



پتروشیمی توسعه پارک
صنعتی گوهار افogh



PJPC
پتروشیمی گوهار افogh

Toase-e Park Sanati Gohar Ofogh Petrochemical Co.

**CONCEPTUAL, BASIC and DETAIL DESIGN
ENGINEERING OF STYRENE PARK OFFSITE**

Document Title: **PROGRESS REPORT NO.04**



Farnikan
Engineered Solutions

Rev.: R0






Page 1 of 13

STYRENE PARK OFFSITE






Document Title:

PROGRESS REPORT NO.04






Rev.	Issued Date	DESCRIPTION	PREPARED	CHECKED	APPROVED
00	9-Nov-24	IFA	S.Baitar	H.Zahiri	H.Zahiri
00	26-Oct-24	IFA	S.Baitar	H.Zahiri	H.Zahiri
00	1-Oct-24	IFA	S.Baitar	H.Zahiri	H.Zahiri
00	14-Sep-24	IFA	S.Baitar	H.Zahiri	H.Zahiri

 	Toase-e Park Sanati Gohar Ofoh Petrochemical Co. CONCEPTUAL, BASIC and DETAIL DESIGN ENGINEERING OF STYRENE PARK OFFSITE	  
	Document Title: Document Title: PROGRESS REPORT NO.04	






WBS Level	WBS ID	WBS Level Description	Weight Factor	Weight Value	Cumulative		
					Plan	Actual	Variance
1	1	Shell & Tube Heat exchanger		100.00	43%	42.1%	-1%
2	1.1	Engineering	100%	10.00	92%	73%	-19%
3	1.1.1	Vendor Print Index & Schedule (VPIS)	3%	0.30	100%	100%	
3	1.1.2	Sub-Vendor List (SVL)	5%	0.50	100%	100%	
3	1.1.3	Final vendor Data Book Index	3%	0.30			
3	1.1.4	Final vendor Data Book	5%	0.50			
3	1.1.5	HSE Plan	4%	0.40	100%	100%	
3	1.1.6	WBS for Shell & Tube Heat Exchangers	5%	0.50	100%	100%	
3	1.1.7	Time Schedule for Shell & Tube Heat Exchangers	7%	0.70	100%	90%	-10%
3	1.1.8	Monthly Progress Report for Shell & Tube Heat Exchangers	5%	0.50	100%	100%	
3	1.1.9	As Built Drawing	13%	1.30	100%		-100%
3	1.1.10	Inspection & Test Plan (ITP)	5%	0.50	100%	100%	
3	1.1.11	Welding Document (WPS & PQR)	8%	0.80	100%	100%	
3	1.1.12	Welding & NDT Map	7%	0.70	100%	100%	
3	1.1.13	NDT Operator Qualification	7%	0.70	100%	100%	
3	1.1.14	Welder Performance Qualification	5%	0.50	100%	100%	
