox"/> Yes	<input type="checkbox"/> No
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Tonnage  4(std)  5(std)  7 1/2  10  
 Other Sizing to be verified by vendor

Stainless Steel Case  Yes  No

Corrosive Environment  Yes  No

Customer preferred HVAC?

Vendor Name:

Internal Heat Loads of customer supplied Equipment

Outside Air Filtration System  Yes  No  Other

(Standard filters remove 90% of particulates by weight down to .3 microns particle size)

Filter Type  Potassium Permanganate  Activated Carbon

Filtration Redundancy  Redundant Blowers  Non Redundant Blowers

Pressurization Required  Yes  No

(Standard is .1 inch of H2O at 300 CFM maximum leakage)

Stainless Steel Case  Yes  No

Stack Required  Yes  No

Stack Height  22' (std)  Other

Class 1 Division 2  Yes  No

Type Purging  Z  Other

HVAC/Pressurization system will shut down if fire and/or gas detection system are alarmed.

#### 5. UPS Requirements

UPS Capacity  KVA

Dual UPS  Yes  No

Separate Room for UPS  Yes\*\*  No

Separate Room for Batteries  Yes\*\*  No

Customer Preferred UPS vendor?

Vendor Name:

- Static Transfer Switch (Internal)  Yes  No
- Internal Bypass Switches (Maintenance)  Yes  No
- External Bypass Switches (Maintenance)  Yes  No
- Output  120/208 1P  Other
- Battery Charger  Yes  No
- Inverter System  Yes  No
- Battery Backup Time  30 Min  Other
- Battery Drip Pan (304 SS)  Yes  No
- Battery Type  Sealed Gel Cell (recommended)  Flooded Wet Cell
- 10 yr. Life  20 yr. Life

\*\* NOTE: Gel cell batteries do not require a special battery room/enclosure, flooded wet cells do.

#### 6. Fire Protection Requirements

Note: Both Automatic and Manual Fire Protection Systems come with smoke detection system.

Automatic or Manual Suppression  Automatic  Manual(std)

Customer Preferred Fire System?

Vendor Name:

Hand Fire Extinguisher  Yes  No

If yes give qty., manufacturer and model

Hand Fire Extinguisher Agent  CO2(std)  Other

(Note: Standard Hand fire extinguishers are 15 lb units)

Automatic Fire Extinguishing Agent  FM200(std)  Other

Fire detection will shut down HVAC and send a dry contact alarm to DCS.

#### 7. Gas Detection Requirements

Combustible Gas Detection  Yes  No

H2S Gas Detection  Yes  No

Preferred Vendor Name  
Vendor Name:

Other Detection  Yes  No

If yes please describe.

Calibration Kits  Yes  No

Gas Detection will SHUT DOWN HVAC and send a Dry Contact Alarm to DCS.

### 8. Grounding System

External Grounding Pads  Yes 4(std)  No

Safety Ground Busses  2 (std)  Other

Reference Ground Busses  Yes (1 std)  No

Safety Ground  Green w/ Yellow (per NEC)  Green  Other

Master Reference  Green (per NEC)  Green w/ Yellow  Other

### 9. Lighting

Fluorescent fixtures  Yes (std)  Other

Emergency Lights  Yes (std)  No

Backup time  99 min. (std)  Other

### 10. Marshalling

Termination Cabinet Construction  Termination equipment to be wall mounted (std)  
 Termination to be in free standing cabinets

(Note: The standard depth of the Marshalling cabinet is 12")

Termination Area #1

Approximate Termination Area Length

Sliding Doors with Frames?  Yes  No

Termination Area #2 (optional)

Approximate Termination Area Length

Sliding Doors with Frames?  Yes  No

FTA's Mounted in Marshalling Cabinet  Yes  No

If yes give qty., manufacturer and model

Terminal Block to be Mounted  Yes  No

Quantity Based on I/O count times 2.5

Other Items Mounted in Marshalling Cabinet  Yes  No

If yes give qty., manufacturer and model

Surge Suppressors Required?  Yes  No

If yes give qty., manufacturer and model

We have assumed one FTA cable for each wall mounted FTA

11. Instrument Wire

Marshalling Wiring Required  Yes  No

Wiring  Twisted Pair #18 UL1007  Single Conductor #18 UL1007

Per Project Wire Specification  Other

Wire Tags  One Per Pair(std)  One Per Wire

Color Code  Per Project Database

Wire Classification  Unclassified(std)  NonIncendive  Intrinsically Safe

AC signal(24 to 120) Pos  Black  Other

Neg  White  Other

Grnd  Green  Other

DC signal(24 to 120) Pos  Red  Other   
 Neg  Black  Other   
 Grnd  Green  Other

Low Level Signal Pos  Black  Other   
 Neg  White  Other   
 Shld  Bare  Other

Thermocouple Type

TC Terminal Blocks  Feed Through  TC Type  Other

Terminal Blocks Mfg  Weidmuller(std)  Phoenix  Other

Fused I/O Required?  AI  DI  DO  AO  Indication Type  
 Only positive lead will be fused

Both sides of loop?  Yes  No

12. I/O Count

**DCS**

AI  AO  DI  DO  SI  TC

**SIS**

DI  DO  AI  AO

**OTHER POINT COUNT**

DI  DO  AI  AO

(Note: Each type of loop is considered to use two wires as a standard, with the exception of RTD's which use three as a standard. All DO are considered to be dry contacts and use only two wires per loop)

13. FAT/Staging Requirements

**NOTE:** The items listed below are items that are NOT going to be placed in the RIE, but will have to be set up external of the RIE for system test.

Cabinets to be set in FAT area  No. of Bays  Monitors

Duration  No. of Weeks

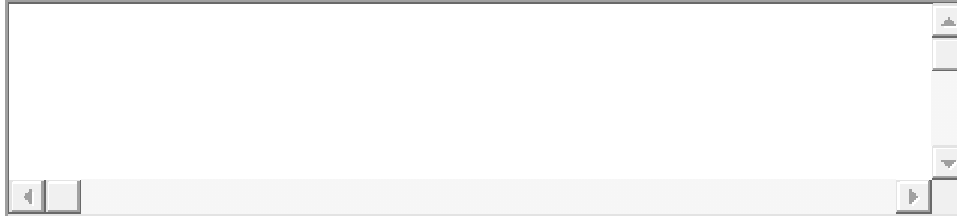
Support  No. of Engineers hrs.  No. of Technicians hrs.

Special Requirements  No. of Tables  No. of Phones  No. of LAN Connections

Test Equipment  Standard Set  Special Requirements



14. Other Requirements



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