PROJECT NUMBER	**ODA-GRANT001**		
P/O NUMBER	**N/A**		
CLIENT or OWNER	**SCA (SUEZ CANAL AUTHORITY)**		
SHIPYARD	**N/A**	**HULL No.**	**N/A**
AUTHORITY or CLASS	**N/A**	**IMO No.**	**N/A**

I/O LIST
FOR TRAINING CENTER

A	2026.08.04	IFA	H.B.PARK	W.W.YOON	M.K.CHO
REV	**DATE**	**ISSUE PURPOSE**	**PREPARED**	**REVIEWD**	**APPROVED**

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REVISION TABLE

Revision No.	As Is	To Be	Data	Description
A	D	A	2026.01.21	Issue For Approval

Code Abbreviation Table

As Is				To Be	
A	Authority Request	**I**	Self Improved	**A**	Added
B	By other design specification	**O/C**	Owner or Client Request/Comment	**D**	Deleted
C	Class Request / Comment	**P**	According to POS	**DC**	Designed Changed
D	Design Progress	**S**	Shipyard Request / Comment	**M**	Modified
E	Design Mistake	**Sp**	Specification	**CC**	Canceled
G	Government Request	**V**	Vendor Request / Comment	**EX**	Extra Item
Ir	Investor Request / Comment	**Etc**	Etc.	**R**	Rejected

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General

1. TAG No.

Tag No. is made in accordance of below mentioned conception.

(1) _ (2)

(1) : Kind of System
(2) : Serial No.

Serial No.	Discription
C or MC	Command
OL	Open Limit
CL	Close Limit
FO	Fail Order
X	Alarm
SV	Sol. Energized
FB	Feedback
GW	Glycol Water
ST	Steam
NP	(L)N2 Supply Pump
FP	Feed Pump
HP	High Pressure Pump
LP	Low Pressure Pump
HT	Heater
CP	Compressor

Kind of System	Discription	Kind of System	Discription
ESD	Emergency Shutdown	XV	On/Off Valve
PSD	Process Shutdown	PCV	Pressure Control Valve
GD	Gas Detection	TCV	Temperature Control Valve
FD	Fire Detection	ESV	Emergency Shutdown Valve
PIT	Pressure Indicator Transmitter	GV	Globe Valve
PT	Pressure Transmitter	BV	Ball Valve
DPIT	Differntial Pressure Transmitter	SV	Solenoid Valve
PS	Pressure Switch	XS	Pump Signal
PG	Pressure Gauge	CT	Current Transmitter
LS	Level Sensor	LSC	Lighting Siganl Column
LIT	Level Indicator Transmitter	MTR	Motor
LG	Level Gauge	INTLK	Interlock
FS	Flow Switch	ISO	Isolation
FIT	Flow Indicator Transmitter	PNL	Panel
FG	Flow Gauge	PNEU	Pneumatic
TE	Temperature Element	ZSO	Position Open
TT	Temperature Transmitter	ZSC	Position Close
TIT	Temp. Indicator Transmitter	ZT	Position Feedback
TIC	Temperature Controller		
TG	Temperature Gauge		

2. Tag Code

Available Tag Code are shown below.

Tag Code	Discription	Tag Code	Discription
XA	Fault/Alarm	LI	Level Indication
XI	Input	LIA	Level Indication and Alarm
XO	Output	LC	Level Control
XC	Control/Command	LIC	Level Indication and Control
SC	Speed Control	LSH	Level Shutdown
SI	Speed Indication	TA	Temperature Alarm
PA	Pressure Alarm	TI	Temperature Indication
PI	Pressure Indication	TIA	Temperature Indication and Alarm
PIA	Pressure Indication and Alarm	TC	Temperature Control
PC	Pressure Control	TIC	Temperature Indication and Control
PIC	Pressure Indicaiton and Control	TSH	Temperature Shutdown
PSH	Pressure Shutdown	CI	Current Indication
FA	Flow Alarm	VI	Voltage Indication
FI	Flow Indication	DPA	Differential Pressure Alarm
FIA	Flow Indication and Alarm	DPI	Differential Pressure Indication
FC	Flow Control	LL	Alarm Low-Low
FIC	Flow Indication and Control	L	Alarm Low
FSH	Flow Shutdown	H	Alarm High
LA	Level Alarm	HH	Alarm High-High

3. Tag Type

Available Tag Type are shown below.