3	1.1.15	NDT Procedure (RT, UT, PT, MT)	6%	0.60	100%	100%	
3	1.1.16	Hydrostatic Test Procedure	7%	0.70	100%	100%	
3	1.1.17	Surface Preparation & Painting Procedure	5%	0.50	100%		-100%
2	1.2	Procurement	100%	40.00	85%	87%	2%
3	1.2.1	Plate	23%	9.20	89%	89%	
4	1.2.1.1	PO placement	25%	2.30	100%	100%	
4	1.2.1.2	Fabrication	65%	5.98	98%	98%	
4	1.2.1.3	Shipping	7%	0.64			
4	1.2.1.4	Custom clearance	3%	0.28			
3	1.2.2	Head	20%	8.00	89%	89%	
4	1.2.2.1	PO placement	25%	2.00	100%	100%	
4	1.2.2.2	Fabrication	65%	5.20	98%	98%	
4	1.2.2.3	Shipping	7%	0.56			
4	1.2.2.4	Custom clearance	3%	0.24			
3	1.2.3	U-Tube	19%	7.60	89%	89%	
4	1.2.3.1	PO placement	25%	1.90	100%	100%	
4	1.2.3.2	Fabrication	65%	4.94	98%	98%	
4	1.2.3.3	Shipping	7%	0.53			
4	1.2.3.4	Custom clearance	3%	0.23			
3	1.2.4	Tube sheet	7%	2.80	77%	89%	12%
4	1.2.4.1	PO placement	25%	0.70	100%	100%	
4	1.2.4.2	Fabrication	65%	1.82	80%	98%	18%
4	1.2.4.3	Shipping	7%	0.20			
4	1.2.4.4	Custom clearance	3%	0.08			
3	1.2.5	Baffle	5%	2.00	77%	89%	12%
4	1.2.5.1	PO placement	25%	0.50	100%	100%	
4	1.2.5.2	Fabrication	65%	1.30	80%	98%	18%
4	1.2.5.3	Shipping	7%	0.14			
4	1.2.5.4	Custom clearance	3%	0.06			
3	1.2.6	Elbow	2%	0.80	89%	89%	
4	1.2.6.1	PO placement	25%	0.20	100%	100%	
4	1.2.6.2	Fabrication	65%	0.52	98%	98%	
4	1.2.6.3	Shipping	7%	0.06			
4	1.2.6.4	Custom clearance	3%	0.02			
3	1.2.7	Pipe	9%	3.60	89%	89%	
4	1.2.7.1	PO placement	25%	0.90	100%	100%	
4	1.2.7.2	Fabrication	65%	2.34	98%	98%	
4	1.2.7.3	Shipping	7%	0.25			
4	1.2.7.4	Custom clearance	3%	0.11			
3	1.2.8	Flange	7%	2.80	89%	89%	
4	1.2.8.1	PO placement	25%	0.70	100%	100%	
4	1.2.8.2	Fabrication	65%	1.82	98%	98%	
4	1.2.8.3	Shipping	7%	0.20			
4	1.2.8.4	Custom clearance	3%	0.08			
3	1.2.9	Spacer	3%	1.20	77%	89%	12%
4	1.2.9.1	PO placement	25%	0.30	100%	100%	

