





 Gachsaran Polymer Industries Company	Gachsaran Polymer Industries Company HDPE Plant Hazop Close Out Report For Refrigeration Package Unit		
	Document Number	Rev.	
PO No.GPIC-PT-MA-PO-000-3029	VD-GPIC-MA-3029-3029-0096	00	Page 1 of 4

Hazop Close Out Report For Refrigeration Package Unit

Code 1	No Comment/ Approved (Applicable Only for "For Review" and "For Approval" Documents) No comment and the document are released for Manufacturing.
Code 2	No Comment/ Approved with Note(s) Vendor/Sub- Contractor shall correct, revise and resubmit the document. The document is released for Manufacturing if changes incorporated.
Code 3	Commented Vendor/Sub-Contractor shall correct, revise and resubmit the document by the date specified. The document shall be revised under the Status of "R: Revised Issue". All corrected documents shall be resubmitted before starting the Manufacturing Process.
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No Code	No Code (Applicable Only for "For Information" Documents and "As Built DWGs") Document has been submitted for PURCHASER's Information (FI). Consistency, completeness and correctness of document content is in Vendor/Sub-Contractor's responsibility.
	Date: Dec. 21, 2025 Dept.: MA Signature: F.Hamooni
Above checking results by EIED shall in no way relieve Vendor of any liability, obligation and responsibility out of the purchase order and the mutual agreement in writing.	

00	6-Dec-25	IFA	A.M	F.T	A.M
Rev.	DATE (DD.MM.YY)	PURPOSE OF ISSUE	PREPARED	CHECKED	APPROVED

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PO No.GPIC-PT-MA-PO-000-3029	VD-GPIC-MA-3029-3029-0096	00	Page 2 of 4

REVISION INDEX

Page	Rev. 00	Rev. 01	Rev. 02	Rev. 03	Rev. 04	Rev. 05
1	✓					
2	✓					
3	✓					
4	✓					
5	✓					
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

Page	Rev. 00	Rev. 01	Rev. 02	Rev. 03	Rev. 04	Rev. 05
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						



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P.O. No: GPIC-PT-MA-PO-000-3029