Tag Type	Discription	Tag Type	Discription
DI	Digital Input	DO	Digital Output
AI	Analogue Input	AO	Analogue Output
RTD	Resistance Temperature Detector	System	Contol Logic
PI	Pulsed Input	SI	Serial Interface

4. Signal Type

The Kind of signals should be indicated as follows

* Analogue Input/Output (AI/AO)
  1) 4~20mA
  2) 0-10VDC

Electric analogue measurement and control system shall have a signal operating range of 4 to 20mA in General.
In addition, DC 0-10V signal maybe used for the stand-alone system internal use.

* Digital Input (DI)
  1) B/I(N/O) : Binary Input(Normal Open)
  2) B/I(N/C) : Binary Input(Normal Close)

* Digital Output (DO)
  1) B/O(N/O) : Binary Output(Normal Open)
  2) B/O(N/C) : Binary Output(Normal Close)

* RTD (Resistance Temperature Detector)
  1) PT100 (3wire)

5. Unit

The units to be used for instrument shall be in accordance with International System of Units(SI).
The following abbreviations shall be used;

Application	Unit	Abbreviations
Flowlate		
- Mass	Kilograms / hour	kg/h
- Volumetric	Cubic meter / hour	m^3/h
Pressure		
- Absolute, Fluid	Bar absolute Pressure	bar a
	Megapascal absolute Pressure	Mpa a
- Relative, Fluid	Bar Gauge Pressure	barG
	Megapascal Gauge Pressure	MpaG
- Differential	Millimeter to H2O	mmH2O
Temperature	Degree centigrade	℃
Level	Millimeter to H2O	mmH2O
	Percent	%

6. Explosion protection

Transmitter and sensor located in hazardous area shall be explosionproof - Ex 'd' or intrinsically safety type - Ex
The preferred principal of protection will be explosionproof - Ex 'd', although for equipment where this is not available alternative methods of protection are preferable, other types of certification will be considered e.g. increased safety - Ex intrinsically safe - Ex 'ia' or 'ib'

7. IP Grade

The minimum degree of protection for field mounted instrument shall be IP65 or equivalent with suitable corrosion protection and for internally mounted instruments and cabinets shall be IP22.