 	Toase-eh Park Sanati Gohar Ofogh Petrochemical Co. CONCEPTUAL, BASIC and DETAIL DESIGN ENGINEERING OF STYRENE PARK OFFSITE	  
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					Plan	Actual	Variance
4	1.2.9.2	Fabrication	65%	0.78	80%	98%	18%
4	1.2.9.3	Shipping	7%	0.08			
4	1.2.9.4	Custom clearance	3%	0.04			
3	1.2.10	Nut & bolt	2%	0.80	77%	89%	12%
4	1.2.10.1	PO placement	25%	0.20	100%	100%	
4	1.2.10.2	Fabrication	65%	0.52	80%	98%	18%
4	1.2.10.3	Shipping	7%	0.06			
4	1.2.10.4	Custom clearance	3%	0.02			
3	1.2.11	Gasket	1%	0.40	77%	89%	12%
4	1.2.11.1	PO placement	25%	0.10	100%	100%	
4	1.2.11.2	Fabrication	65%	0.26	80%	98%	18%
4	1.2.11.3	Shipping	7%	0.03			
4	1.2.11.4	Custom clearance	3%	0.01			
3	1.2.12	Paint	1%	0.40			
4	1.2.12.1	PO placement	25%	0.10			
4	1.2.12.2	Fabrication	65%	0.26			
4	1.2.12.3	Shipping	7%	0.03			
4	1.2.12.4	Custom clearance	3%	0.01			
3	1.2.13	Name plate	1%	0.40			
4	1.2.13.1	PO placement	25%	0.10			
4	1.2.13.2	Fabrication	65%	0.26			
4	1.2.13.3	Shipping	7%	0.03			
4	1.2.13.4	Custom clearance	3%	0.01			
2	1.3	Fabrication	100%	50.00			
3	1.3.1	RU-0001A-E-02	50%	25.00			
4	1.3.1.1	Prefabrication	40%	10.00			
5	1.3.1.1.1	Shell	35%	3.50			
6	1.3.1.1.1.1	Cutting	10%	0.35			
6	1.3.1.1.1.2	Beveling	10%	0.35			
6	1.3.1.1.1.3	Rolling	15%	0.53			
6	1.3.1.1.1.4	Assembly (LW)	25%	0.88			
6	1.3.1.1.1.5	Welding (LW)	35%	1.23			
6	1.3.1.1.1.6	Reroll	5%	0.18			
5	1.3.1.1.2	Channel	15%	1.50			
6	1.3.1.1.2.1	Cutting	10%	0.15			
6	1.3.1.1.2.2	Beveling	10%	0.15			
6	1.3.1.1.2.3	Rolling	15%	0.23			
6	1.3.1.1.2.4	Assembly (LW)	25%	0.38			
6	1.3.1.1.2.5	Welding (LW)	35%	0.53			
6	1.3.1.1.2.6	Reroll	5%	0.08			
5	1.3.1.1.3	Cone	20%	2.00			
6	1.3.1.1.3.1	Cutting	10%	0.20			
6	1.3.1.1.3.2	Beveling	10%	0.20			
6	1.3.1.1.3.3	Rolling	15%	0.30			
6	1.3.1.1.3.4	Assembly (LW)	25%	0.50			
6	1.3.1.1.3.5	Welding (LW)	35%	0.70			
6	1.3.1.1.3.6	Reroll	5%	0.10			
5	1.3.1.1.4	Saddle fabrication	10%	1.00			
6	1.3.1.1.4.1	Cutting	10%	0.10			
6	1.3.1.1.4.2	Beveling	10%	0.10			
6	1.3.1.1.4.3	Rolling	15%	0.15			
6	1.3.1.1.4.4	Assembly (LW)	25%	0.25			
6	1.3.1.1.4.5	Welding (LW)	35%	0.35			
6	1.3.1.1.4.6	Reroll	5%	0.05			
5	1.3.1.1.5	Nozzle fabrication (part 1)	8%	0.80			
6	1.3.1.1.5.1	Pipe cutting	15%	0.12			
6	1.3.1.1.5.2	Pipe beveling	15%	0.12			
6	1.3.1.1.5.3	Assembly pipe to flange	25%	0.20			
6	1.3.1.1.5.4	Welding pipe to flange	45%	0.36			
5	1.3.1.1.6	Nozzle fabrication (part 2)	12%	1.20			
6	1.3.1.1.6.1	Pipe cutting	5%	0.06			
6	1.3.1.1.6.2	Pipe beveling	5%	0.06			