Document Number
 VD-GPIC-MA-3029-3029-0096

Rev.
 00

Page 4 of 4

Company: EIED

Consultant: Arya Imen Tadbir

Recommendations / H.S.E Reply	References	Responsibility	Disciplines					Item (Open/Close)	Deadlines	Signature		
			Process	Instrument	Piping	Machinery	Mechanic				General Engineering	HSE
Consider independent pressure transmitters with low low alarm with ESD system for suction C-6101A, and C-6101B. Or, perform SIL study for the refrigeration package.	REF#04	H.S.E.	There is no need to have a transmitter as the recycle valve is used only during start up and very low flow. Also, contractual minimum flow (10% capacity) does not require this recycle valve to operate. Although it is not necessary, but Pressure Transmitter for suction of C-6101A, and C-6101B of will be supplied with SIL2 certificate.	There is no need to have a transmitter as the recycle valve is used only during start up and very low flow. Also, contractual minimum flow (10% capacity) does not require this recycle valve to operate. Although it is not necessary, but Pressure Transmitter for suction of C-6101A, and C-6101B of will be supplied with SIL2 certificate.								<p>PR: From process point of view vendor clarification is not accepted and dedicated pressure transmitter with low low with ESD system for suction of compressors to be added. However, this issue to be checked by IN department.</p> <p>Vendor Reply: Compressor manufacturer allows to go to -0,8 Barg without any jeopardy to functionality or safe guard of compressor. In this case suction temp Low alarm 61121 will be activated. As these are 2 separate transmitters double jeopardy cannot be consider. At the same time when "No" suction pressure, Limit (low suction pressure) will be activated reducing the slide valve position to min. position until suction pressure is recovered. In case of failure PT 61121 than still TT 61121 suction temperature L alarm will be activated as low refrigerant pressure means low refrigerant temperature. Also as per Client requested capacity control, this PCV is not required for 10% capacity as per MAYEKAWA design. To conclude the issue, Pressure Transmitter for suction of C-6101A, and C-6101B of will be supplied with SIL2 certificate.</p>
Consider temperature and pressure gauges for (as a minimum), transmitters which initiate compressors shut down (including compressor suction and discharge pressure, and oil separator temperature).	REF#05	H.S.E.		It is not needed as there is an indicator on all transmitters and in case of failure of one transmitter, there are other safeguards. Although this recommendation is only a preference and there is no consequences, anyhow for client satisfaction, PG on suction pressure and discharge pressure and TG on oil separator will be added.								<p>PR: Due to the risk of common cause failure (CCF) in the existing safety loop, the vendor shall consider dedicated pressure and temperature transmitters to initiate compressor shutdown. A failure within the current transmitters would disable both the alarms and the critical shutdown function and control loop. Dedicated transmitters are required to ensure independent and reliable protection. Vendor Reply: PG for pressure transmitters which initiate compressor shut down and TG for temperature transmitters which initiate compressor shut down is provided by vendor. Already we have considered in Rev.04 of PID. Just for Information: Please be informed that in similar plant with similar licensor(LyondellBasell), PG and TG have not been considered for transmitters initiate compressor shut down. and HAZOP has been done for that HDPE plant. Anyhow we meet this HAZOP preference</p> <p>MA: According to vendor reply, i did understand that vendor will consider TG and PG for transmitters. in that case thats OK. Otherwise NOT. Vendor Reply: As we described, This is HAZOP recommendation without consequences, and is not required. This is only preference. To conclude the issue, PG for pressure transmitters which initiate compressor shut down and TG for temperature transmitters which initiate compressor shut down is provided by vendor. Already we have considered in Rev.04 of PID. Just for Information: Please be informed that in similar plant with similar licensor(LyondellBasell), PG and TG have not been considered for transmitters initiate compressor shut down. and HAZOP has been done for that HDPE plant. Anyhow we meet this HAZOP preference</p>
Consider Thermal Relief Valve (TRV) for cooling water line of E-6102. Or, remove isolating block valves on cooling water lines of E-6102 (due to presence of PSV-61101-R in PID-611B).	REF#06	H.S.E.	Isolating block valve on cooling water line will be removed.									<p>MA: According to vendor reply, i did understand that vendor will consider TG and PG for transmitters. in that case thats OK. Otherwise NOT. Vendor Reply: As we described, This is HAZOP recommendation without consequences, and is not required. This is only preference. To conclude the issue, PG for pressure transmitters which initiate compressor shut down and TG for temperature transmitters which initiate compressor shut down is provided by vendor. Already we have considered in Rev.04 of PID. Just for Information: Please be informed that in similar plant with similar licensor(LyondellBasell), PG and TG have not been considered for transmitters initiate compressor shut down. and HAZOP has been done for that HDPE plant. Anyhow we meet this HAZOP preference</p>
Consider temperature and pressure gauges for (as a minimum), transmitters which initiate compressors shut down (including lube oil temperature downstream of the oil filter, lube oil pressure).	REF#07	H.S.E.		It is not needed as there is an indicator on all transmitters and in case of failure of one transmitter, there are other safeguards. Although this recommendation is only a preference and there is no consequences, anyhow for client satisfaction, PG on oil supply and and TG on downstream of filter will be added.								<p>MA: According to vendor reply, i did understand that vendor will consider TG and PG for transmitters. in that case thats OK. Otherwise NOT. Vendor Reply: As we described, This is HAZOP recommendation without consequences, and is not required. This is only preference. To conclude the issue, PG for pressure transmitters which initiate compressor shut down and TG for temperature transmitters which initiate compressor shut down is provided by vendor. Already we have considered in Rev.04 of PID. Just for Information: Please be informed that in similar plant with similar licensor(LyondellBasell), PG and TG have not been considered for transmitters initiate compressor shut down. and HAZOP has been done for that HDPE plant. Anyhow we meet this HAZOP preference</p>