*** P&ID Page : A900-SNP-EGY-PRO-DWG--01-08**
[LN2 BUNKERING TANK & LN2 BUNKERING SKID]

Rev. No.	No.	Tag No.	Tag Code	Tag Type	Signal Type	Tag Description	Unit (SI)	Operating Pressure (barG)		Operating Temp (deg.C)		Design Pressure (barG)		Design Temp (deg.C)		Sensor Range		Process Connect Size	Housing (Body) Material	Alarm Set				Accessories	Fluid	* P&ID Page	Ex Proof Type	IP Grade	Location	Cabinet	Note
								Min	Max	Min	Max	Min	Max	Min	Max	Min	Max			LL	L	H	HH								
A	1	ESD_1000	XI	DI	B/I(N/C)	Local Emergency Push Button for LN2 Bunkering Tank Area	-												-						N/A	8	-	66	LN2 Bunkering Skid	C/P	
A	2	ESD_1001	XI	DI	B/I(N/C)	Local Emergency Push Button for LN2 Bunkering Skid Area-1	-												-						N/A	8	-	66	LN2 Bunkering Skid	C/P	
A	3	ESD_1003	XI	DI	B/I(N/C)	Local Emergency Push Button for LN2 Bunkering Skid Area-2	-												-						N/A	8	-	66	LN2 Bunkering Skid	C/P	
A	4	GD_0700	XA	DI	B/I(N/C)	Gas Detection for Bunkering Station-1	-												-						N/A	8	Ex.d	66	LN2 Bunkering Skid	C/P	
A	5	GD_0701	XA	DI	B/I(N/C)	Gas Detection for Bunkering Station-2	-												-						N/A	8	Ex.d	66	LN2 Bunkering Skid	C/P	
A	6	FD_0700	XA	DI	B/I(N/C)	Fire Detection for Bunkering Station	-												-						N/A	8	Ex.d	66	LN2 Bunkering Skid	C/P	
A	7	PT_1006	PIALL	AI	4~20mA	Supply Instrument Air Pressure LL	barG	0	9.0	-30	20	0	9.0	-30	20	0	15	NPT 1/2"	Aluminium	3.5					Air	8	-	66	N2 Cylinder	C/P	24VDC Loop Power
A	8	PIT_1000	PIALLHH	AI	4~20mA	LN2 Bunkering Tank (LTK-TK-04) Pressure HH-H-LL	barG	0	10.0	-196	60	0	10.0	-196	60	0	15	NPT 1/2"	Aluminium	4.5		8.5	9.5		LN2	8	-	66	LN2 Bunkering Tank	C/P	24VDC Loop Power
A	9	PIT_1001	PIALH	AI	4~20mA	T-ESV-6000 Inlet Supply LN2 Pressure H-L (to LN2 Storage Tank)	barG	0	9.0	-196	60	0	9.0	-196	60	0	15	NPT 1/2"	Aluminium		6.0	8.0			LN2	8	-	66	LN2 Bunkering Skid	C/P	24VDC Loop Power
A	10	PIT_1002	PIAHH	AI	4~20mA	T-ESV-6000 Outlet Supply LN2 Pressure HH (to LN2 Storage Tank)	barG	0	9.0	-196	60	0	9.0	-196	60	0	15	NPT 1/2"	Aluminium				8.5		LN2	8	-	66	LN2 Bunkering Skid	C/P	24VDC Loop Power
A	11	PIT_1003	PIALH	AI	4~20mA	T-ESV-6000 Outlet Supply LN2 Pressure H-L (to LN2 Storage Tank)	barG	0	9.0	-196	60	0	9.0	-196	60	0	15	NPT 1/2"	Aluminium		6.0	8.0			LN2	8	-	66	LN2 Bunkering Skid	C/P	24VDC Loop Power
A	12	PIT_1004	PIALH	AI	4~20mA	T-ESV-6001 Inlet Vent LN2 Pressure H-L	barG	0	9.0	-196	60	0	9.0	-196	60	0	15	NPT 1/2"	Aluminium		5.5	8.5			N2	8	-	66	LN2 Bunkering Skid	C/P	24VDC Loop Power
A	13	PIT_1005	PIALH	AI	4~20mA	T-ESV-6001 Outlet Vent LN2 Pressure H-L	barG	0	9.0	-196	60	0	9.0	-196	60	0	15	NPT 1/2"	Aluminium		5.5	8.5			N2	8	-	66	LN2 Bunkering Skid	C/P	24VDC Loop Power