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WBS Level	WBS ID	WBS Level Description	Weight Factor	Weight Value	Cumulative		
					Plan	Actual	Variance
6	1.3.1.1.6.3	Assembly pipe to flange	15%	0.18			
6	1.3.1.1.6.4	Welding pipe to flange	35%	0.42			
6	1.3.1.1.6.5	Assembly elbow to pipe	10%	0.12			
6	1.3.1.1.6.6	Welding elbow to pipe	30%	0.36			
4	1.3.1.2	Final assembly	50%	12.50			
5	1.3.1.2.1	Shell	40%	5.00			
6	1.3.1.2.1.1	Assembly shell segments (CW)	12%	0.60			
6	1.3.1.2.1.2	Welding shell segments (CW)	27%	1.35			
6	1.3.1.2.1.3	Opening for nozzle assembly	5%	0.25			
6	1.3.1.2.1.4	Nozzle assembly to shell	5%	0.25			
6	1.3.1.2.1.5	Nozzle welding to shell	10%	0.50			
6	1.3.1.2.1.6	Assembly head to shell	3%	0.15			
6	1.3.1.2.1.7	Welding head to shell	7%	0.35			
6	1.3.1.2.1.8	Assembly cone to shell	3%	0.15			
6	1.3.1.2.1.9	Welding cone to shell	7%	0.35			
6	1.3.1.2.1.10	Assembly segment shell to cone	3%	0.15			
6	1.3.1.2.1.11	Welding segment shell to cone	8%	0.40			
6	1.3.1.2.1.12	Assembly body flange to shell	3%	0.15			
6	1.3.1.2.1.13	Welding body flange to shell	7%	0.35			
5	1.3.1.2.2	Channel	15%	1.88			
6	1.3.1.2.2.1	Assembly head to channel	10%	0.19			
6	1.3.1.2.2.2	Welding head to channel	20%	0.38			
6	1.3.1.2.2.3	Assembly body flange to channel	10%	0.19			
6	1.3.1.2.2.4	Welding body flange to channel	20%	0.38			
6	1.3.1.2.2.5	Opening for nozzle assembly	10%	0.19			
6	1.3.1.2.2.6	Assembly nozzle to channel	10%	0.19			
6	1.3.1.2.2.7	Welding nozzle to channel	20%	0.38			
5	1.3.1.2.3	Bundle structure	45%	5.63			
6	1.3.1.2.3.1	Assembly bundle structure	15%	0.84			
6	1.3.1.2.3.2	Insert tube to bundle structure	10%	0.56			
6	1.3.1.2.3.3	Tube to tube sheet welding	30%	1.69			
6	1.3.1.2.3.4	Expanding	5%	0.28			
6	1.3.1.2.3.5	Insert bundle to shell	2%	0.11			
6	1.3.1.2.3.6	Assembly tube sheet to shell	5%	0.28			
6	1.3.1.2.3.7	Welding tube sheet to shell	10%	0.56			
6	1.3.1.2.3.8	Assembly saddle to shell	5%	0.28			
6	1.3.1.2.3.9	Welding saddle to shell	10%	0.56			
6	1.3.1.2.3.10	Assembly external part to shell& channel	2%	0.11			
6	1.3.1.2.3.11	Welding external part to shell& channel	4%	0.23			
6	1.3.1.2.3.12	Final NDT	2%	0.11			
4	1.3.1.3	Test	5%	1.25			
5	1.3.1.3.1	Hydrostatic Test	100%	1.25			
4	1.3.1.4	Sandblast & paint	5%	1.25			
5	1.3.1.4.1	Sandblast	50%	0.63			
5	1.3.1.4.2	Painting	50%	0.63			
3	1.3.2	RU-0001A-E-02	50%	25.00			
4	1.3.2.1	Prefabrication	40%	10.00			
5	1.3.2.1.1	Shell	35%	3.50			
6	1.3.2.1.1.1	Cutting	10%	0.35			
6	1.3.2.1.1.2	Beveling	10%	0.35			
6	1.3.2.1.1.3	Rolling	15%	0.53			
6	1.3.2.1.1.4	Assembly (LW)	25%	0.88			
6	1.3.2.1.1.5	Welding (LW)	35%	1.23			
6	1.3.2.1.1.6	Reroll	5%	0.18			
5	1.3.2.1.2	Channel	15%	1.50			
6	1.3.2.1.2.1	Cutting	10%	0.15			
6	1.3.2.1.2.2	Beveling	10%	0.15			
6	1.3.2.1.2.3	Rolling	15%	0.23			
6	1.3.2.1.2.4	Assembly (LW)	25%	0.38			
6	1.3.2.1.2.5	Welding (LW)	35%	0.53			
6	1.3.2.1.2.6	Reroll	5%	0.08			
5	1.3.2.1.3	Cone	20%	2.00			