A	14	LIT_1000	PIALHH	AI	4~20mA	LN2 Bunkering Tank (LTK-TK-04) Level HH-H-L	mmH2O	0	10.0	-196	60	0	10.0	-196	60	0	2,000	NPT 1/2"	Aluminium	20%		80%	90%		LN2	8	-	66	LN2 Bunkering Tank	C/P	24VDC Loop Power
A	15	TE_1002	TIALL	RTD	PT100	Drip Tray Temperature LL	℃	0	9.0	-196	60	0	9.0	-196	60	-200	100	1" #150	Aluminium	-40				Thermowell U Lenth 200mm	LN2	8	-	66	Drip Tray	C/P	
A	16	TE_1001	TI	RTD	PT100	Vent Line N2 Termperature	℃	0	9.0	-196	60	0	9.0	-196	60	-200	100	1" #150	Aluminium					Thermowell U Lenth 200mm	N2	8	-	66	LN2 Bunkering Skid	C/P	
A	17	TIT_1000	TI	AI	4~20mA	Supply LN2 Temperature (to LN2 Storage Tank)	℃	0	9.0	-196	60	0	9.0	-196	60	-200	100	-	Aluminium					-	LN2	8	-	66	LN2 Bunkering Skid	C/P	24VDC Loop Power
A	18	T-PCV_5000MC	XC	AO	4~20mA	LN2 Bunkering Tank (LTK-TK-04) Vent T-PCV_5000 Command	-												-						N2	8	-	66	LN2 Bunkering Skid	C/P	
A	19	T-PCV_5000FB	XI	AI	4~20mA	LN2 Bunkering Tank (LTK-TK-04) Vent T-PCV_5000 Feedback	-												-						N2	8	-	66	LN2 Bunkering Skid	C/P	
A	20	T-ESV_5000SV	XC	DO	B/O(N/O)	LN2 Bunkering Tank (LTK-TK-04) Outlet Valve T-ESV-5000 Comman	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	24VDC Loop Power
A	21	T-ESV_5000OL	XI	DI	B/I(N/O)	T-ESV_5000 Opened	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	
A	22	T-ESV_5000CL	XI	DI	B/I(N/O)	T-ESV_5000 Closed	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	
A	23	T-ESV_5000FO	XA	System	Memory	T-ESV_5000 Order Fail	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	
A	24	T-ESV_6000SV	XC	DO	B/O(N/O)	Supply LN2 Valve T-ESV Valve T-ESV-6000 Command	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	24VDC Loop Power
A	25	T-ESV_6000OL	XI	DI	B/I(N/O)	T-ESV_6000 Opened	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	
A	26	T-ESV_6000CL	XI	DI	B/I(N/O)	T-ESV_6000 Closed	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	
A	27	T-ESV_6000FO	XA	System	Memory	T-ESV_6000 Order Fail	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	
A	28	T-ESV_6001SV	XC	DO	B/O(N/O)	LN2 Bunkering Tank (LTK-TK-04) Vent Valve T-ESV-6001 Command	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	24VDC Loop Power
A	29	T-ESV_6001OL	XI	DI	B/I(N/O)	T-ESV_6001 Opened	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	
A	30	T-ESV_6001CL	XI	DI	B/I(N/O)	T-ESV_6001 Closed	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	
A	31	T-ESV_6001FO	XA	System	Memory	T-ESV_6001 Order Fail	-												-						LN2	8	-	66	LN2 Bunkering Skid	C/P	

*** P&ID Page : A900-SNP-EGY-PRO-DWG-01-09**
[LN2 TANK & SUPPLY SYSTEM]

Rev. No.	No.	Tag No.	Tag Code	Tag Type	Signal Type	Tag Description	Unit (SI)	Operating Pressure (barG)		Operating Temp (deg.C)		Design Pressure (barG)		Design Temp (deg.C)		Sensor Range		Process Connect Size	Housing (Body) Material	Alarm Set				Accessories	Fluid	* P&ID Page	Ex Proof Type	IP Grade	Location	Cabinet	Note
								Min	Max	Min	Max	Min	Max	Min	Max	Min	Max			LL	L	H	HH								
A	1	ESD_2001	XI	DI	B/I(N/C)	Local Emergency Push Button	-												-						N/A	9	-	66	LN2 Tank & Supply	C/P	
A	2	PSD_2000	XI	DI	B/I(N/C)	Local Process Push Button	-												-						N/A	9	-	66	LN2 Tank & Supply	C/P	
A	3	GD_0702	XA	DI	B/I(N/C)	Gas Detection for FGSS	-												-						N/A	9	-	66	LN2 Fuel Tank	C/P	
A	4	GD_0703	XA	DI	B/I(N/C)	Gas Detection for FGSS	-												-						N/A	9	-	66	LN2 Fuel Tank	C/P	
A	5	GD_0704	XA	DI	B/I(N/C)	Gas Detection for FGSS	-												-						N/A	9	-	66	N2 Buffer Tank	C/P	
A	6	GD_0705	XA	DI	B/I(N/C)	Gas Detection (Spare)	-												-						N/A	9	-	66	N2 Buffer Tank	C/P	
A	7	GD_0706	XA	DI	B/I(N/C)	Gas Detection (Spare)	-												-						N/A	9	-	66	N2 Buffer Tank	C/P	
A	8	GD_0707	XA	DI	B/I(N/C)	Gas Detection (Spare)	-												-						N/A	9	-	66	N2 Buffer Tank	C/P	
A	9	FD_0701	XA	DI	B/I(N/C)	Fire Detection for FGSS	-												-						N/A	9	-	66	LN2 Fuel Tank	C/P	
A	10	FD_0702	XA	DI	B/I(N/C)	Fire Detection for FGSS	-												-						N/A	9	-	66	N2 Buffer Tank	C/P	
A	11	PT_2005	PIALLHH	AI	4~20mA	MGV_1553 Control Pressure HH-LL	barG	0	10.0	-30	60	0	10.0	-30	60	0	15	NPT 1/2"	Aluminium	5.8			8.2		N2	9	-	66	N2 Buffer Tank	C/P	24VDC Loop Power
A	12	PT_2003	PIALH	AI	4~20mA	N2 Buffer Tank (LTK-TK-02) Pressure H-L	barG	0	10.0	-30	60	0	10.0	-30	60	0	15	NPT 1/2"	Aluminium		6.0	8.5			N2	9	-	66	N2 Buffer Tank	C/P	24VDC Loop Power
A	13	PT_2007	PIALL	AI	4~20mA	Supply Instrument Air Pressure LL	barG	0	9.0	-30	20	0	9.0	-30	20	0	15	NPT 1/2"	Aluminium	4.5					Air	9	-	66	N2 Cylinder	C/P	24VDC Loop Power
A	14	PIT_2000	PIALH	AI	4~20mA	LN2 Fuel Tank (LTK-TK-01) Pressure H-L	barG	0	9.0	-196	60	0	9.0	-196	60	0	15	NPT 1/2"	Aluminium		6.5	8.0			LN2	9	-	66	LN2 Fuel Tank	C/P	24VDC Loop Power
A	15	PIT_2001	PIALLHH	AI	4~20mA	LN2 Fuel Tank (LTK-TK-01) Pressure HH-LL	barG	0	9.0	-196	60	0	9.0	-196	60	0	15	NPT 1/2"	Aluminium	6.0			8.2		LN2	9	-	66	LN2 Fuel Tank	C/P	24VDC Loop Power
A	16	PIT_2002	PIALH	AI	4~20mA	GAS Heater (LTK-GH-01) Outlet Pressure H-L (to Vent Mast)	barG	0	10.0	-30	60	0	10.0	-30	60	0	15	NPT 1/2"	Aluminium		6.5	7.8			N2	9	-	66	GAS Heater	C/P	24VDC Loop Power
A	17	PIT_2004	PIALH	AI	4~20mA	T-PCV_1552 Control Pressure H-L	barG	0	10.0	-30	60	0	10.0	-30	60	0	15	NPT 1/2"	Aluminium		6.0	8.0			N2	9	-	66	GAS Heater	C/P	24VDC Loop Power
A	18	PIT_2006	PIALH	AI	4~20mA	G.W Return Pressure H-L	barG	0	6.0	-20	60	0	6.0	-20	60	0	10	NPT 1/2"	Aluminium		1.6	2.5			G.W	9	-	66	GAS Heater	C/P	24VDC Loop Power
A	19	LIT_2001	LIALH	AI	4~20mA	LN2 Fuel Tank (LTK-TK-01) Level H-L	mmH2O	0	9.0	-196	60	0	9.0	-196	60	0	2,000	NPT 1/2"	Aluminium		20%	85%			LN2	9	-	66	LN2 Fuel Tank	C/P	24VDC Loop Power
A	20	LIT_2000	LIALLHH	AI	4~20mA	LN2 Fuel Tank (LTK-TK-01) Level HH-LL	mmH2O	0	9.0	-196	60	0	9.0	-196	60	0	2,000	NPT 1/2"	Aluminium	10%			90%		LN2	9	-	66	LN2 Fuel Tank	C/P	24VDC Loop Power