 	Toase-eh Park Sanati Gohar Ofogh Petrochemical Co. CONCEPTUAL, BASIC and DETAIL DESIGN ENGINEERING OF STYRENE PARK OFFSITE	  
	Document Title:	
	Document Title: PROGRESS REPORT NO.04	

WBS Level	WBS ID	WBS Level Description	Weight Factor	Weight Value	Cumulative		
					Plan	Actual	Variance
6	1.3.2.1.3.1	Cutting	10%	0.20			
6	1.3.2.1.3.2	Beveling	10%	0.20			
6	1.3.2.1.3.3	Rolling	15%	0.30			
6	1.3.2.1.3.4	Assembly (LW)	25%	0.50			
6	1.3.2.1.3.5	Welding (LW)	35%	0.70			
6	1.3.2.1.3.6	Reroll	5%	0.10			
5	1.3.2.1.4	Saddle fabrication	10%	1.00			
6	1.3.2.1.4.1	Cutting	10%	0.10			
6	1.3.2.1.4.2	Beveling	10%	0.10			
6	1.3.2.1.4.3	Rolling	15%	0.15			
6	1.3.2.1.4.4	Assembly (LW)	25%	0.25			
6	1.3.2.1.4.5	Welding (LW)	35%	0.35			
6	1.3.2.1.4.6	Reroll	5%	0.05			
5	1.3.2.1.5	Nozzle fabrication (part 1)	8%	0.80			
6	1.3.2.1.5.1	Pipe cutting	15%	0.12			
6	1.3.2.1.5.2	Pipe beveling	15%	0.12			
6	1.3.2.1.5.3	Assembly pipe to flange	25%	0.20			
6	1.3.2.1.5.4	Welding pipe to flange	45%	0.36			
5	1.3.2.1.6	Nozzle fabrication (part 2)	12%	1.20			
6	1.3.2.1.6.1	Pipe cutting	5%	0.06			
6	1.3.2.1.6.2	Pipe beveling	5%	0.06			
6	1.3.2.1.6.3	Assembly pipe to flange	15%	0.18			
6	1.3.2.1.6.4	Welding pipe to flange	35%	0.42			
6	1.3.2.1.6.5	Assembly elbow to pipe	10%	0.12			
6	1.3.2.1.6.6	Welding elbow to pipe	30%	0.36			
4	1.3.2.2	Final assembly	50%	12.50			
5	1.3.2.2.1	Shell	40%	5.00			
6	1.3.2.2.1.1	Assembly shell segments (CW)	12%	0.60			
6	1.3.2.2.1.2	Welding shell segments (CW)	27%	1.35			
6	1.3.2.2.1.3	Opening for nozzle assembly	5%	0.25			
6	1.3.2.2.1.4	Nozzle assembly to shell	5%	0.25			
6	1.3.2.2.1.5	Nozzle welding to shell	10%	0.50			
6	1.3.2.2.1.6	Assembly head to shell	3%	0.15			
6	1.3.2.2.1.7	Welding head to shell	7%	0.35			
6	1.3.2.2.1.8	Assembly cone to shell	3%	0.15			
6	1.3.2.2.1.9	Welding cone to shell	7%	0.35			
6	1.3.2.2.1.10	Assembly segment shell to cone	3%	0.15			
6	1.3.2.2.1.11	Welding segment shell to cone	8%	0.40			
6	1.3.2.2.1.12	Assembly body flange to shell	3%	0.15			
6	1.3.2.2.1.13	Welding body flange to shell	7%	0.35			
5	1.3.2.2.2	Channel	15%	1.88			
6	1.3.2.2.2.1	Assembly head to channel	10%	0.19			
6	1.3.2.2.2.2	Welding head to channel	20%	0.38			
6	1.3.2.2.2.3	Assembly body flange to channel	10%	0.19			
6	1.3.2.2.2.4	Welding body flange to channel	20%	0.38			
6	1.3.2.2.2.5	Opening for nozzle assembly	10%	0.19			
6	1.3.2.2.2.6	Assembly nozzle to channel	10%	0.19			
6	1.3.2.2.2.7	Welding nozzle to channel	20%	0.38			
5	1.3.2.2.3	Bundle structure	45%	5.63			
6	1.3.2.2.3.1	Assembly bundle structure	15%	0.84			
6	1.3.2.2.3.2	Insert tube to bundle structure	10%	0.56			
6	1.3.2.2.3.3	Tube to tube sheet welding	30%	1.69			
6	1.3.2.2.3.4	Expanding	5%	0.28			
6	1.3.2.2.3.5	Insert bundle to shell	2%	0.11			
6	1.3.2.2.3.6	Assembly tube sheet to shell	5%	0.28			
6	1.3.2.2.3.7	Welding tube sheet to shell	10%	0.56			
6	1.3.2.2.3.8	Assembly saddle to shell	5%	0.28			
6	1.3.2.2.3.9	Welding saddle to shell	10%	0.56			
6	1.3.2.2.3.10	Assembly external part to shell& channel	2%	0.11			
6	1.3.2.2.3.11	Welding external part to shell& channel	4%	0.23			
6	1.3.2.2.3.12	Final NDT	2%	0.11			
4	1.3.2.3	Test	5%	1.25			

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					Plan	Actual	Variance
5	1.3.2.3.1	Hydrostatic Test	100%	1.25			
4	1.3.2.4	Sandblast & paint	5%	1.25			
5	1.3.2.4.1	Sandblast	50%	0.63			
5	1.3.2.4.2	Painting	50%	0.63			



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This Period Highlights:

**Fabrication process for all materials have been finished and ready for inspection.
Notice for inspection in Korea will be issued as soon as possible.**

Forecasted activities for the next report period:

Sending for Surface Preparation & Painting Procedure will be issued.