A	21	TE_2001	TI	RTD	PT100	LN2 Fuel Tank (LTK-TK-01) Top Temperature	℃	0	9.0	-196	60	0	9.0	-196	60	-200	100	1" #300	Aluminium						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	22	TE_2000	TI	RTD	PT100	LN2 Fuel Tank (LTK-TK-01) Bottom Temperature	℃	0	9.0	-196	60	0	9.0	-196	60	-200	100	1" #300	Aluminium						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	23	TE_2002	TI	RTD	PT100	LN2 Vaporizer (LTK-VP-01) Oulet Temperature (to Gas heater)	℃	0	10.0	-30	60	0	10.0	-30	60	-200	100	1" #150	Aluminium					Thermowell U Lenth 210mm	N2	9	-	66	LN2 Vaporizer	C/P	
A	24	TE_2003	TIALH	RTD	PT100	GAS Heater (LTK-GH-01) Oulet Temperature H-L (to Vent Mast)	℃	0	10.0	-30	60	0	10.0	-30	60	-100	100	1-1/2" #150	Aluminium		10	60		Thermowell U Lenth 160mm	N2	9	-	66	GAS Heater	C/P	
A	25	TIT_2004	TIALLHH	AI	4~20mA	T-PCV_1554 Control Temperature HH-LL	℃	0	10.0	-30	60	0	10.0	-30	60	-100	100	-	Aluminium	5			55	-	N2	9	-	66	GAS Heater	C/P	24VDC Loop Power
A	26	TIT_2005	TI	AI	4~20mA	G.W Return Temperature	℃	0	6.0	-20	60	0	6.0	-20	60	-100	100	-	Aluminium					-	G.W	9	-	66	GAS Heater	C/P	24VDC Loop Power
A	27	T-PCV_1550MC	XC	AO	4~20mA	LN2 Fuel Tank (LTK-TK-01) Inlet Top Filling T-PCV_1550 Command	-												-						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	28	T-PCV_1550FB	XI	AI	4~20mA	LN2 Fuel Tank (LTK-TK-01) Inlet Top Filling T-PCV_1550 Feedback	-												-						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	29	T-PCV_1551MC	XC	AO	4~20mA	LN2 Fuel Tank (LTK-TK-01) Inlet Bottom Filling T-PCV_1551 Command	-												-						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	30	T-PCV_1551FB	XI	AI	4~20mA	LN2 Fuel Tank (LTK-TK-01) Inlet Bottom Filling T-PCV_1551 Feedback	-												-						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	31	T-PCV_1552MC	XC	AO	4~20mA	LN2 Fuel Tank (LTK-TK-01) Outlet T-PCV_1552 Command	-												-						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	32	T-PCV_1552FB	XI	AI	4~20mA	LN2 Fuel Tank (LTK-TK-01) Outlet T-PCV_1552 Feedback	-												-						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	33	T-PCV_1554MC	XC	AO	4~20mA	G.W Supply Pressure Control Valve T-PCV_1554 Command	-												-						G.W	9	-	66	LN2 Supply System	C/P	
A	34	T-PCV_1554FB	XI	AI	4~20mA	G.W Supply Pressure Control Valve T-PCV_1554 Feedback	-												-						G.W	9	-	66	LN2 Supply System	C/P	
A	35	T-MGV_1553FB	XI	AI	4~20mA	GAS Heater Outlet Mast Gas Valve T-MGV_1553 Feedback	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	36	T-MGV_1553MC	XC	AO	4~20mA	GAS Heater Outlet Mast Gas Valve T-MGV_1553 Command	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	37	T-MGV_1553SV	XC	DO	B/O(N/O)	GAS Heater Outlet Mast Gas Valve T-MGV-1553 Command	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	38	T-MGV_1553OL	XI	DI	B/I(N/O)	T-MGV_1553 Opened	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	39	T-MGV_1553CL	XI	DI	B/I(N/O)	T-MGV_1553 Closed	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	40	T-MGV_1553FO	XA	System	Memory	T-MGV_1553 Order Fail	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	41	T-XV_1502SV	XC	DO	B/O(N/O)	LN2 Fuel Tank (LTK-TK-01) Vent Valve T-XV-1505 Command	-												-						N2	9	-	66	LN2 Fuel Tank	C/P	
A	42	T-XV_1502OL	XI	DI	B/I(N/O)	T-XV_1502 Opend	-												-						N2	9	-	66	LN2 Fuel Tank	C/P	

*** P&ID Page : A900-SNP-EGY-PRO-DWG-01-09**
[LN2 TANK & SUPPLY SYSTEM]

Rev. No.	No.	Tag No.	Tag Code	Tag Type	Signal Type	Tag Description	Unit (SI)	Operating Pressure (barG)		Operating Temp (deg.C)		Design Pressure (barG)		Design Temp (deg.C)		Sensor Range		Process Connect Size	Housing (Body) Material	Alarm Set				Accessories	Fluid	* P&ID Page	Ex Proof Type	IP Grade	Location	Cabinet	Note
								Min	Max	Min	Max	Min	Max	Min	Max	Min	Max			LL	L	H	HH								
A	43	T-XV_1502CL	XI	DI	B/I(N/O)	T-XV_1502 Closed	-												-						N2	9	-	66	LN2 Fuel Tank	C/P	
A	44	T-XV_1502FO	XA	System	Memory	T-XV_1502 Order Fail	-												-						N2	9	-	66	LN2 Fuel Tank	C/P	
A	45	T-XV_1503SV	XC	DO	B/O(N/O)	GAS Heater (LTK-GH-01) Inlet Valve T-XV-1503 Command	-												-						N2	9	-	66	LN2 Fuel Tank	C/P	
A	46	T-XV_1503OL	XI	DI	B/I(N/O)	T-XV_1503 Opened	-												-						N2	9	-	66	LN2 Fuel Tank	C/P	
A	47	T-XV_1503CL	XI	DI	B/I(N/O)	T-XV_1503 Closed	-												-						N2	9	-	66	LN2 Fuel Tank	C/P	
A	48	T-XV_1503FO	XA	System	Memory	T-XV_1503 Order Fail	-												-						N2	9	-	66	LN2 Fuel Tank	C/P	
A	49	T-XV_1504SV	XC	DO	B/O(N/O)	LN2 Vaporizer (LTK-VP-01) Inlet Valve T-XV-1504 Command	-												-						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	50	T-XV_1504OL	XI	DI	B/I(N/O)	T-XV_1504 Opened	-												-						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	51	T-XV_1504CL	XI	DI	B/I(N/O)	T-XV_1504 Closed	-												-						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	52	T-XV_1504FO	XA	System	Memory	T-XV_1504 Order Fail	-												-						LN2	9	-	66	LN2 Fuel Tank	C/P	
A	53	T-XV_1505SV	XC	DO	B/O(N/O)	N2 Purge Valve T-XV-1505 Command	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	54	T-XV_1505OL	XI	DI	B/I(N/O)	T-XV_1505 Opened	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	55	T-XV_1505CL	XI	DI	B/I(N/O)	T-XV_1505 Closed	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	56	T-XV_1505FO	XA	System	Memory	T-XV_1505 Order Fail	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	57	T-XV_1506SV	XC	DO	B/O(N/O)	N2 Buffer Tank (LTK-TK-02) Valve T-XV-1506 Command	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	58	T-XV_1506OL	XI	DI	B/I(N/O)	T-XV_1506 Opened	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	59	T-XV_1506CL	XI	DI	B/I(N/O)	T-XV_1506 Closed	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	60	T-XV_1506FO	XA	System	Memory	T-XV_1506 Order Fail	-												-						N2	9	-	66	N2 Buffer Tank	C/P	
A	61	LS_2000	LSAH	DI	B/I(N/O)	G.W Expansion Tank Level H	-											4" #150, RF	Aluminium			60%			G.W	9	-	66	G.W Expansion	C/P	
A	62	LS_2001	LSALL	DI	B/I(N/O)	G.W Expansion Tank Level LL	-											4" #150, RF	Aluminium	20%					G.W	9	-	66	G.W Expansion	C/P	