Overall Progress Table

Phase	Weight Factor	Cumulative up to Last Period		This Period		Cumulative up to End of This Period		
		Plan	Actual	Plan	Actual	Plan	Actual	Variance
Engineering	10.00%	92.00%	71.60%		1.70%	92.00%	73.30%	-18.70%
Material Supply	40.00%	75.62%	75.71%	9.20%	11.21%	84.82%	86.93%	2.11%
Manufacturing	50.00%							
Total	100.00%	39.45%	37.45%	3.68%	4.66%	43.13%	42.10%	-1.03%



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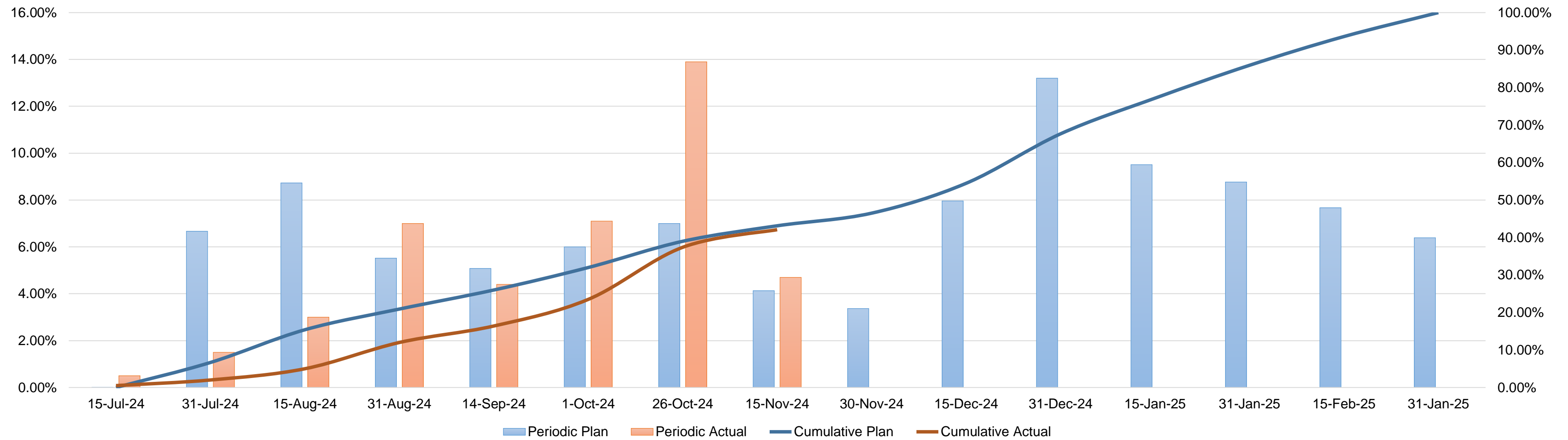
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Document Title:

Document Title: **PROGRESS REPORT NO.04**



S-Curve



Interval	15-Jul-24	31-Jul-24	15-Aug-24	31-Aug-24	14-Sep-24	1-Oct-24	26-Oct-24	15-Nov-24	30-Nov-24	15-Dec-24	31-Dec-24	15-Jan-25	31-Jan-25	15-Feb-25	31-Jan-25
Cumulative Plan	0.00%	6.67%	15.40%	20.92%	26.00%	32.00%	39.00%	43.13%	46.50%	54.46%	67.66%	77.17%	85.94%	93.61%	100.00%
Periodic Plan	0.00%	6.67%	8.73%	5.52%	5.08%	6.00%	7.00%	4.13%	3.37%	7.96%	13.20%	9.51%	8.77%	7.67%	6.39%
Cumulative Actual	0.50%	2.00%	5.00%	12.00%	16.40%	23.50%	37.40%	42.10%							
Periodic Actual	0.50%	1.50%	3.00%	7.00%	4.40%	7.10%	13.90%	4.70%							