*** P&ID Page : A900-SNP-EGY-PRO-DWG-01-10**
[GW SUPPLY SYSTEM]

Rev. No.	No.	Tag No.	Tag Code	Tag Type	Signal Type	Tag Description	Unit (SI)	Operating Pressure (barG)		Operating Temp (deg.C)		Design Pressure (barG)		Design Temp (deg.C)		Sensor Range		Process Connect Size	Housing (Body) Material	Alarm Set				Accessories	Fluid	* P&ID Page	Ex Proof Type	IP Grade	Location	Cabinet	Note
								Min	Max	Min	Max	Min	Max	Min	Max	Min	Max			LL	L	H	HH								
A	1	PSD_3000	XI	DI	B/I(N/C)	Local Process Shutdown Button	-												-						N/A	10	-	66	G.W Supply System	C/P	
A	2	PIT_3001	PI	AI	4~20mA	No.1 G.W Circ. Pump (GWS-PP-01) Suction Pressure	barG	0	6.0	-30	90	0	6.0	-30	90	0	10	NPT 1/2"	Aluminium						G.W	10	-	66	No.1 G.W Circ. Pump	C/P	24VDC Loop Power
A	3	PIT_3002	PI	AI	4~20mA	No.2 G.W Circ. Pump (GWS-PP-02) Suction Pressure	barG	0	6.0	-30	90	0	6.0	-30	90	0	10	NPT 1/2"	Aluminium						G.W	10	-	66	No.2 G.W Circ. Pump	C/P	24VDC Loop Power
A	4	PIT_3003	PIALLHH	AI	4~20mA	No.1/No.2 G.W Circ. Pump Discharge Pressure HH-LL	barG	0	6.0	-30	90	0	6.0	-30	90	0	10	NPT 1/2"	Aluminium	0.5			6.0		G.W	10	-	66	No/No.2 G.W Circ. Pump	C/P	24VDC Loop Power
A	5	PIT_3000	PIALH	AI	4~20mA	No.1/No.2 G.W Electric Heater Inlet Pressure H-L	barG	0	6.0	-30	90	0	6.0	-30	90	0	10	NPT 1/2"	Aluminium		1.0	5.5			G.W	10	-	66	No.1/No.2 G.W Electric	C/P	24VDC Loop Power
A	6	TE_3002A	TIALH	RTD	PT100	No.1/No.2 G.W Electric Heater Oulet Temperature H-L	℃	0	6.0	-30	90	0	6.0	-30	90	-100	100	1" #150	Aluminium		40	60		Thermowell U Lenth 170mm	G.W	10	-	66	No.1/No.2 G.W Electric	C/P	
A	7	TE_3002B	TIALH	RTD	PT100	No.1/No.2 G.W Electric Heater Oulet Temperature H-L	℃	0	6.0	-30	90	0	6.0	-30	90	-100	100	1" #150	Aluminium		40	60		Thermowell U Lenth 170mm	G.W	10	-	66	No.1/No.2 G.W Electric	C/P	
A	8	TE_3001	TIALLHH	RTD	PT100	No.1/No.2 G.W Electric Heater Oulet Temperature HH-LL	℃	0	6.0	-30	90	0	6.0	-30	90	-100	100	1" #150	Aluminium	30			70	Thermowell U Lenth 170mm	G.W	10	-	66	No.1/No.2 G.W Electric	C/P	
A	9	TIT_3000	TIALH	AI	4~20mA	G.W Supply Temperature H-L (to FGSS)	℃	0	6.0	-30	90	0	6.0	-30	90	-100	100	-	Aluminium		20	60		-	G.W	10	-	66	G.W Supply System	C/P	24VDC Loop Power
A	10	XS_GW215	XI	DI	B/I(N/O)	No.1 G.W Circ. Pump (GWS-PP-01) Remote / Local	-												-						G.W	10	-	66	No.1 G.W Circ. Pump	C/P	
A	11	XS_GW216	XC	DO	B/O(N/O)	No.1 G.W Circ. Pump (GWS-PP-01) Start	-												-						G.W	10	-	66	No.1 G.W Circ. Pump	C/P	
A	12	XS_GW217	XC	DO	B/O(N/O)	No.1 G.W Circ. Pump (GWS-PP-01) Stop	-												-						G.W	10	-	66	No.1 G.W Circ. Pump	C/P	
A	13	XS_GW218	XI	DI	B/I(N/O)	No.1 G.W Circ. Pump (GWS-PP-01) Run Status	-												-						G.W	10	-	66	No.1 G.W Circ. Pump	C/P	
A	14	XS_GW219	XA	DI	B/I(N/C)	No.1 G.W Circ. Pump (GWS-PP-01) Fault	-												-						G.W	10	-	66	No.1 G.W Circ. Pump	C/P	
A	15	XS_GW225	XI	DI	B/I(N/O)	No.2 G.W Circ. Pump (GWS-PP-02) Remote / Local	-												-						G.W	10	-	66	No.2 G.W Circ. Pump	C/P	
A	16	XS_GW226	XC	DO	B/O(N/O)	No.2 G.W Circ. Pump (GWS-PP-02) Start	-												-						G.W	10	-	66	No.2 G.W Circ. Pump	C/P	
A	17	XS_GW227	XC	DO	B/O(N/O)	No.2 G.W Circ. Pump (GWS-PP-02) Stop	-												-						G.W	10	-	66	No.2 G.W Circ. Pump	C/P	
A	18	XS_GW228	XI	DI	B/I(N/O)	No.2 G.W Circ. Pump (GWS-PP-02) Run Status	-												-						G.W	10	-	66	No.2 G.W Circ. Pump	C/P	
A	19	XS_GW229	XA	DI	B/I(N/C)	No.2 G.W Circ. Pump (GWS-PP-02) Fault	-												-						G.W	10	-	66	No.2 G.W Circ. Pump	C/P	
A	20	XS_ET236	XI	DI	B/I(N/O)	No.1 G.W Electric Heater (GWS-EH-01) Run Status	-												-						G.W	10	-	66	No.1 G.W Electric Heater	C/P	
A	21	XS_ET237	XI	DI	B/O(N/O)	No.1 G.W Electric Heater (GWS-EH-01) Stop Status	-												-						G.W	10	-	66	No.1 G.W Electric Heater	C/P	
A	22	XS_ET238	XA	DI	B/I(N/C)	No.1 G.W Electric Heater (GWS-EH-01) Fault	-												-						G.W	10	-	66	No.1 G.W Electric Heater	C/P	
A	23	XS_ET246	XI	DI	B/I(N/O)	No.2 G.W Electric Heater (GWS-EH-02) Run Status	-												-						G.W	10	-	66	No.2 G.W Electric Heater	C/P	
A	24	XS_ET247	XI	DI	B/O(N/O)	No.2 G.W Electric Heater (GWS-EH-02) Stop Status	-												-						G.W	10	-	66	No.2 G.W Electric Heater	C/P	
A	25	XS_ET248	XA	DI	B/I(N/C)	No.2 G.W Electric Heater (GWS-EH-02) Fault	-												-						G.W	10	-	66	No.2 G.W Electric Heater	C/P	
A	26	XS_GW-DP	XC	DO	B/I(N/O)	No.1/No.2 G.W Circ. Pump Auto CH-OV	-												-						G.W	10	-	66	No/No.2 G.W Circ. Pump	C/P	